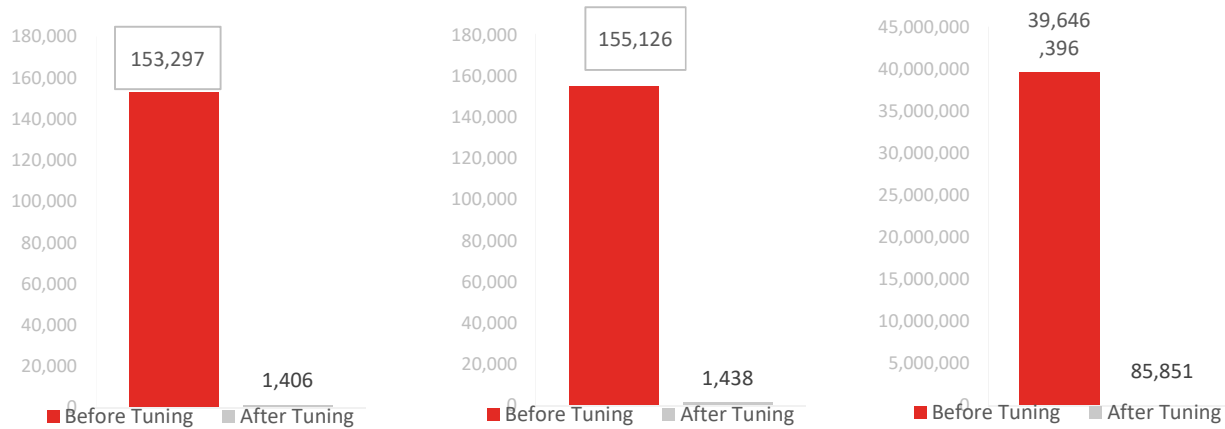


Performance Tuning Report



CPU

Speed

Disk (Reads)

CPU is **109X**
times faster

Speed is **108X**
times faster

Disk is **462X**
times faster

OR

OR

OR

10,903%

CPU improvement

10,788%

Speed improvement

46,180%

Disk improvement

Description:

Problem: Slow stored procedure

Notes:

After making couple of small tweaks to the SQL Server stored procedure we were able to get few improvements:

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

Run time duration improved by: 10,788%

CPU improved by: 10,903%

Disk improved by: 46,180%

Overall stored procedure improvement: 67,871%

	Duration (milliseconds)		CPU (milliseconds)		Disk (read operations)	
	Before	After	Before	After	Before	After
Run 1	74,237	480	73,328	469	8,189,920	28,724
Run 2	21,592	306	21,422	297	7,877,023	19,023
Run 3	18,815	160	18,625	156	7,851,209	9,542
Run 4	22,214	327	21,906	328	7,877,048	19,023
Run 5	18,268	165	18,016	156	7,851,196	9,539
Sum	155,126	1,438	153,297	1,406	39,646,396	85,851



	Before tuning	After tuning	Improvement %
Duration*	155,126	1,438	10788%
CPU*	153,297	1,406	10903%
Disk*	39,646,396	85,851	46180%
SUM of improvements:			67871%

Table 1 - Shows several runs of the same T-SQL call, so we can have realistic numbers

Table 2 - *The numbers are a sum of five runs of [LoadUnitTransactionAccountDetailsCOOOpen].

TextData	SPID	CPU	Reads	Writes	Duration	SPID	StartTime
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 176291,1	109				74236	109	2019-03-19 21:15:30.983
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 176291,1	109	73328	8189920	5066	74237	109	2019-03-19 21:15:35.207
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 176291,1	109				479	109	2019-03-19 21:16:49.693
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 176291,1	109	469	28724	0	480	109	2019-03-19 21:16:49.693
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203165,1	109				21591	109	2019-03-19 21:16:50.400
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203165,1	109	21422	7877023	3187	21592	109	2019-03-19 21:16:50.400
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203165,1	109				305	109	2019-03-19 21:17:12.070
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203165,1	109	297	19023	0	306	109	2019-03-19 21:17:12.070
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203164,1	109				18814	109	2019-03-19 21:17:12.440
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203164,1	109	18625	7851209	7855	18815	109	2019-03-19 21:17:12.440
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203164,1	109				159	109	2019-03-19 21:17:31.623
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203164,1	109	156	9542	0	160	109	2019-03-19 21:17:31.623
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203163,1	109				22213	109	2019-03-19 21:17:31.857
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203163,1	109	21906	7877048	6675	22214	109	2019-03-19 21:17:31.857
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203163,1	109				326	109	2019-03-19 21:17:54.133
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203163,1	109	328	19023	0	327	109	2019-03-19 21:17:54.133
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203159,1	109				18267	109	2019-03-19 21:17:54.523
EXEC [LoadUnitTransactionAccountDetailsCOOOpen] 203159,1	109	18016	7851196	7353	18268	109	2019-03-19 21:17:54.520
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203159,1	109				163	109	2019-03-19 21:18:13.047
EXEC [LoadUnitTransactionAccountDetailsCOOOpen_t1] 203159,1	109	156	9539	0	165	109	2019-03-19 21:18:13.047

What exactly was changed?

-Split a subquery in four parts using UNION

-Replaced ISNULL function in WHERE clause

That's it!

Why does disk improvement matter for stored procedure speed?

It's simple. The less you access the disk, the more disk capacity is left over.

It works just like a highway. Say you have 3 lane highway. And 5 cars use it every 1min. What if you add 50 cars? The speed is still the same, because 55 cars don't overload that highway. What if you add another 500 or 5000? Now you starting a slowdown in traffic. They all still get home. But not at the same speed anymore.

Same with SQL Servers. That's why speed tuning most critical resources is important. The less hits there is to storage, the more capacity there is available. And the more future cars we can put on it.



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