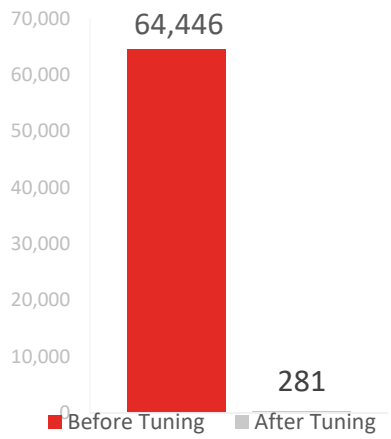
Performance Tuning Report

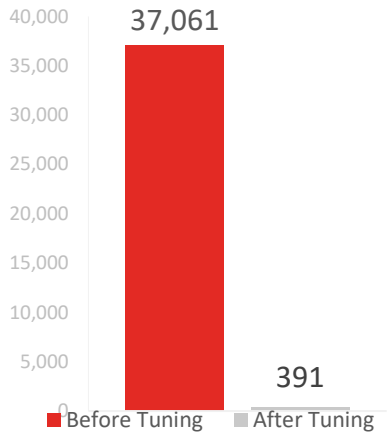


CPU

CPU is 229X times faster

OR

22,935% CPU improvement

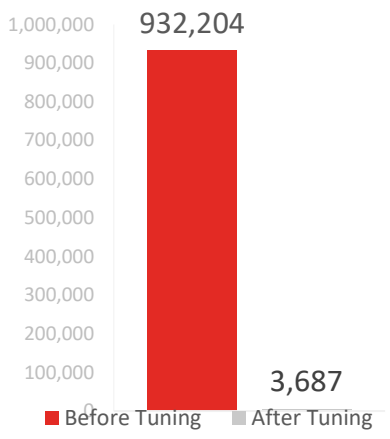


Speed

Speed is 95X times faster

OR

9,479% Speed improvement



Disk (Reads)

Disk is 253X times faster

OR

25,284% Disk improvement

Description:

Problem: This stored procedure runs very frequently (multiple times per minute) and consumes a lot of server resources (CPU, storage reads and duration).

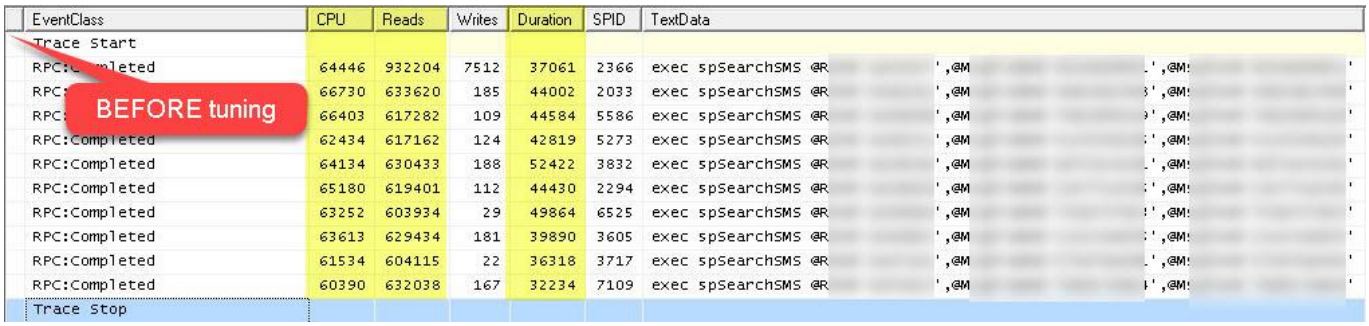
Change: Added indexes.

Other notes: N/A

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

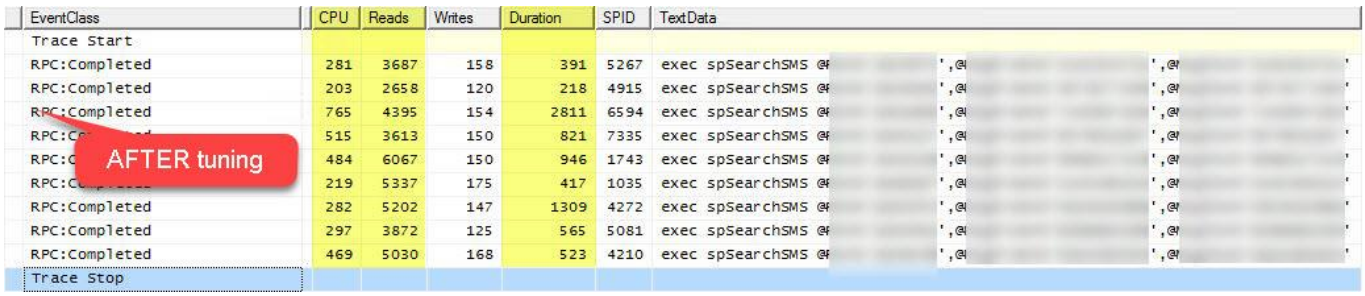
red9.com

BEFORE tuning:



EventClass	CPU	Reads	Writes	Duration	SPID	TextData
Trace Start						
RPC:Completed	64446	932204	7512	37061	2366	exec spSearchSMS @R ',@M
RPC:Completed	66730	633620	185	44002	2033	exec spSearchSMS @R ',@M
RPC:Completed	66403	617282	109	44584	5586	exec spSearchSMS @R ',@M
RPC:Completed	62434	617162	124	42819	5273	exec spSearchSMS @R ',@M
RPC:Completed	64134	630433	188	52422	3832	exec spSearchSMS @R ',@M
RPC:Completed	65180	619401	112	44430	2294	exec spSearchSMS @R ',@M
RPC:Completed	63252	603934	29	49864	6525	exec spSearchSMS @R ',@M
RPC:Completed	63613	629434	181	39890	3605	exec spSearchSMS @R ',@M
RPC:Completed	61534	604115	22	36318	3717	exec spSearchSMS @R ',@M
RPC:Completed	60390	632038	167	32234	7109	exec spSearchSMS @R ',@M
Trace Stop						

AFTER tuning:



EventClass	CPU	Reads	Writes	Duration	SPID	TextData
Trace Start						
RPC:Completed	281	3687	158	391	5267	exec spSearchSMS @ ',@ ',@
RPC:Completed	203	2658	120	218	4915	exec spSearchSMS @ ',@ ',@
RPC:Completed	765	4395	154	2811	6594	exec spSearchSMS @ ',@ ',@
RPC:Completed	515	3613	150	821	7335	exec spSearchSMS @ ',@ ',@
RPC:Completed	484	6067	150	946	1743	exec spSearchSMS @ ',@ ',@
RPC:Completed	219	5337	175	417	1035	exec spSearchSMS @ ',@ ',@
RPC:Completed	282	5202	147	1309	4272	exec spSearchSMS @ ',@ ',@
RPC:Completed	297	3872	125	565	5081	exec spSearchSMS @ ',@ ',@
RPC:Completed	469	5030	168	523	4210	exec spSearchSMS @ ',@ ',@
Trace Stop						

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.