

What is SQL Performance Tuning?

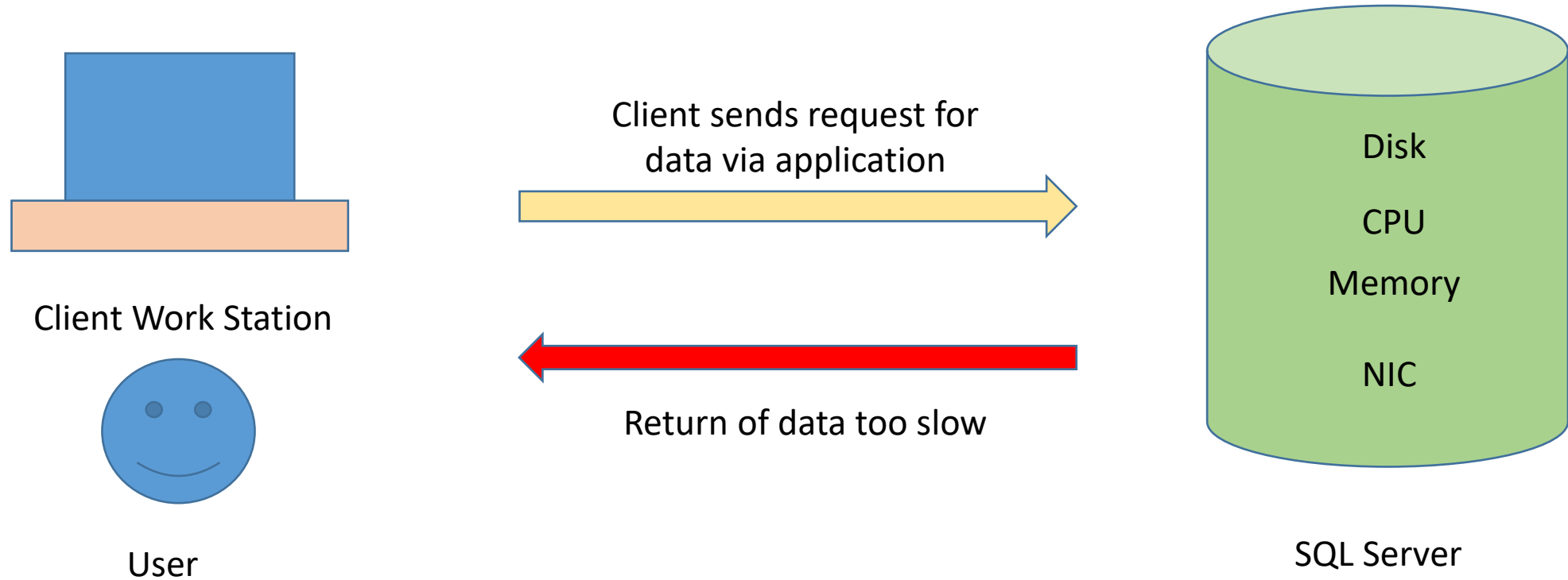
- What is the performance tuning?

Performance tuning is the improvement of system performance. Typically in computer systems, the motivation for such activity is called a performance problem, which can be either real or anticipated. Most systems will respond to increased load with some degree of decreasing performance.
- What is tuning in database?

Database Tuning is the activity of making a database application run more quickly. "More quickly" usually means higher throughput, though it may mean lower response time for time-critical applications
- What is meant by SQL tuning?

SQL tuning is the process of ensuring that the SQL statements that an application will issue will run in the fastest possible time

What is SQL Performance Tuning?



When the user sends a request for data to be returned and it takes too long for the server to process – you have a performance issue!

Why is the data being returned too slow?

Could be many reasons!

- Is it the application misconfigured
 - Improper set up, application not updated
- Do you have sufficient physical hardware resources
 - Memory, disk, CPU, network
- Is the query optimizer not choosing the best plan
 - Maybe need hints to force the optimizer
- Are the queries improperly written
 - Is the query using cursors, can it be written more efficiently
- Do you have proper indexing
 - Improper indexing on tables, unused indexing, too many indexes

What the tools and application for the SQL DBA to use for performance tuning and monitoring?

- Performance monitor
- Activity monitor
- SQL Profiler
- Extended Events
- DMV (Database management views)
- DBCCs (Database console commands)
- Stored procedures (sp_who, sp_monitor)
- SQL Standard Report
- Database tuning advisor
- Execution plans
- Data collection
- Query store
- Other monitoring tools