



Capture of a Typical SQL Server Database Workload

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What purpose have this solution

The main aim of this work is an extraction of a typical workload in a production SQL database. That means to collect a set of unique parametrized SQL statements together with some other information such as few parameter value examples and an approximate number of invocations that occurred during the monitoring.

Difference from other solutions

There are tools in SQL Server that allow collecting SQL statements for a certain period. The problem of these tools is that the amount of data recorded in this way may not be small and that the recorded data requires further processing. Our solution also contains SSMS Add-In that simplifies the use of the our solution.

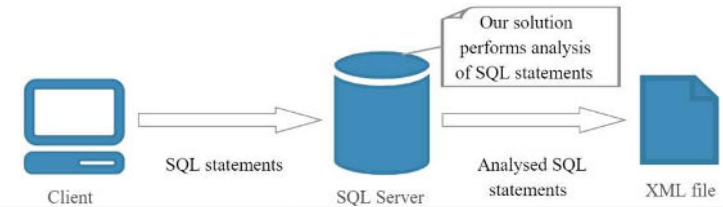
How it works

We have developed three solutions to the problem where each has its pros and cons. Therefore, each person needs to choose a method appropriate for his specific situation.

The first method is based on currently processed SQL statements. It uses `sys.dm_exec_request` view that contains SQL statements being actually processed on SQL Server. This method will likely not capture SQL statements which are rare.

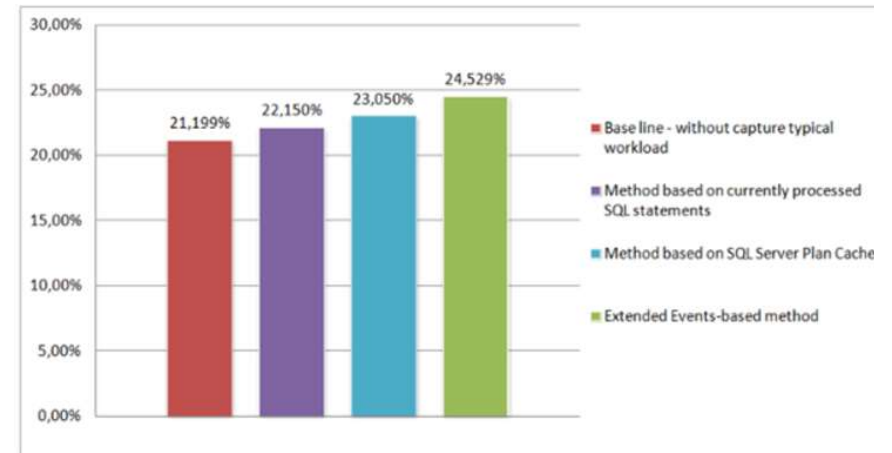
The second method based on SQL Server Plan Cache uses Plan Cache to get SQL statements which were processed on SQL Server. This method is not able to capture parameters values of SQL statements.

The third method uses the build-in technique in SSMS called Extended Events. Thanks to this it is possible to capture all SQL statements with their parameters values, however, the SQL command processing may slightly slow down the server (see the experimental results).



Experimental Results

All three methods were tested on the database workload so we can compare the performance between them. As we can observe in the result the Extended Events method has the highest time overhead, however, it is still not very significant.



Publication

This diploma thesis solution was also posted on the internet. We chose one of portal with shared code called Code Project. This solution is available [here](#).