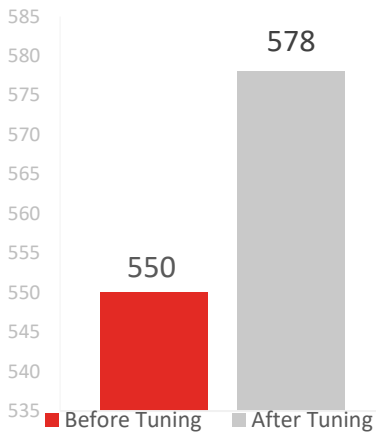
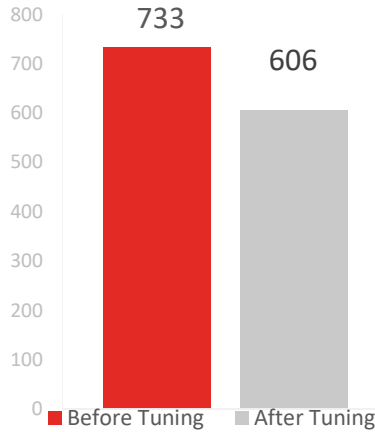


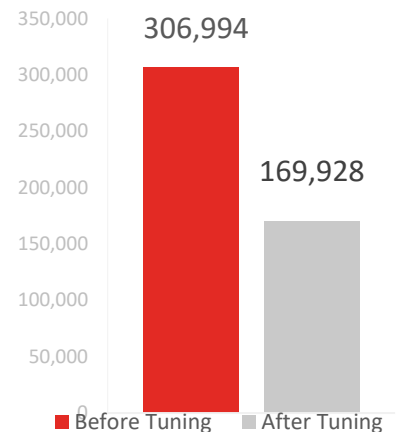
# Performance Tuning Report



CPU



Speed



Disk

Disk is **2X** times faster

OR

**181%**

CPU is worse

Speed slightly better

Disk improvement

## Description:

—pre-tuning: cpu=550, IO=306,994, duration=733  
—post-tuning: cpu=578, IO=169,928, duration=606

**Problem:** This stored procedure is in top 10 most resource intensive procs.

**Change:** Multiple changes were made to code inside the procedure.

If you want your SQL Server to go faster, let us know! We would love to have you as a client!



### **Other notes:**

1. On this SQL Server we are bottlenecking on storage resources. With this tuning we are sacrificing CPU resources (since there is plenty left) to save storage requests.
2. Further testing is needed to determine if this can be deployed into production. Result set is exactly same for old stored procedure vs. new. However, rows in new stored proc come back in a different order. If application that consumes this data sorts the records set (which we think it does), then it's safe to assume this is a safe change and it will not make app behaviour change.

### **Technical Background:**

Most SQL Servers bottleneck on Disk access (or disk "reads").

It's not CPU or RAM – which most customers often suspect first.

And that makes a lot of sense. Here is why.

Inefficient queries scan (or read) lot of data. Data read in is stored in RAM. As more data is read in, "older" data is pushed out from RAM. If there isn't enough RAM to keep ALL data in memory (which is often not possible), SQL Server has to read from disk – and that is the slowest operation SQL Server can do.

When query can be tuned to read 10 rows vs 10M – less CPU and RAM automatically are necessary. Therefore, tuning for less disk "reads" is often the primary goal.

To the end user nothing is more important than Speed (or Duration of the query) though.

Tuning to reduce CPU/RAM resources are helpful too.

When queries are tuned to need less CPU & RAM, it means that same server now has more capacity. Which means that same server can process double or triple the load. Which means it extends lifespan of the same server. Which means hardware upgrades can be pushed out further into the future.

**If you want your SQL Server to go faster, let us know! We would love to have you as a client!**

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