

Sivakumar Gandhirajan

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Summary:

Highly experienced **Database Engineering Leader** adept at designing, deploying, and managing complex, enterprise-grade database ecosystems (SQL Server, MongoDB, Snowflake, MySQL/MariaDB). Proven ability to drive automation (Python, PowerShell) and manage **Azure, AWS, and on-prem infrastructure** using Terraform (IaC) and ARM Templates. Expertise in implementing robust HA/DR solutions and integrating SRE practices within CI/CD pipelines for optimal performance and reliability in fast-paced environments.

Professional Experience:

Senior Database Manager, KBRA (May '22 – Present)

In my current role, I lead the modernization and re-platforming of database systems that support a variety of business applications running on-premises, in Azure, and AWS. My focus is on enhancing system reliability, performance, and cost-efficiency through strategic migrations, consolidations, and the implementation of advanced database features and automation. I also drive the adoption of intelligent solutions to reduce manual dependency in daily operations.

Notable Projects:

- **Strategic Cloud Migration of Critical Open-Source Database to Enhance Business Operations**

Architected and orchestrated the end-to-end, cross-platform migration of a business-critical, client-facing application's 5-node MariaDB Galera cluster from a self-managed VM infrastructure to a fully managed cloud database service (AWS RDS MariaDB). **This initiative showcased leadership in complex cloud transitions, directly aligning with principles crucial for enabling customer success on Azure database platforms.** Key aspects of this leadership and its impact included:

* **Standardizing cloud infrastructure provisioning with Terraform (IaC)**, creating a repeatable, best-practice model directly applicable to developing Azure solution IP and enabling field teams.

* **Minimizing business disruption and safeguarding revenue** through meticulous planning and proactive stakeholder collaboration.

* **Achieving improved manageability, enhanced scalability** for future workloads (including potential AI), and **~\$35K in annual cost savings, leveraging open-source database expertise relevant to Azure's offerings.**

* **Strategic Planning & Stakeholder Management:** Proactively collaborated with diverse business stakeholders to meticulously plan and execute the migration, **negotiating and adhering to minimal downtime windows to safeguard revenue streams and maintain a seamless customer experience** – a critical aspect of customer success engagements.

- **Enterprise MSSQL Modernization & HA/DR Enhancement**

Orchestrated a large-scale strategic initiative to modernize the entire MSSQL database environment (30+ servers, 400+ databases) to SQL Server 2022, supporting critical business functions. This end-to-end project leadership involved:

* **Architecting and implementing robust Always on Availability Groups**, significantly bolstering High Availability and Disaster Recovery capabilities across the enterprise.

* **Enforcing best-practice security standards** by deploying Transparent Data Encryption (TDE) and TLS 1.2+ for comprehensive data protection at rest and in transit.

* **Collaborating extensively with business units and technical teams** to ensure minimal downtime during migrations and upgrades, safeguarding operational continuity.

* Delivering a world-class, scalable database platform, achieving over \$70K in annual cost savings and providing a foundation for future growth and advanced analytics."

- **Hybrid Cloud Enablement with Azure Arc for Enhanced Database Management & Security**

Championed and implemented Azure Arc to integrate on-premises database infrastructure with Azure management and security services. This strategic initiative provided:

* **A unified single-pane-of-glass view** for monitoring and managing a diverse on-premises database estate, improving operational efficiency.

* **Leveraged Azure-native security capabilities**, including Advanced Threat Protection, Vulnerability Assessment, and automated Best Practices Assessments, significantly bolstering the security posture of on-prem systems.

* **Demonstrated expertise in extending Azure's governance and management** to hybrid environments, a key competency for guiding customers on their Azure transformation journey.

Senior Specialist Cloud and Infrastructure Services, LTI (Jan '15 – May '22)

Contributed to various cloud and infrastructure service projects for diverse clients, focusing on database solutions, migrations, and optimizations in enterprise environments. Performed as both an individual contributor and team lead on high-visibility projects.

Notable Projects:

- **Lead Database Architect for Global Azure Cloud Modernization (Marsh McLennan - CSSD Digitization)**

Served as the Lead Database Architect for Marsh McLennan's (Guy Carpenter) massive global CSSD digitization initiative, a multi-phase project deploying modernized database infrastructure across APAC, NA, UK, and Europe on Microsoft Azure. Key contributions included:

- * **Designing and architecting the new Azure-based database environments**, encompassing SQL Server on Azure VMs and integrating Azure PaaS services (Azure SQL Database, Azure Blob Storage, Azure Backup, Azure Monitor).
- * **Developing and implementing ARM templates for standardized, automated provisioning** of MSSQL environments via Azure DevOps, significantly accelerating deployment cycles and ensuring consistency across regional deployments.
- * **Orchestrating complex, heterogeneous data migrations** from on-premises Oracle and MSSQL systems, leveraging Oracle GoldenGate for bi-directional replication to support critical reporting (Cognos) and new application functionalities (OpenTwins, OTMessaging).
- * **Leading technical execution and stakeholder collaboration** (including business units, third-party vendors) to meticulously plan and execute migrations with minimal downtime.
- * **Delivered a scalable, secure, and highly available Azure database platform**, enabling enhanced performance, significant cost savings, and supporting the successful rollout of new global insurance broking workflow and messaging systems

- **Azure Database Architect for Catastrophe Risk Modeling Platform (Guy Carpenter - Advantage Point)**

Architected and led the database modernization for Guy Carpenter's Advantage Point, a leading catastrophe management and risk modeling platform, migrating it to Azure Database for PostgreSQL - Hyperscale (Citus). This critical project involved:

- * **Re-engineering the database backend supporting the application to support massive geospatial datasets** and high-performance analytical queries, addressing the burstable workloads typical of catastrophic event responses (e.g., floods, cyclones).

* **Designing and deploying a new Massively Parallel Processing (MPP) cluster using Azure Database for PostgreSQL - Hyperscale (Citus)**, provisioned and configured via ARM templates for standardized and repeatable builds. **Worked closely with Product team at Microsoft as we were one of the first customers to implement this product.**

* **Managing the complex data migration** from the legacy system to the new Citus cluster, utilizing tools like pg_dump/pg_restore and pgloader, while ensuring data integrity and minimizing downtime.

* **Driving performance optimization through rigorous load testing and instance tuning and** establishing robust monitoring and alerting mechanisms in Azure to ensure seamless production operations post-cutover.

* Successfully delivered a highly scalable, cost-efficient Azure solution capable of handling extreme analytical demands, enabling more accurate underwriting and efficient catastrophe response for a critical business application.

- **Lead DBA & SME, Global Managed Database Services (Marsh - LTI)**

Served as the Lead Database Administrator and Subject Matter Expert (SME) for Oracle and MSSQL within LTI's Global Shared Services, supporting Marsh (a Marsh McLennan subsidiary). Key responsibilities and achievements in this global operational leadership role included:

* **Providing technical leadership and mentorship to a global team of 25+ database engineers** responsible for 24/7 production support across 1000+ databases and associated applications.

* **Acting as the primary escalation point and SME for complex Oracle and MSSQL issues**, driving resolution for critical incidents and ensuring platform stability and performance.

* **Championing database best practices, standardization, and process improvements** across the global team to enhance service delivery, operational efficiency, and system reliability.

* **Collaborating with application teams and business stakeholders** on database design, capacity planning, and strategic projects to support Marsh's diverse business needs.

Senior Technical Consultant, Avani Technology Solutions (Dec '13 – Dec '14)

Oracle Database Performance Optimization Lead for Marsh (MMC Subsidiary)

Engaged as a Senior Technical Consultant to resolve critical performance bottlenecks in a key Oracle 10g database supporting Marsh's core insurance broking application.

* **Systematically identified and analyzed the top 30 resource-intensive queries** using Oracle Enterprise Manager (OEM), focusing on high compute, wait times, and execution counts.

* **Designed and implemented targeted query tuning strategies and optimized object access patterns** (including indexing, table redefinition, and statistics updates) to significantly enhance database efficiency.

* **Achieved over 60% improvement in key query performance**, leading to reduced infrastructure demands (memory/compute) and associated licensing costs, while substantially improving application responsiveness for users.

* This successful engagement directly led to a subsequent full-time role with LTI to support broader initiatives at Marsh McLennan.

Database Administrator II, Varolii (Jan '13 – Dec '13)

Managed and maintained mission-critical Oracle 10g/11g database environments supporting Varolii's diverse application suite.

Team Lead, Keane India (Caritor Inc.) (Jul '06 – Jun '11)

Joined Keane India following undergraduate studies and progressed to Team Lead, managing a dedicated Database Support Services project for GlaxoSmithKline (GSK) before departing to pursue an MBA. Led and mentored a team of 5 database engineers providing 24/7 Oracle database administration and incident management for GSK's critical systems.

Education:

Masters in Business Administration

Hult International Business School, 2012

- Dean's List in Module D
- **Winner, Procter & Gamble Action Project:** As part of a 4-member team, championed an innovative strategy to gather real-time user feedback for P&G products in developing nations, leveraging non-profits, women's empowerment initiatives, and mobile technology, while creating a charitable donation model for P&G.

Bachelor of technology in Information Technology

Anna University, 2006

Skills:

Databases: MSSQL, MySQL, MariaDB, MongoDB/MongoDB Atlas, Oracle, Snowflake;
Azure: Azure SQL (DB/MI/VM), Azure Database for PostgreSQL (Single Server/Flexible Server/Hyperscale Citus); AWS: RDS (MSSQL, MariaDB, Aurora PostgreSQL)

Cloud Platforms: Microsoft Azure (Core Services, Azure Monitor, Azure DevOps, Azure AI Foundry), Amazon Web Services (Core Services, CloudWatch, Guard duty)

Infrastructure as Code (IaC): Terraform, ARM Templates, Bicep

Scripting & Automation: Python, PowerShell, Bash

AI & Machine Learning: Generative AI (RAG, custom Gen AI applications), Azure AI Foundry, Agentic Frameworks (Lang Graph, Semantic Kernel)

Data Replication & Integration: Oracle GoldenGate, AWS DMS, Azure Data Factory (ADF), SSIS, SQL Replication, Azure Data Sync

Database Administration & Design: Performance Tuning (SQL/Oracle), HA/DR Solutions (Always On, Data Guard, GoldenGate), Security (TDE, TLS, LDAP), Backup & Recovery (RMAN), Data Modeling (Logical/Physical), Data Warehousing, RBAC, Cloud Database Migration

DevOps & SRE: CI/CD Pipelines (Azure DevOps, GitLab), SRE Principles, Database Deployments (SSDT, dacpac), Containerization (Docker/Kubernetes - exposure)

Certifications:

Microsoft Certified Azure Database Administrator Associate

Microsoft Certified Azure Administrator Associate

Google Cybersecurity Professional

Microsoft Certified Azure AI Fundamentals

MongoDB Certified Atlas Administrator

SnowPro Associate: Platform Certification

Hobbies and Interests:

Soccer, Music, Cyber Security, AI Hackathons & Blockchain