Microsoft SQL Database Management for a Leading Diversified Business Group in Mauritius

Microsoft SQL Database Management Case Study

Optimizing Database Performance for a Leading Diversified Business Group in Mauritius

Client Overview

The client is a renowned business group operating a network of over 700 retail and distribution stores, production centers, and a chain of hotels and resorts across Mauritius.

Business Challenge

The client's customer-related applications were experiencing significant performance issues due to an inadequate database management system. Key challenges included:

- Poor distribution of database and data files, leading to disk redundancy.

- Insufficient maintenance routines for a database exceeding 10 terabytes.

- Frequent I/O bottlenecks, disk failures, and high CPU utilization.

- Lack of real-time monitoring and proactive database health reporting.

Business Requirements

To overcome these challenges, the client required a revamped database management system that would:

- **Enhance Performance:** Implement structured data management mechanisms to optimize system efficiency and reduce redundancies.

- **Increase Visibility:** Provide real-time insights into the health and availability of all Microsoft SQL databases.

- **Control Costs & Improve Quality:** Manage the growing database infrastructure while maintaining cost efficiency and service quality.

- **Ensure Proactive Maintenance:** Establish continuous monitoring and proactive health reporting to prevent failures and enable disaster preparedness.

Solution Provided by Prospient

Prospient delivered a comprehensive database management solution through a managed services desk, offering Database Administration (L1-L3) support with experienced database experts. Key solutions included:

- **Proactive Remote Maintenance & Monitoring:** Implemented enterprise-level remote maintenance, performance tuning, and monitoring for database servers.

- **MSSQL Query Optimization:** Fine-tuned and optimized queries while integrating real-time monitoring tools to track disk, CPU, memory, backup logs, and replication.

- **Incident & Problem Management:** Collaborated with the client's delivery team for incident resolution, request fulfillment, and ongoing database maintenance.

- **Automated Monitoring & Alerts:** Deployed PowerShell, Shell, and T-SQL scripts for proactive monitoring and real-time alerting.

- **Scalable Database Administration:** Successfully managed over 250 jobs across 200+ Microsoft SQL servers.

Key Benefits & Impact

- **95% Reduction in Downtime:** Ensured database availability for live applications and business-critical processes.

- **90% Faster Application Response Time:** Significantly improved performance of database queries.

- **30% Reduction in Manual Efforts:** Automation of maintenance and monitoring tasks led to significant operational efficiency.

- **Enhanced User Experience:** Improved system performance and stability for end-users.

- **Lower Total Cost of Ownership:** Automation reduced operational costs while enhancing database reliability.

Key Metrics

- **40+ TB** of Managed Database Size

- **10+ Billion** Queries Processed Per Month

- **220+** Database Servers Managed

- **2,550+** Active Databases

- **1+ Billion** Agents Supported

Tools & Technologies Used

- Microsoft PowerShell

- Power BI

- Microsoft Dynamics 365 F&O

- MuleSoft

- SQL Server

Conclusion

Through Prospient's expert database management services, the client successfully optimized their Microsoft SQL database infrastructure, ensuring high performance, scalability, and reliability while reducing operational costs. The enhanced monitoring and automation framework continues to drive efficiency, supporting the client's extensive retail, distribution, and hospitality operations.