

# Bennett K. Scharf

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## Summary

SQL Server DBA with over 15 years of experience supporting production and development environments, software development teams, and software development projects of varying sizes. Excellent troubleshooting skills with fast, accurate diagnosis and resolution of issues. Competencies include:

- MS SQL Server Database administration, versions 2005 – 2022
- Query tuning, index tuning and overall performance tuning
- Troubleshooting, tuning, and supporting Data Warehouses, large analytic databases, and OLTP/transactional databases
- PowerShell Scripting
- Migrations, including version upgrades, hardware upgrades, and data center moves
- Storage management and capacity planning
- Performance monitoring, trending and reporting
- Advanced troubleshooting including root cause analysis
- High availability, disaster recovery and business continuity
- T-SQL programming, querying and object development
- Extracts, application integration, and ETL using SSIS
- Administration of the Microsoft BI Stack including SSIS, SSRS, and SSAS

## Professional Experience

### City and County of Denver

Sr. SQL Database Administrator (FTE)

September 2018 - Present

Sr. SQL Database Administrator (Contractor via TekSystems)

December 2017 - September 2018

A combination of production, development, and project DBA duties in a large, highly-available environment. Many of our mission-critical workloads include systems for public safety and first responders. Responsible for approximately 95 SQL Server instances, 25 availability groups, and 950 databases.

- Built and supported multiple version 2016 through 2022 AlwaysOn HA clusters to support the organization's most critical authentication, infrastructure, and security applications. Once built and tested, I worked closely with the application administrators to install, test, and troubleshoot the applications prior to go-live.
- Developed PowerShell and SQL Scripts to gather performance and configuration baselines and deploy configuration uniform changes across all SQL Server instances. Leveraged dbatools functionality to do a wide variety of tasks including automated replication of logins, credentials, proxies, operators, and jobs.
- Diagnosed and fixed performance problems. Identified and fixed issues such as out-of-date statistics, missing indexes, parameter sensitivity (aka parameter sniffing) in code, and non-sargable predicates. Recommended code changes to developers.
- Developed, troubleshot, and maintained SSIS packages.
- Migrated applications, databases, and SSIS packages from older to newer SQL Server instances.
- Developed and maintained stored procedures, views, and PowerShell scripts to solve a variety of business needs.

## Self-Employed

### DBA Skills Refresh, Lab Work, and Family Caregiver

April 2017 – November 2017

I took advantage of a layoff to refresh existing skills and add new skills. Areas of study included AlwaysOn, Azure, advanced SQL Server internals, advanced query tuning, and Amazon Relational Database Services (AWS RDS). Cared for spouse prior to and following a very challenging total knee replacement surgery.

- Built out a seven-server high availability lab to get deep hands-on experience implementing and troubleshooting SQL Server High Availability (HA) technologies including AlwaysOn Availability Groups and Failover Cluster Instances. The lab includes a Domain Controller, a Fileserver, an iSCSI target, two FCI nodes, three AG replicas, and a WAN emulator to introduce latency and bandwidth restrictions for Availability Group testing.
- Tested and documented multiple administrative scenarios and multiple failure, failover, and recovery scenarios.
- Tested DMVs, PowerShell cmdlets, and system stored procedures for monitoring and managing FCIs and AGs.
- Devised an elegant and robust solution for running SQL Agent jobs on AOAGs. See [blog post](#) for details.
- Migrated two on-premise databases to SQL Azure and AWS RDS. Built and evaluated SQL Server 2017 on an Azure Linux VM, an Azure Windows VM, and an on premise Windows Hyper-V VM. Performed equivalent tasks on AWS EC2 Created an Azure BLOB storage account that was later used for database backups and migrations.
- Studied numerous Pluralsight, edX, SQLBits, and PASS videos and courses as well as multiple books, BOL documents and blog posts. Passed the Microsoft/edX certification course: [DAT219x: Provisioning SQL Server and Azure SQL Databases](#)

## UDR Inc., Littleton, CO

### Sr. Database Administrator

January 2016 – April 2017

UDR Inc. is a REIT owns, operates, acquires, renovates, develops and manages multifamily apartment communities throughout the US. The company, despite its size, never had a dedicated DBA, so there was a lot of cleanup to do. I was brought in as part of the BI team, so in addition to traditional DBA work, I also supported multiple BI initiatives and provided on-call support for nightly ETL processing.

- Realized significant performance gains through index tuning, automated index rebuilds and automated statistics updates.
- Set up a DBA monitoring, alerting, and logging solution based on code that I developed over the last 10 years. Solution consists of a repository, lookup tables, DMV-based T-SQL code, PowerShell scripts, and SQL Agent jobs and alerts.
- Developed PowerShell scripts to perform automated nightly backups of schema objects, SSRS RDL files, and SQL Agent jobs across multiple servers.
- Migrated SQL, SSRS, SSAS, SharePoint, and application servers to a new data center.
- Helped migrate PeopleSoft Financials from Oracle to SQL Server.
- Standardized and documented server builds, tightened configurations, identified and cleaned up orphaned accounts and databases, cleaned up server and database permissions, consolidated servers and implemented SQL Audit.
- Migrated entire development environment including all databases, all SSIS packages, all Analysis Services databases, and all SSRS reports to 2016. Partially migrated production to 2016. Created Azure SQL proof of concept environment.
- Performed disaster recovery planning and testing. Implemented DR solution that met business RTO and RPO requirements. Regularly restored production databases to the development environment to validate backups.
- Performed break fix and migration modifications of stored procedures, views, and SSIS packages.

## **Cliintel LLC, Denver, CO**

### Development DBA for Comcast

October 2013 – January 2016

CliIntel is a data analytics and software development firm that until 2016 had a multi-year contract with Comcast to provide data warehousing and BI development services. In my role I provided development and production support of approximately 120 Comcast databases across approximately 24 physical and virtualized servers. Production servers utilized failover clustering for high availability. The largest data warehouses were around 5TB.

- Query tuning, overall performance tuning, and stabilization of existing systems. On the query tuning side I realized impressive performance gains, often reducing run times from minutes to seconds.
- Led a project to identify and remove Personally Identifiable Information (PII) from data warehouses. Modified SSIS packages to prevent PII from entering the warehouses.
- Worked with business owners to clean up server and database permissions and remove orphaned user accounts.
- Created a DBA repository along with database monitoring and alerting jobs and scripts to monitor and improve performance and availability.
- Performed break fix or migration modifications of stored procedures, views, and SSIS packages.
- Architected a DW/BI server environment to replace aging servers and accommodate long-term growth. Migrated databases, SSIS packages, and SQL Agent Jobs from SQL Server 2008 to SQL Server 2014.
- Implemented columnstore indexes on a dimensional data warehouse. Queries that already had well-tuned rowstore indexes typically realized performance gains of 7:1 or better.
- Developed a PowerShell script to quickly deploy multiple objects across multiple databases. Also developed PowerShell scripts perform automated nightly backups of schema objects, SSIS packages, SSRS RDL files, and SQL Agent jobs across multiple servers.
- Trained and mentored junior developers.
- Sadly, Comcast brought their DW/BI work in house, so I had to find employment elsewhere

## **MountainView Financial Solutions, Denver, CO**

### SQL DBA/Developer

September 2011 – September 2013

MountainView Servicing Group is the leading provider of MSR portfolio valuation services. In this role I supported several databases ranging in size from roughly 100MB to 1TB.

- Reduced runtimes of analytics jobs from 40% - 300%
- Created monitoring, alerting and analysis scripts and scheduled jobs to identify and alert on issues.
- Eliminated blocking by aligning clustered index layouts with business usage patterns.
- Added and tuned indexes to improve performance.
- Implemented automated, "intelligent" database maintenance jobs.
- Tuned storage to minimize contention and maximize throughput.
- Created a DBA repository and wrote code to collect key metrics about the infrastructure and performance. This facilitated capacity planning, utilization forecasting, troubleshooting, and performance tuning.
- Performed two major database and code upgrades.
- Debugged vendor-supplied code using server-side traces. Provided vendor with required SQL changes and persuaded them to release timely hotfixes.
- Routinely wrote database stored procedures, functions, triggers, and ad-hoc reports to support end users.
- Tightened permissions on databases and database servers. Created a system to audit and record schema changes.
- Upgraded servers and migrated DBMS from SQL Server 2005 to 2008 R2
- Performed vulnerability assessments, tightened OS and database security, created DDL audit triggers, and documented the network infrastructure to support an SSAE 16 SOC 2 audit.

## **Fetter Logic, Denver, CO**

Production DBA

August 2008 – September 2011

Fetter Logic is an application service provider providing data warehousing and business intelligence software for the brokerage industry using the Software as a Service (SaaS) model. In this role I was part of a 3-person DBA team that performed production support of over 600 SQL Server databases ranging in size from a few Megabytes to over 8 Terabytes.

- Implemented row-level partitioning to improve load times and query performance.
- Created SQL scripts to load balance 300 customer databases of varying sizes across multiple servers. Also created scripts to load balance partitioned data files for VLDBs across multiple disk volumes. Both scripts employed a combination of least recently used and round robin algorithms.
- Troubleshoot ETL failures and performance problems.
- Wrote monitoring and alerting scripts and jobs to ensure that SLAs were met.
- Created system performance and resource utilization baselines to understand workloads and improve troubleshooting efficiency.
- Maintained and fixed broken legacy stored procedures and SSIS packages.
- Automated index rebuilds and performed index and query tuning.
- Used SSIS to automate repetitive tasks, generate reports, and extract, transform and load data.
- Created repositories for IIS logs, application server file attributes, and storage utilization statistics as well as automated data collection scripts to populate these repositories.
- Created a change detection and alerting system, similar to Tripwire, using a combination of T-SQL, LogParser, and WSH.
- Supported transactional replication as well as custom replication scripts.

## **Open Technology Solutions, Centennial, CO**

Database Administrator

2007 - 2008

Supported a major credit card application based on .Net and Microsoft SQL Server. The system authorized approximately 60,000 credit card transactions a day and included administration, accounting, and reporting services. Used failover clustering for high availability. Also supported several smaller SQL Server 2005 and 2000 instances.

- Used a DMV-based scripts and PerfMon to document and understand workloads.
- Reduced batch job run times by approximately 65% and Visa stand-ins by roughly 90% through a variety of methods including AWE implementation, migration to the 64 bit platform, moving large, heavily-accessed tables and indexes to their own disks, and automated index rebuilds.
- Wrote custom SQL scripts, triggers and stored procedures
- Automated reports and extracts using DTS and SSIS
- Migrated from SQL Server 2000 to 2005
- Sadly, the customer decided to migrate on to another vendor's platform, so I had to find DBA work elsewhere.

## **Citigroup / Diners Club International, Centennial, CO**

I was fortunate to get on the ground floor of large-scale, multi-year data warehousing / business intelligence project.

Systems Engineer / Vice President

2002 - 2006

- Designed and supported a very robust and secure application infrastructure built around Active Directory, SQL Server, and IIS. Deployed and supported applications built around Active Server Pages, AD, COM+, SQL Server, Seagate Info and Crystal Enterprise.
- Implemented Log Shipping for SQL Server disaster recovery.
- Reduced downtime by implementing server hardware, OS, and application monitoring and alerting. Enhanced monitoring with custom scripts.

- Planned, documented, and led disaster recovery tests for public web sites. Quickly recovered from several major unplanned outages.
- Planned application, OS, and hardware migrations and upgrades, wrote supporting installation and change-control documentation, determined and documented firewall rules, and engaged and coordinated the work of multiple infrastructure teams. Negotiated routine and emergency maintenance windows with business managers and data center staff. Managed infrastructure and application upgrade projects.
- Sadly, Citi closed the Denver office; otherwise I would still be there.

Sr. System Administrator

1999 - 2002

- Automated routine administration, software deployment, and patch verification tasks with scripts.
- Relocated the Centennial, CO data center, with an outage window of under 8 hours.
- Performed vulnerability assessments and hardened OS configurations.
- Implemented and maintained MS Exchange, SQL Server, IIS and various application servers.

## Skills Summary

DBMS and DB tools:	SQL Server 2005 - 2019, SSIS, SSRS, SSAS, dbatools, Red Gate SQL Toolbelt, Data Masker, SQL Sentry Plan Explorer, \n Software SSIS toolbox, LiteSpeed, CommVault.
Operating Systems:	Windows Server 2012, 2008, 2003, 2000, NT, and NetWare. Limited experience with AIX, Solaris, Linux and OS/400.
Virtualization:	Experience installing, configuring, and using Hyper-V and VirtualBox. Experience building and supporting SQL servers on VMWare guests. Familiarity with P2V migrations and VEEAM backups.
Languages & APIs	T-SQL, PowerShell, SQL Management Objects, Windows Scripting Host, C/C++, VB.Net, Windows shell scripts, and PERL. COM APIs include WMI, ADSI, ADO and SQL-DMO
Firewalls & Security:	Prior information security background that includes experience administering Checkpoint firewalls, proxy servers, and performing vulnerability assessments. Ongoing experience troubleshooting firewall connectivity issues.
Monitoring & Mgmt:	Over the last 10 years I developed a database monitoring and alerting solution that includes alerts, a repository with lookup tables, collectors based on DMVs, Extended Events, Server Side Traces, and agent jobs. Prior to becoming a full-time DBA I used SiteScope, WhatsUP, Servers Alive, custom scripts, Netfinity Director, Spectrum, Insight Manager, and Tivoli
Networks / Protocols:	Decent knowledge of major transport and application layer protocols. Experienced at using Wireshark, Sniffer, and Netmon. Prior experience managing switches and routers and firewalls.

## Education and Certification

Excelsior College

Bachelors of Science, Computer Information Systems

- Summa Cum Laude

Mohegan Community College, Norwich, CT

Associate of Science, General Studies

Institute for the Certification of Computing Professionals (ICCP)

Passed the DBA exam at the mastery level

Microsoft Corporation

- Microsoft Certified Systems Engineer
- MCP + Internet
- [DAT219x: Provisioning SQL Server and Azure SQL Databases](#)

Product-Specific training from a variety of vendors, including:

- Pluralsight
- Network Associates
- Cabletron
- IBM
- Microsoft
- Sterling Commerce
- HP/Compaq
- Udemy

## Military Service

United States Navy, Enlisted Electronics Technician ET2/SS

- Maintained, operated, and repaired computers, electronic navigation, and data acquisition equipment for nuclear submarine navigation and oceanographic survey.
- Performed departmental training on general electronics theory, the maintenance and repair of specific electronic systems, first aid, and CPR.
- Supervised a four person technical team aboard an oceanographic survey ship.
- Held multiple security clearances. Honorably discharged after six years with a RE-R1 reenlistment code.