SQL Server: Benchmarking and Baselining

Module 2: What, When, and Where

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Introduction

- **Data, data everywhere…**
- **How do you know where to start?**
    - Define your goal
- **Determine what data has the most value**
- **Understand how much data you want to collect and manage**

Deciding What Data to Capture

- **Performance Monitor**
  - Hardware resource counters
  - OS counters
  - SQL Server counters
- **SQL Trace and Extended Events**
  - Queries for analysis or tuning
  - Queries for comparison

Deciding What Data to Capture (2)

- **DMVs**
  - Wait statistics
  - File statistics
  - Index usage statistics
  - Performance counters
- **Catalog Views/System Tables**
  - SQL Server configuration
  - Database and file size
  - Maintenance job history

Deciding What Data to Capture (3)

- **Application**
  - User activity
  - System work
  - Batch jobs
- **Application-specific, but within SQL Server**
  - Application schema
  - Query plans

Deciding When to Capture Data

- **When vs. how often**
  - When: what time during the day, month, quarter
  - How often: every 15 seconds, every 5 minutes
- **It depends…**
  - Business cycle
  - DBA resources
  - Volatility of the environment
  - Available storage
- **Also consider the data retention period**
  - Keep for only 60/120/180 days
  - Aggregate older data and store it before purging

Deciding How to Store and Retrieve Data

- **Store in a database**
  - Custom, user database on a production instance
  - Schedule a regular, daily backup job
  - Size appropriately and ensure enough storage exists
  - Consider the performance impact of this database
- **Retrieve using custom queries or code**
  - T-SQL is your friend
  - SQL Server Reporting Services (SSRS) may become your new friend
  - Develop an external application or website

Summary

- **Decide what, when, and how**

- **Document your approach**

  - Goal

  - When

  - What data and how often

  - Scripts to capture data

  - Scripts to read/report on data

- **In the next module: Performance Monitor**