Compare Estimated and Actual Query Plans and Related Metadata



Pinal Dave
SQL SERVER PERFORMANCE TUNING EXPERT
https://blog.sqlauthority.com



Agenda



Estimated execution plan

Actual execution plan

Live query statistics

Analyze Execution Plan

Demos



"There is no such thing as absolute value in this world. You can only estimate what a thing is worth to you."

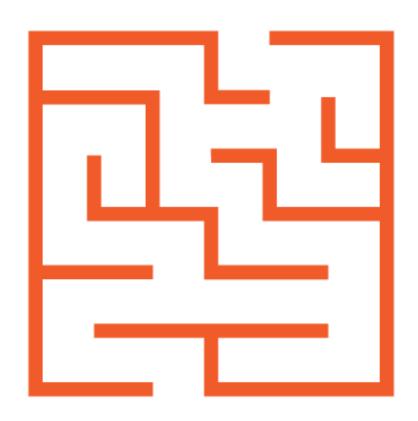
Charles Dudley Warner



What is an **estimated** execution plan?

The most probable plan the engine is likely to use when SQL Server generates an execution plan without running an actual query and display.





Estimated execution plan

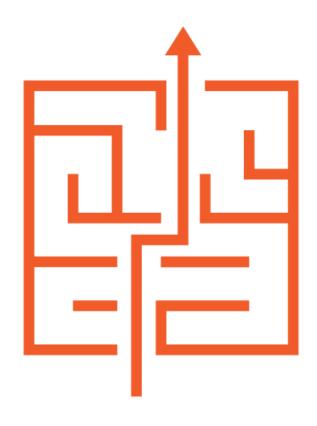
- Quicker
- No need to run actual query
- No execution data
- No available resource consideration
- Shortcut: CTRL + L
- SET SHOWPLAN ALL ON
- SET SHOWPLAN_XML ON



What is an actual execution plan?

When SQL Server generates an execution plan running an actual query, considering available resources.





Actual execution plan

- Visible after query is executed
- Contains actual execution data
- Consider available resources
- Shortcut: CTRL + M
- SET STATISTICS PROFILE ON
- SET STATISTICS XML ON



Demo



Estimated Execution Plan

Actual Execution Plan



What is live query statistics?

The live query statistics displays the real-time insights into query execution process as well as control flows of the operator.





Live query statistics

- Visible while query is executed
- Contains actual execution data
- Consider available resources
- Available from *Activity Monitor*



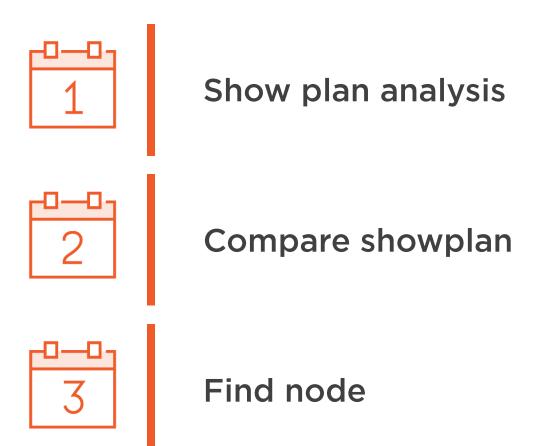
Demo



Live query statistics



Analyze Execution Plan





Demo



Analyze execution plan



Summary



While query performance troubleshooting it is critical to use different query plan tools to find the troublemaking operator

