



Paul Barrette – NetApp Storage Consultant

NetApp NCDA, NCIE SAN, NCIE BR

Clustered Data ONTAP 8.2 PS & SE - Professional & Specialist

Diploma of Computing Technology - Camosun College, Victoria, B.C. (1988)

Special Related Skills

- Recently certified (Feb 2014) for Clustered for Data OnTap 8.2.
- 12 years implementing and managing **NetApp and IBM N-Series** hardware (SAN & NAS) with a focus on deploying virtually all NetApp software products including: The entire SnapManager suite - for SQL, Oracle, SAP, Virtual Infrastructure, Exchange and SharePoint. Data backup and replication using SnapMirror and SnapVault, Operations Manager and Protection Manager. Rapid database deployment using FlexClone, SnapProtect.
- Considerable experience deploying VMware in a NetApp environment. Frequently utilized as a subject matter expert to bring existing VMware environments into alignment with NetApp best practices as well as planning and implementing completely new deployments.
- Experienced in deploying VMware SRM
- Written numerous custom scripted solutions for clients wanting automated backup and failover for SQL clusters, production VMs, CIFS data and other custom applications with no SnapManager support.
- Setup and configuration of NetApp Gateway or V-Series filers.
- Limited exposure to a very large EMC shop in which I was largely responsible for migrating over 70 TB of data from Clarion (CX4, CX4) and Symmetrix arrays onto multiple NetApp controllers.
- Deep understanding of virtually all major server operating systems; SUSE, RedHat, Solaris, AIX, HPUX, Windows 2003/2008 (incl. clustering)
- SAN Fabric design and implementation on Cisco and Brocade fiber channel switches
- Data migration from small to large projects on virtually every OS with an emphasis on database data
- Training delivered one on one and in classroom environments on many NetApp topics; Data OnTap, data replication, data protection, storage provisioning according to NetApp best practices for specific applications, all SnapManager products
- Expert level system administration of mid to large scale systems running UNIX and Linux
- 3 years of experience as a system administrator in an Oracle 10g environment with an emphasis on Oracle and NetApp integration
- Oracle web and middle tier administration
- 12 years of experience solving data storage migration, replication and consolidation issues
- Comprehensive experience in disaster recovery, planning and testing
- More than 19 years of Data Centre Operations experience
- Network topology design and implementation
- Excellent interpersonal and communication skills
- Enterprise backup solution design and implementation (Veritas, Legato, NetBackup and NetApp's Snapvault)
- Data storage management with emphasis on SAN and NAS centralized storage

Specific Projects

- Currently an independent consultant with a focus on deploying NetApp hardware and software in a variety of environments. I currently deploy virtually all NetApp software offerings including SnapMirror, SnapVault, FlexClone SMO, SME, SMVI, SMSAP, SMSQL and SnapProtect.
- In February of 2014, I implemented SnapManager for SAP in an IBM AIX environment for Goldcorp Canada. This was on 20 LPARs and it enabled rapid backup and recovery as well as integration with Protection Manager to allow for rapid cloning of databases on SnapVault secondary backup copies.

- For Credit Suisse in the Bahamas I deployed an N-Series HA pair into their existing AIX environment, working with the sysadmin team to seamlessly migrate all production data off older DS series arrays using LVM mirroring to avoid downtime for production applications.
- BA Blacktop – North Vancouver. I worked with this client to virtualize their entire datacenter to VMware and NetApp and to implement a DR strategy using SnapMirror replication to a remote site. With limited bandwidth between sites, special care was required to minimize transient data (swap and pagefiles) to ensure production VMs were replicated successfully each day.
- Setup and configure an IBM blade center consisting of 10 blades (Windows, Linux and ESXi) connected to FC SAN (N3700 Array and dual fabric Cisco FC Switches) for IBM at Goldcorp Inc Red Lake Complex goldmine.
- Royal BC Museum – Victoria. Deployed VMware (ESXi) and NetApp on NFS to virtualize all of their physical servers. Setup replication using SnapMirror to a remote site for DR.
- Setup and integration of 100 terabytes of Network Appliance data storage and 26 HP AMD64 Linux servers in 3 data centers for Maximus BC Health.
- Implemented near real-time (< 5 seconds) replication of all production Oracle 10g databases residing in Victoria over WAN link to Calgary for Maximus BC Health
- Migrated/consolidated all enterprise data (5 TB) from older storage solution to new for the Royal BC Museum.
- Credit Suisse – Deployed a custom scripted solution using VMware and IBM N-Series controllers using SnapMirror to allow for automated failover of a highly available clustered SQL server between Nassau and Horgen, Switzerland.
- Installed and configured Veritas backups to a NetApp filer for Royal BC Museum
- Provided an audit and recommendations to the Royal BC Museum for consolidating two formerly distinct data centers and IT branches (Museum and BC Archives)
- Provided project management and technical expertise during the merge of Royal BC Museum and BC Archives IT branches and data centers
- Audited and reported on datacenter operations for Ministry of Transport and Communications in Tbilisi, Georgia. Setup and configured a new infrastructure server providing email, http, ftp, dhcp and firewall services. Taught system admin staff Linux administration. (2004)
- Established a hot site with 8 servers in Calgary, AB with data replication from Victoria as frequently as every hour. Defined and implemented Disaster Recovery Plan. Successfully completed full tests with recovery time of largest Oracle applications in under 4 hours. (2004)
- Installed and configured a web, email, ftp and firewall server with a MySQL database imaging system using PHP to provide online access to a small Victoria woodworking company's work. (2003)
- Built the backend infrastructure for an online forum for Royal Roads University
- Performed an audit of IT infrastructure complete with report and recommendations for a small company in San Pedro Sulas, Honduras. I then taught Linux administration to the system admin team. (2001)
- Taught MS SQL Server administration course for the Ministry of Human Rights in La Paz, Bolivia as a volunteer. (2000)
- Migration of all Pension Corporation servers to fault tolerant RAID (1998/99)
- Migration of a complete network of 280 workstations running DEC Pathworks to Windows NT. This project was completed in fall of 1995 and was the first complete migration to NT in any of the Provincial Government Ministries.
- Evaluation, purchase, installation and testing of a complete 390 node Switched Ethernet Network into a brand new 5 floor office building.
- Installation and configuration of Legato's Enterprise backup solution; 'Networker Save & Restore' on both UNIX and NT servers, followed by planning and implementation of regular backups for all of the enterprise data (3 Terrabytes/30 million files)
- Numerous Oracle migrations and installations from 7.x to 8.x to 9 and 9i as well as Portal
- Administered role a state of the art imaging system (circa 1996). This system is likely one of the most successful imaging projects in Western Canada with over 32 million documents online.

Experience

December 2002 – Present

Position : Independent Storage Consultant with a focus on NetApp Hardware and Software
Employer : RainCoast Systems
Duties : Contracted to a number of VARs in greater Vancouver and Victoria to provide professional services consulting focused on advanced level deployments of the full NetApp software product line. Additionally, a significant amount of my time is contracted to IBM to fulfill a similar role for their N-Series line of storage products, (NetApp hardware, IBM branded). Finally, I provide contracted consulting services to a variety of my own private and public sector clients with an emphasis on integrating new or existing Network Appliance hardware into data centers to solve or streamline data storage issues. Current and recent clients include: Pattison Signs, CHC Helicopter, BC Hydro, Abitibi Bowater, Cerridian, Maximus BC Health, BC Ministry of Education, Royal BC Museum, University of Northern BC, University of Montreal, Great Canadian Gaming Corporation, Fraser Valley Regional Library, Laval University, National Housing Trust Jamaica.

January 1995 – November 2004

Position : Senior Datacenter Administrator
Employer : BC Pension Corporation
Duties : At the Pension Corporation my primary responsibility was in the role of System Administrator on multiple systems running Compaq Tru64, and HP/UX Unix as well as Redhat and SUSE Linux, with responsibility for complete management of a 370 workstation LAN, 60 printers, and all LAN/WAN network infrastructure. Additional duties included: Supervisor of 2 staff; MS SQL Server DBA; Responsible for all backups using Legato's Networker Save and Restore to provide DRP for over 2.3 Terabytes of data on literally hundreds of disks. Responsible for the operational side of every single mission critical application at the BC Pension Corporation, including their flagship Oracle application (IPAS), Production control software (Redwood Cronacle), Employer data contribution software (EFIS), Code management software (PVCS) and many others. Provided performance monitoring, tuning and troubleshooting for both applications and network; Evaluated emerging technologies for viability within the Corporation; Provided day to day hardware and software support in conjunction with the rest of the IT team to the Corporation's users.

August 1993 - January 1995

Position : Senior Operations Support Analyst
Employer : BC Systems Corporation
Duties : As a seconded FTE to the Ministry of Skills, Training and Labour the main function of my position was to provide expert level support on all installed software throughout the ministry, with an emphasis on the MS Windows suite of products. Additional duties included: working closely with, and acting as backup to the Network Administrator on a 200+ Pathworks workstation LAN, troubleshoot various software, hardware and LAN/WAN communication problems, plan and co-ordinate the computer moves for some of the many large scale staff moves within the ministry, participate in and/or take charge of several systems related special projects such as a pilot Windows NT LAN implementation, provided one-on-one training as needed.

June 1990 - August 1993

Position : System Administrator
Employer : Ministry of Tourism and Ministry Responsible for Culture - Royal BC. Museum
Duties : Responsible for all aspects of managing an Ethernet based Local Area Network consisting of a VAX 4200 running Pathworks for both DOS and Macintosh PC's. This included the development and implementation of all infrastructure standards. Provide

All-In-One and A1mail (LAN Based) email support. Performed regular upgrades of VMS and layered products on the VAX. Provided installation, training and support for standard software such as WordPerfect, Fastback Plus, FoxPro and Windows. Taught MS-DOS intro and advanced courses. Performed some programming on both the VAX and PC's. Identified and resolved problems with applications running on the servers. Resolved all hardware problems encountered with a base of 130 PC's and laptops and over 60 printers. Selected and purchased both hardware and software. Kept a current inventory of all museum computer equipment. Performed a variety of hardware related tasks such as installation of Network Adapters, RAM upgrades, hard disk installations, cabling etc.

June 1989 - June 1990

Position : Technical Analyst
Employer : Sierra Systems Consultants (contracted to B.C. Purchasing Commission's Systems Branch)
Duties : Provided microcomputer support to a base of 120 people using PC's to connect to either HP or DEC hosts. Installation and maintenance of terminals and PC's, assembling and stringing cable. Wrote and maintained small DBASE applications. Some Powerhouse and DCL programming on a VAX. Supporting various software products such as MS Word, Lotus 123, DBASE IV and Reflections.

August 1988 - June 1989

Position : Programmer Analyst
Employer : Sorensen Computing Ltd.
Duties : All phases of database system development including: consulting with clients, producing system requirement documentation, system design, system implementation, testing, installation and user training. Troubleshooting both software and hardware problems on microcomputers for various clients. Hardware set up and installation.

December 1987 - June 1988

Position : Student Programmer (Computing Technology application project)
Employer : Camosun College
Duties : Designed and implemented an Expert System using KEE (Knowledge Engineering Environment) on a UNISYS Explorer. This system was an early foray into Expert Systems and was used to mimic the advisory process used to select appropriate media for presentations.

References and Recommendations

Patrick Czyz – Director IT, Vancouver Island Health Authority, (250) 370-8227
Phil Arctander – President, PARC Systems Inc., (250) 812-3447
David Chay – Manager, IT Infrastructure and Business Operations, (250) 405-3709
Evan Rubin - Branch Manager, The Employment Solution (TES), (604) 707-9018