



# SQL Server Performance Tuning

Is your SQL Server web or Windows app running slowly? Are you being told to "buy a faster processor" or to "add more memory" to solve the problem. If so, then you are likely to benefit from performance tuning.

Slow performance is more than often a result of bad database design, inefficient T-SQL database queries, poorly implemented indexes, lack of server resources or incorrect server configuration.

You may only notice slow performance after accumulating more and more data. Even if data volumes are relatively static, database performance may also get worse over time. This is usually due to fragmentation in your database and can be resolved by tuning indexes.

Ecatenate offer SQL Server Performance Tuning to give you quick wins and ensure your SQL Server databases are not slowing down your apps. Our SQL Server Performance Tuning can be carried out on-site or via VPN (Remote Desktop).

## Why do I need SQL Server Performance Tuning?

### *Meeting Demands*

Users expect web and mobile apps to give them fast access to data. Research has demonstrated that most web app users are only willing to wait 3 to 5 seconds before simply giving up and going somewhere else. A fast app is a good user experience (UX).

### *Scalability*

The amount of data your organisation needs to work with has outgrown your existing database application's design.

### *Return On Investment (ROI)*

Is your organisation getting the best return for your investment in cloud subscriptions or server hardware and software? For instance, rather than spending more money on server resources, could your databases be optimised to make better use of existing server resources?

### *Reduce Costs*

Reduce staff idle time due to slow app responses with performance tuning.

## What's Included?

We can help you identify and solve general server-wide problems. We can also help you identify and solve very specific problems that cause apps to run slowly like inefficient database queries or poorly implemented data access code.

Our three-stage approach is to *analyse, recommend* and *implement*. After our analysis we will provide you with an actionable, comprehensive report with our recommendations and discuss them with you. Some of our recommendations may have implications for your applications. We will only implement the recommendations you are happy with.

As a guide, our performance tuning would include:

### Analyse

- An on-site visit or VPN (Remote Desktop) access
- Check server resources - memory, CPU, disk space
- Check server load for bottlenecks - memory, CPU, disk space, network
- Check SQL Server configuration options - memory, CPU, disk, torn page detection, auto close, recovery mode, data and log file growth settings
- Check network bandwidth utilisation
- Check data access code - ADO.NET, ODBC, WCF Data Services
- Check for slow-running T-SQL database queries
- Check for inefficient database queries
- Check database structure - normalisation, keys, referential integrity, data types

### Recommendations Report

- Server configuration recommendations - memory, CPU, disk space, network
- SQL Server configuration improvements - memory, CPU, disk, configuration options
- Service packs (operating system and SQL Server)
- Database configuration improvements
- T-SQL query optimisation
- Improve data access code - ADO.NET, ODBC, WCF Data Services Server data processing vs. client data processing
- Indexes improvements
- Database structure improvements - normalisation, keys, referential integrity, data types