

Error: 8657 - The service has encountered an error processing your request

Last updated by | Peter Hewitt | Jan 20, 2023 at 9:19 AM PST

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Issue

Queries result in 8657 errors that occur intermittently. The full error message:
The service has encountered an error processing your request. Please try again. Error code 8657. A severe error occurred on the current command. The results, if any, should be discarded.

Investigation/Analysis

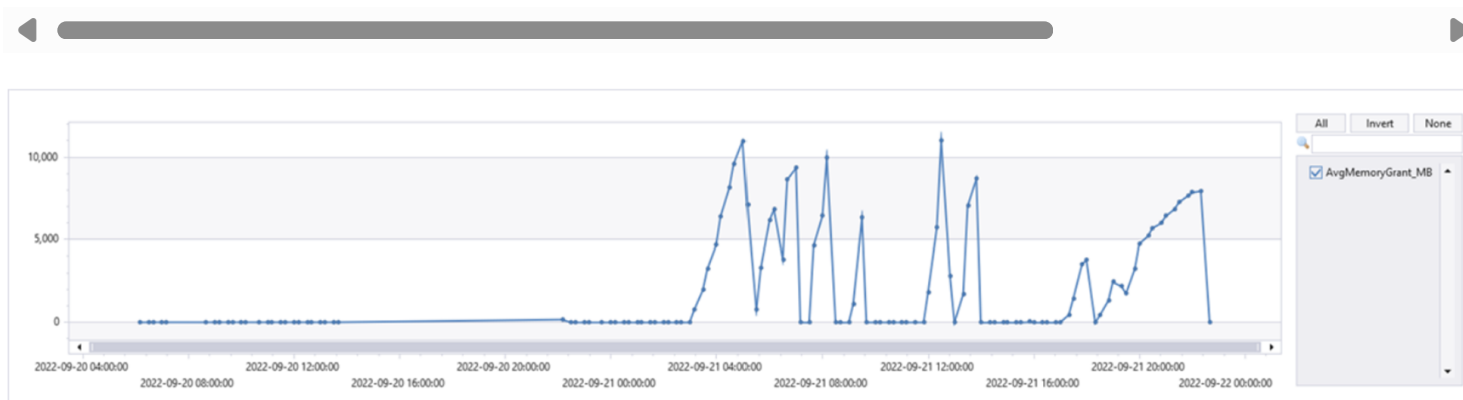
The issue first appeared after an update to SQL DB (version 16.0.816.20) in September 2022. Customers queries may result in a large increase in memory grant after the Memory Grant Feedback Percentile Grant feature was enabled in the deployment. This large spike in the memory grant leads to the increase in 8657 errors. This error occurs because the memory grant allocated for a specific query is too high given the server limit.

```
//Kusto query to check the code version
MonDmRealTimeResourceStats
| where originalEventTimestamp > ago (2d)
| where LogicalServerName =~ 'servername' and database_name =~ 'dbname'
| summarize count(), min(originalEventTimestamp), max(originalEventTimestamp) by code_package_version, replica
| order by replica_type, code_package_version asc
```



code_package_version	replica_type	count_	min_originalEventTimestamp	max_originalEventTimestamp
16.0.537.221-RelDB-52b82484	1	2	2022-09-20 04:46:03.3434330	2022-09-20 04:46:06.5535480
16.0.816.209-RelDB-65fb3c0f	1	6	2022-09-20 04:47:39.9541927	2022-09-21 22:33:40.6768347
16.0.537.221-RelDB-52b82484	0	3858	2022-09-20 02:55:16.3259773	2022-09-20 19:01:59.4182873
16.0.816.209-RelDB-65fb3c0f	0	7708	2022-09-20 19:02:32.1926761	2022-09-22 02:46:43.6093448

```
// Kusto query to check memory grant for a specific query hash
let phash = "queryPlanHashValue";
MonWiQdsExecStats
|where originalEventTimestamp > ago (2d
    |where LogicalServerName =~ 'servername' and database_name =~ 'dbname'
    |where query_hash == phash
    |summarize query_ids = make_set(query_id, 4), plan_ids = make_set(plan_id, 4)
        //, DistinctQueryHashes = dcount(orig_query_hash), DistinctPlanHashes = dcount(ori
        , TotalExecutions = sum(execution_count)
        , TotalTimeouts = sumif(execution_count, exec_type == 3), TotalErrors = sumif(exec
        , TotalQueryDuration_ms = sum(elapsed_time) / 1000.0, MaxQueryDuration_ms = max(ma
        , TotalQueryCPU_ms = sum(cpu_time) / 1000.0, MaxQueryCPU_ms = max(max_cpu_time) /
        , TotalLogicalReads = sum(logical_reads), MaxLogicalReads = max(max_logical_read
        , TotalLogicalWrites = sum(logical_writes), MaxLogicalWrites = max(max_logical_wri
        , TotalLog_MB = sum(log_bytes_used) / 1024.0 / 1024.0, MaxLog_MB = max(max_log_byt
        , TotalMemoryGrant_MB = sum(max_query_memory_pages) / 128.0, MaxMemoryGrant_MB = m
        , TotalDop = sum(dop)
        , MinRowCount = min(min_rowcount), MaxRowCount = max(max_rowcount), TotalRowCount
        by query_hash, bin(originalEventTimestamp, 10m)//, query_plan_hash, statement_type
    | extend AvgMemoryGrant_MB = round(TotalMemoryGrant_MB / TotalExecutions, 1), MaxMemo
        | extend AvgDop = round(TotalDop * 1.0 / TotalExecutions, 1)
        |project originalEventTimestamp, AvgMemoryGrant_MB
        |render timechart
```



Mitigation

To mitigate this issue, either alter the database scoped configuration or turn off the Memory Grant Feedback Percentile Grant feature switch.

The database scoped configuration is something the customer can turn off themselves:

```
ALTER DATABASE SCOPED CONFIGURATION SET MEMORY_GRANT_FEEDBACK_PERCENTILE_GRANT = OFF
```

The feature switch is something that has to be turned off by the Product Group and therefore requires an IcM.

FAQ

1. Is the current setting of MEMORY_GRANT_FEEDBACK_PERCENTILE_GRANT configuration (False) a permanent fix for the issue.
Yes, this will solve the issue as long as the configuration stays false. Until the fix for the problem is rolled out to the affected server it is the necessary mitigation.
2. Is there any impact on performance or memory usage if this configuration is retained in the current(false) state. No, there won't be any regression in performance. As the feature was introduced recently the

performance will continue to remain same as before.

3. The configuration settings are not consistent across databases i.e., Primary/Replica and non-prod error returned when turning off the setting. The reason why the configuration couldn't be turned to false is the feature is already turned off on those databases.

RCA

Symptom

For your SQL Database [db_name] on server [server] you received the following error message: *"The service has encountered an error processing your request. Please try again. Error code 8657. A severe error occurred on the current command. The results, if any, should be discarded."*

Cause

The identified query, [query_details], was asking for a required memory grant that was greater than the configured memory limit. This problem is caused by a recently identified code defect when calculating the memory grant for a query, which resulted in an increased memory grant value.

The code fix for this issue is completed and will be deployed in the next release. In the meantime, this can be mitigated by disabling the MEMORY_GRANT_FEEDBACK_PERCENTILE_GRANT feature using the T-SQL command:

```
ALTER DATABASE SCOPED CONFIGURATION SET MEMORY_GRANT_FEEDBACK_PERCENTILE_GRANT = OFF
```

We apologize sincerely for the inconvenience caused.

Internal Reference

Related IcMs:

[IcM: 336599513](#) 

[IcM: 336590992](#) 

[IcM: 336797459](#) 

[IcM: 361061970](#) 

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