

# DSS033 - Data Sync RCA using Query Store

Last updated by | Keith Elmore | Apr 5, 2021 at 7:57 AM PDT

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It's hard to understand why a Sync took more time after the fact.

The following queries can get information from Query Store (when available) so we can look at the operations and timeline and try to find the RCA for the delay.

```
-- determine the investigation interval
declare @starttime as datetime = '03/20/2009 18:00'; -- define UTC start date/time
declare @endtime as datetime = '03/20/2029 19:00'; -- define UTC end date/time

WITH DataSyncRCA_CTE1 (ExecutionCount,query_sql_text) AS
(SELECT SUM(rs.count_executions) as ExecutionCount, qt.query_sql_text
FROM sys.query_store_query_text AS qt
JOIN sys.query_store_query AS q ON qt.query_text_id = q.query_text_id
JOIN sys.query_store_plan AS p ON q.query_id = p.query_id
JOIN sys.query_store_runtime_stats AS rs ON p.plan_id = rs.plan_id
WHERE rs.last_execution_time between @starttime and @endtime
and query_sql_text like '%DataSync%' AND query_sql_text not like '%DataSyncRCA_CTE%'
GROUP BY qt.query_text_id,qt.query_sql_text)
SELECT TOP(1000) ExecutionCount, CASE
WHEN ', ' + query_sql_text + ', ' LIKE '%@sync_update_peer_timestamp, 0, NULL, @sync_row_is_tombstone, GETDATE()'
WHEN ', ' + query_sql_text + ', ' LIKE '%@was_tombstone%' THEN '[UpdateMetadata]'
WHEN ', ' + query_sql_text + ', ' LIKE '%DELETE [[side] FROM [[DataSync]%' THEN '[DeleteMetadata]'
WHEN ', ' + query_sql_text + ', ' LIKE '%IF (NOT EXISTS (SELECT * FROM%' THEN '[Insert]'
WHEN ', ' + query_sql_text + ', ' LIKE '%UPDATE @sync_force_write = 1%' THEN '[Update]'
WHEN ', ' + query_sql_text + ', ' LIKE '%DELETE @sync_force_write = 1%' THEN '[Delete]'
WHEN ', ' + query_sql_text + ', ' LIKE '%[[base] FULL OUTER JOIN (SELECT * FROM%' THEN '[SelectRow]'
WHEN ', ' + query_sql_text + ', ' LIKE '%[[base] FULL OUTER JOIN [[DataSync]%' THEN '[SelectChanges]'
WHEN ', ' + query_sql_text + ', ' LIKE '%FROM INSERTED%CAST(@@DBTS AS BIGINT) + 1, NULL, 0, 0, GETDATE() , NULL)'
WHEN ', ' + query_sql_text + ', ' LIKE '%FROM INSERTED%@marker_local_create_peer_timestamp , NULL, 0, 0, GETDATE'
WHEN ', ' + query_sql_text + ', ' LIKE '%FROM DELETED%' THEN '[DeleteTrigger]'
WHEN ', ' + query_sql_text + ', ' LIKE '%SELECT p.*, t.local_update_peer_timestamp FROM @changeTable p LEFT JOIN'
WHEN ', ' + query_sql_text + ', ' LIKE '%SELECT p.*, t.update_scope_local_id, t.scope_update_peer_key, t.local_u'
WHEN ', ' + query_sql_text + ', ' LIKE '%OUTPUT DELETED%' THEN '[BulkDelete]'
WHEN ', ' + query_sql_text + ', ' LIKE '%BULK INSERT%' THEN '[SQLBulkInsert]'
END AS Operation, query_sql_text
from DataSyncRCA_CTE1 ORDER BY ExecutionCount DESC;
```

```
WITH DataSyncRCA_CTE2 (runtime_stats_interval_id, last_execution_time,count_executions,query_sql_text) AS
(SELECT rs.runtime_stats_interval_id, rs.last_execution_time, rs.count_executions, qt.query_sql_text
FROM sys.query_store_query_text AS qt
JOIN sys.query_store_query AS q ON qt.query_text_id = q.query_text_id
JOIN sys.query_store_plan AS p ON q.query_id = p.query_id
JOIN sys.query_store_runtime_stats AS rs ON p.plan_id = rs.plan_id
WHERE rs.last_execution_time between @starttime and @endtime
and query_sql_text like '%DataSync%' AND query_sql_text not like '%DataSyncRCA_CTE%'
)
SELECT TOP(5000) CASE
WHEN ', ' + query_sql_text + ', ' LIKE '%@sync_update_peer_timestamp, 0, NULL, @sync_row_is_tombstone, GETDATE()'
WHEN ', ' + query_sql_text + ', ' LIKE '%@was_tombstone%' THEN '[UpdateMetadata]'
WHEN ', ' + query_sql_text + ', ' LIKE '%DELETE [[side] FROM [[DataSync]%' THEN '[DeleteMetadata]'
WHEN ', ' + query_sql_text + ', ' LIKE '%IF (NOT EXISTS (SELECT * FROM%' THEN '[Insert]'
WHEN ', ' + query_sql_text + ', ' LIKE '%UPDATE @sync_force_write = 1%' THEN '[Update]'
WHEN ', ' + query_sql_text + ', ' LIKE '%DELETE @sync_force_write = 1%' THEN '[Delete]'
WHEN ', ' + query_sql_text + ', ' LIKE '%[[base] FULL OUTER JOIN (SELECT * FROM%' THEN '[SelectRow]'
WHEN ', ' + query_sql_text + ', ' LIKE '%[[base] FULL OUTER JOIN [[DataSync]%' THEN '[SelectChanges]'
WHEN ', ' + query_sql_text + ', ' LIKE '%FROM INSERTED%CAST(@@DBTS AS BIGINT) + 1, NULL, 0, 0, GETDATE() , NULL)'
WHEN ', ' + query_sql_text + ', ' LIKE '%FROM INSERTED%@marker_local_create_peer_timestamp , NULL, 0, 0, GETDATE'
WHEN ', ' + query_sql_text + ', ' LIKE '%FROM DELETED%' THEN '[DeleteTrigger]'
WHEN ', ' + query_sql_text + ', ' LIKE '%SELECT p.*, t.local_update_peer_timestamp FROM @changeTable p LEFT JOIN'
WHEN ', ' + query_sql_text + ', ' LIKE '%SELECT p.*, t.update_scope_local_id, t.scope_update_peer_key, t.local_u'
WHEN ', ' + query_sql_text + ', ' LIKE '%OUTPUT DELETED%' THEN '[BulkDelete]'
WHEN ', ' + query_sql_text + ', ' LIKE '%BULK INSERT%' THEN '[SQLBulkInsert]'
END AS Operation, * from DataSyncRCA_CTE2 ORDER BY runtime_stats_interval_id;
```

How good have you found this content?

