**­­­­­Vivek Singh**

* Over 20 years of experience as a BI Architect and Data Warehouse Architect
* Experienced in architecting data warehouses on prem and in the cloud
* Six years of experience designing and developing BI solutions with PowerBI and 5 years with Tableau
* Three years of experienced in Azure data tools and automation
* Three years of experience in creating an Azure data warehouse from scratch.

## SUMMARY

Sr. BI and Data Warehouse Architect with over 20 years of experience. I have held Sr. BI Architect and Consultant roles with CPS Pharm, Whitebox Advisors, Seagate Technologies, TCF Bank, the State of Minnesota, UHG, Target, St. Jude, and Digi-Key. I have had extensive experience with enterprise level Data Warehouse and BI Solutions on prem and in the cloud. I have expert level skill sets within Data Warehouse Architecture, Data Base Development Designs, Streaming data, Big Data Management/Engineering, Business Intelligence Strategy Implementations, Azure implementation from on prem to the cloud from scratch. I also have a strong background managing enterprise platform integrations, migrations, performance/usability enhancements, and replication requirements. The experience has led me to have hands on experience with Big Data Tools, ETL Processes, SQL Development Tools, and Open-Source Technologies. Furthermore, I can collaborate with all levels of data, development, and business teams to effectively manage all aspects of their data ecosystem.

## PROFESSIONAL EXPERIENCE

**COMPREHENCY PHARMACY SOLUTIONS 10/2019 – 08/2022**

**Sr Director/ Data Warehouse Architect**

* Served as a technical expert on data warehousing concepts and design.
* Designed and implemented a modern data warehouse from scratch for 13 applications written in angular.
* Reverse engineered application written in ssrs to use embedded PowerBi.
* Lead the team in designing PowerBI reports and implemented best practices for visual development
* Implemented data tools such Azure Data Factory, Azure SQL, Azure Analysis Services, Azure Streaming analytics, Azure Event Hub, and Azure Function.
* Implemented delta load for DW as well as streaming of data for some applications.
* Created the logical as well as the physical model for the data warehouse
* Created data change management policy and implemented change management company wide for data.
* Created a data governance program and implemented in the company.
* Managed 10 people that included data analyst, data engineers, dbas, and a pharmacist.
* Created repeatable patters for developers on how to develop in Azure.
* Created testing strategy patterns for team to follow.
* Created a mindset on team that 20% of what we do r&d and that will lead to better solutions
* Developed pipeline in Azure data factory for ETL purposes.
* Automated pipelines and error handling.
* Created support structed for 24/7 response because of tier-1 application for tele pharmacy
* Developed architecture for security by either masking, de-identifying or tokenizing data.
* Created cloud monitoring on all points of failure so down time to the business was limited.
* Created a self-service environment for power user to reduce the demand on the team

**White Box Advisors 04/2019 – 09/2019**

**Senior SQL Developer**

* Served as a technical expert on analytics, dashboard design, and user experience.
* Served as the technical expert on Tableau v2019.2 and Tableau Server.
* Administered Tableau Servers including optimization, management of users, and security.
* Developed the firm’s hedge fund prospectus in Tableau to automate the delivery of the prospectus and to remove manual development by analysts. The prospectus for each fund auto generates into a pdf document that could then be reviewed for accuracy and then mailed to customers of the fund. This was a manual process before.
* Developed a methodology for SQL stored procedures to be ingested by Tableau.
* Wrote custom code in Tableau to connect to multiple types of data sources including csv, excel, and SQL Server.
* Reverse engineered Qlikview v12 dashboards and reports.
* Developed new Qlikview reports as well as making enhancements to existing Qlikview report.
* Migrated Qlikview reports and dashboards to Tableau.
* Developed stored procedure in SQL Server for automation of reporting and data delivery.
* Optimized SQL queries for faster run times.
* Created data model in Power BI for multiple sources and their relationships.
* Created custom datasets using advanced SQL in Power BI for aggregation of data.
* Developed visualizations, dashboards, and reports using Power BI desktop.
* Developed scripts in VisualCron to schedule jobs for automating SQL server job runs.
* Gathered requirements for new development as well as enhancements.
* Tested development of new code as well as enhancements to existing code for accuracy and consistency.

**Seagate Technologies 11/2018 – 03/2019**

**Senior BI Architect**

* Served as a technical expert on BI tools and how to best utilize them.
* Responsible for reverse engineering Alteryx Workflows.
* Developed migration path for conversion of Alteryx TDEs to Informatica workflow jobs.
* Meet regularly with business to determine requirements for new tools and migration of existing reports.
* Responsible for reverse engineering SAP Bobj reports for migration to Tableau and a new backend.
* Responsible for reverser engineering SAP Bobj Information Design Tool (IDT) Universes against existing data sources.
* Developed new IDT Universes against the new Oracle datawarehouse.
* Developed new Bobj reports to point against the new Oracle datawarehouse.
* Developed validation dashboards in Tableau to determine data accuracy.
* Created Tableau data sources to optimize the retrieval of data.
* Created test scenarios for Tableau dashboards and automated the testing.
* Create specification documents for ETL team to migrate data from EDW to new data mart.
* Created Oracle DDL scripts which included creation of tables, security, and partitioning of tables.

**TCF Bank 01/2018 – 10/2018**

**Senior BI/Data Engineer**

* Responsible for the delivery of end of project deliverable and documentation.
* Responsible for reverse engineering SQL statements to build out data models and Source to Target mappings.
* Bridged the discussions between ETL developers and Hadoop developers to document and develop HQL code for the data lake.
* Develop end-to-end cloud analytics solutions.
* Lead team on creating data sets for storing large data sets in Data Lake. This was then utilized for driving data analytics to determine risk for customers.
* Lead small teams of developers on BI projects with HQL development.
* Communicate project status to internal and external business stakeholders.
* Translated client user requirements into data flows, data mapping, etc.
* Ensured that the design ran efficiently and accurately in Hadoop ecosystem.
* Created and delivered technical and project documentation as required throughout the project lifecycle.
* Created advanced DAX queries in Power BI Desktop.
* Developed dashboards, KPI scorecards, and reports using Power BI desktop.
* Developed custom visuals in Power BI that were not available in the standard install.
* Published PowerBI visuals and dashboards to reporting server and SharePoint.

**State of Minnesota Dakota County 09/2016 – 12/2017**

**Senior BI Architect**

* Oversaw the creation of a data warehouse from scratch. This included all aspects of the SDLC and implementing it in the existing environment.
* Oversaw the development of the new BI tool Cognos with a team of five developers.
* Responsible for defining, developing, and maintaining the Data Warehouse and BI ecosystems.
* Set the design of the vision of the data architecture and BI architecture.
* Lead the advancement of new technologies in the analytics/warehouse space and defined patterns for future usage.
* Set standards and principles in the Data Warehouse and BI target architecture.
* Create reporting infrastructure using IBM Cognos and SQL Server 2012 database.
* Created model of the DW using Cognos Framework Manager. This model included security as well as custom FM objects.
* Designed and created Cognos reports and dashboards to support business needs of the new Data Warehouse.
* Performed detailed data analysis and wrote complex SQL queries.
* Unit tested development objects including creating test cases and documenting test results.
* Designed and planned BI reporting solutions for business units.
* Created and deployed reports using Cognos report studio, Cognos workspace, and Cognos active reports.
* Designed and built complex solutions using SQL Server as the back end.
* Created advanced DAX queries in Power BI Desktop for prototypes.
* Created data model in Power BI for multiple sources and their relationships.
* Developed dashboards and scorecards using Power BI desktop.
* Published visuals to SharePoint for users to consume.

**UHG, Minnetonka MN 10/2015 – 09/2016**

**Senior Data Consultant**

* Lead team on the design of reporting and analytical solutions.
* Gathered requirements from business to design a complete reporting solution.
* Created mappings of data elements from source to target.
* Recommended changes to the logical and physical model to improve performance and usability.
* Produced complex 'ad-hoc' queries and reports requested by external and internal customers using Business Objects.
* Created test plan for developers with test cases so progress can be traced.
* Designed and developed data extracts from source SQL databases to meet analytics and reporting requests.
* Partnered directly with internal and external customers to research and troubleshoot data questions and issues.
* Collaborated on problem resolution, team decisions, and project planning.
* Monitored plan dates and met individual deliverables as well as supporting other team members to ensure project success.

**Target Corporation, Brooklyn Park/Minneapolis 09/2014 – 08/2015**

**Senior BI Engineer**

* Oversaw Distribution and Transportation Agile teams for design of advanced analytics.
* Managed teams from a technical perspective in Agile teams to create analytics using MicroStrategy and Tableau.
* Created and oversaw design and development of MicroStrategy reports, cubes, dashboards, and visual insight objects.
* Created and oversaw design of MicroStrategy backend objects such as attributes, metrics, hierarchies, and facts.
* Created solutions using Tableau when quick delivery was need. Created extracts in Tableau and created dashboards that ran against them.
* Created and oversaw design of database design and development of Teradata big data structures for all distribution and transportation analytics. This included creating sql structures in Teradata for optimization of delivery of large data to a MicroStrategy analytic.
* Oversaw MicroStrategy design and development of data structures written in MicroStrategy 9.4. Oversaw and wrote code in MicroStrategy for ease of use, delivery, deployment, and optimization of all environments.
* Streamlined the requirements and development process for Agile teams by making the requirements and development process more efficient. This was done by removing unnecessary documentation and development that was being done.

**St. Jude Medical, Plymouth MN 07/2012 – 09/2014**

**Senior Data Warehouse Architect**

* Served as the main source of knowledge for best practices in data warehousing and business intelligence.
* Documented, implemented, and maintained the solutions of the data warehouse with related business processes.
* Participated in projects to maintain companywide compliance with data warehousing quality standards and policies.
* Developed and enforced validation methods to ensure architecture accuracy in conjunction with the data warehouse team.
* Lead team on the design of the data warehouse for business intelligence solutions.
* Managed projects to migrate all complaints data into the data warehouse.
* Created the architecture of the business intelligence solutions for reporting of complaints.
* Created requirement templates to document business requirements as well as technical development documents.
* Created project plan with key milestones and lower level tasks to manage migration of external application databases into the data warehouse.
* Created Database update procedure for development and migrating objects to QA and Production.
* Created procedures for cleaning up of database objects in different environments.
* Created scripts to create a new datamart in the data warehouse.
* Wrote ETL scripts with Informatica to load data into the staging area of data warehouse.
* Reverse engineered the logical model of the data warehouse.
* Created Business Objects reports against the data warehouse.

**Digi-Key Corporation, Bloomington MN 08/2010 – 06/2012**

**Senior Business Intelligence Developer**

* Created standards for documenting requirements by creating a design document template.
* Lead team on the development of analytics for the Supplier subject area using TibcoSpotfire.
* Lead team on the development of a MicroStrategy dashboard which contained multiple reports on sales and sales trends.
* Dashboards contained multiple selectors to limit data being viewed on, and this helped the business analyze sales over regions as well as sales trends over different time periods.
* Created cubes in MicroStrategy to optimize caching for data in dashboards and to limit hits against the database by business users.
* Lead design meetings to make sure all requirements were clearly met and designs were on track.
* Developed best practices for design, development, and deployment of analytics.
* Documented all aspects of design which included requirements and coding standards.
* Regularly met with business analysts to determine clear requirements and expectations from the business.
* Developed regular views and materialized views in Oracle that were aggregated to retrieve data faster.
* Developed metadata layer for development of analytics.
* Tested data for integrity, accuracy, and consistency.
* Deployed analytics to multiple environments.
* Demoed final solution to key business stake holders.

**American Medical Systems, Minnetonka MN 06/2010 – 08/2010**

**Sr. Data Consultant**

* Gathered reporting requirements for new sales data mart.
* Created detailed report design documents for new data mart which included high level and low-level specifications for reports.
* Developed new reports using Cognos 8.4 report studio.
* These reports were very complicated reports and required multiple queries that created summary and detailed pages.
* Developed complex structure of prompts to be used on reports.
* Tested reports for accuracy, functionality, and speed.
* Optimized performance of reports to run faster.
* Regularly met with team members to discuss design strategy and optimization strategy for new reports.

**United Health Group, Golden Valley MN 03/2010 – 05/2010**

**Sr. Data Engineer**

* Modified Cognos 8.4 report using Report Studio.
* Reports included optional prompt pages which were modified using java script that was triggered when events occurred on page.
* Developed test cases for members by creating a sql script that generated a list of patients that met the requirements of the functional specification document.
* List of members was used to test a report studio report to determine if requirements were followed when developing the report.
* Worked on optimizing reports that took a long time to run.
* Optimized clinical reports by removing extra queries and reducing the amount of functions used.

**University of Washington Physicians, Seattle WA 01/2004 – 07/2009**

**Senior Business Intelligence Developer**

* Created the Cognos 8.x environments architecture which included 3 development servers, 3 QA/Test servers, and 3 production servers.
* Developed framework manager model for the clinical data warehouse.
* Created specific business views for different entities in the clinical data warehouse.
* These business views were developed to go against one main framework manager model. This model contained around 600 tables, 1400 joins, 10 SQL Server Views, and around 100 security objects for users to pull only data that was specific to their security role.
* Developed views using sql and created a stored procedure because cognos was not able to handle such a complex query.
* Multiple query objects were created to link up to a main query to create a summary report. Some of the query objects connected directly to views while the rest were complex queries that used report studio.
* Using framework manager model, I utilized a hands down approach to convert all reports to Cognos 8.x.
* Wrote reports using Report Studio.
* Developed reports containing multiple query objects that where be linked by outer joins, inner joins, and unions to create a summary master report that would contain aggregate totals for specific business needs such as total patients, total in patients, etc.
* Developed .mdl files in Cognos Transformer for Cognos 8.x.
* Developed Security roles in Cognos connection so that new and current users could be setup quickly.

**EDUCATION / CERTIFICATIONS**

University of Minnesota - Institute of Technology

**B.S. in Computer Science, 1998**