Performance Tuning - Checklist

Pinal Dave
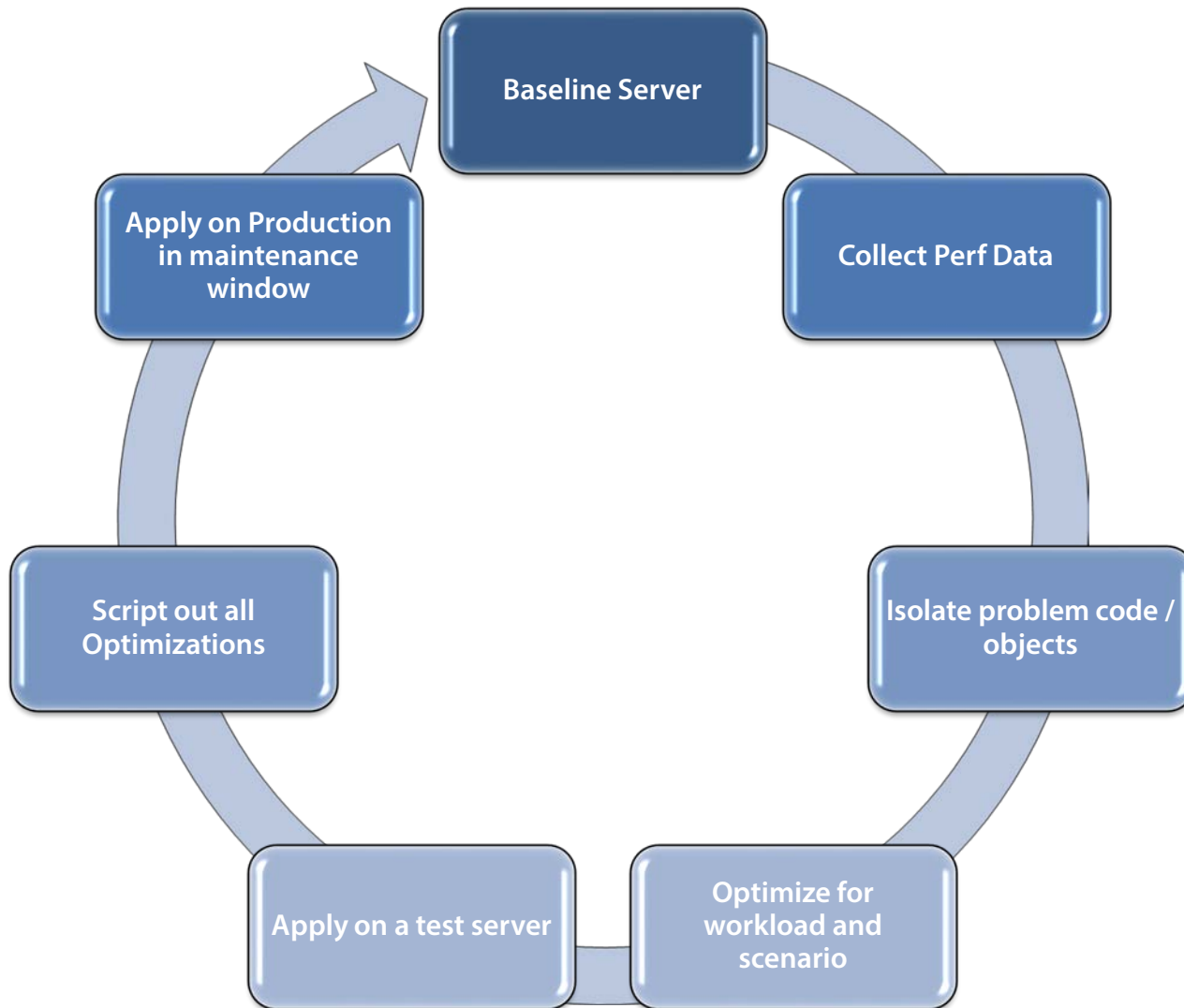
http://blog.sqlauthority.com

Vinod Kumar M

http://blogs.extremeexperts.com

pluralsight
hardcore developer training

Don't think
outside the box,
think as if no box exits.

Simple Cyclic process

Baseline Server

Collect Perf Data

Isolate problem code / objects

Optimize for workload and scenario

Apply on a test server

Script out all Optimizations

Apply on Production in maintenance window

Areas of concerns

- Severe performance degradation and system crashes
- Slow and resource-intensive queries
- Long-running locks and deadlocks
- Long-running batch jobs
- High-CPU utilization on the server
- Poor cache-hits ratio and memory pressure
- Sub-optimal scalability patterns
- Inefficient use of parallel processing
- Transaction rollbacks and failures

Where to use which tool

- **Proactive tools**
  - SQLDiag
  - SQL Error Logs
  - PerfMon
  - SQL Server BPA
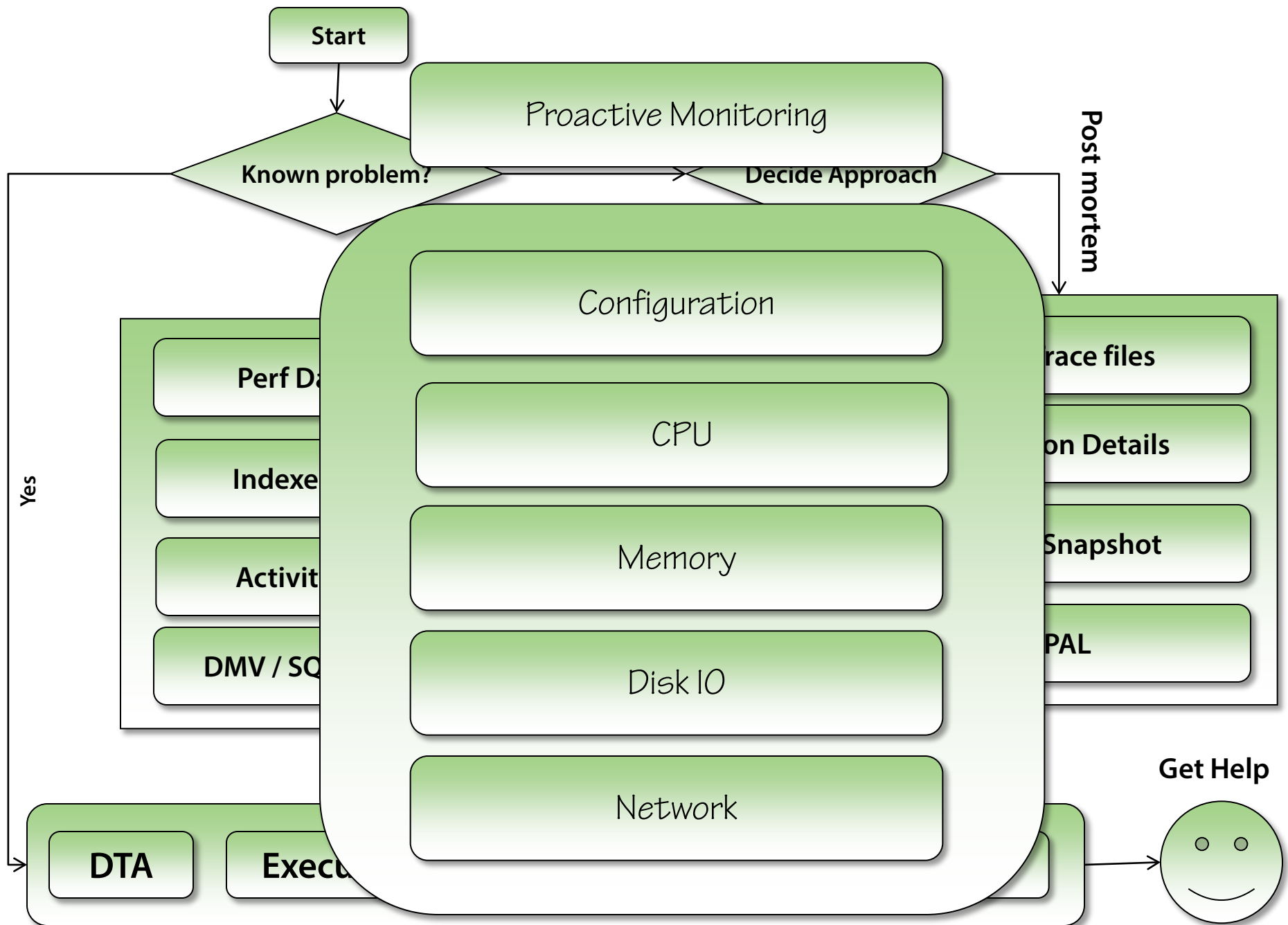- **Live Debugging**
  - SQL Wait Stats
  - SSMS Activity Monitor
  - Dynamic Management Views
  - Performance Dashboard Reports

- **Post-Mortem**
  - Profiler Trace / Extended Events
  - Perfmon
  - Snapshots of DMVs
  - PAL
- **Misc**
  - SQL Space Map
  - SSMS Standard Reports
  - Extended Events
  - Database Tuning Advisor

Start

Proactive Monitoring

Known problem?

Decide Approach

Post mortem

Yes

Perf Da...

Indexe...

Activit...

DMV / SQ...

Configuration

CPU

Memory

Disk IO

Network

...race files

...on Details

Snapshot

PAL

Get Help

DTA

Execu...

http://bit.ly/sql-perf

Summary

- Use an systematic approach
- Performance tuning is all about Planning
  - **Proactive, Reactive and Live**
- Cycle - Monitor, Plan, Implement, Test

Remember: 80%-20% Rule. There are always special cases.