How to find current queries with high CPU consumption

Last updated by | Vitor Tomaz | Jun 8, 2022 at 5:37 AM PDT

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Issue

Customer is complaining about high CPU consumption.

Investigation/Analysis

If the customer is currently experience high CPU consumption ask him to send the output of the following query to you.

```sql
SELECT TOP 10 s.session_id,
        r.status,
        r.cpu_time,
        r.logical_reads,
        r.reads,
        r.writes,
        r.total_elapsed_time / (1000 * 60) 'Elaps M',
        SUBSTRING(st.TEXT, (r.statement_start_offset / 2) + 1,
        ((CASE r.statement_end_offset
            WHEN -1 THEN DATALENGTH(st.TEXT)
            ELSE r.statement_end_offset
         END - r.statement_start_offset) / 2) + 1) AS statement_text,
        COALESCE(QUOTENAME(DB_NAME(st.dbid)) + N'.' + QUOTENAME(OBJECT_SCHEMA_NAME(st.objectid, st.dbid))
        + N'.' + QUOTENAME(OBJECT_NAME(st.objectid, st.dbid)), '') AS command_text,
        r.command,
        s.login_name,
        s.host_name,
        s.program_name,
        s.last_request_end_time,
        s.login_time,
        r.open_transaction_count
FROM sys.dm_exec_sessions AS s
JOIN sys.dm_exec_requests AS r ON r.session_id = s.session_id CROSS APPLY sys.Dm_exec_sql_text(r.sql_handle) A
WHERE r.session_id != @@SPID
ORDER BY r.cpu_time DESC
```

Mitigation

The quickest way to reduce the CPU usage is to kill the sessions that are consuming more CPU, if that is possible.

There are several points to look at to reduce the CPU usage:

1. Check if the statistics are updated. Sometimes ut's not possible to update all the statistics of the database so start updating the relevant tables statistics associated with the queries that are consuming more CPU.
2. Check if the queries consuming more CPU could benefit from a index. Check the execution plan of those queries to see if there is any alert regarding missing indexes. Look at the XML version of the execution plan when we see using the UI we will only see one missing index and there can be more than one.
3. Check the execution plan for implicit conversions
4. Investigate parameter-sensitive issues
5. Look if there are too many extended events sessions or too heavy
6. Consider increasing the number of vCores

Root Cause Classification

Cases resolved by this TSG should be coded to the following root cause:
<Root cause path>

How good have you found this content?