

# Index rebuild with IO related waits

Last updated by | Vitor Tomaz | Feb 24, 2023 at 3:32 AM PST

## Contents

- [Issue](#)
- [Investigation/Analysis](#)
- [Mitigation](#)

## Issue

Index rebuild apparently stuck or slow. IO consumption is high.

## Investigation/Analysis

Looking at running query we can see IO related waits - LOG\_RATE\_GOVERNOR, PAGEIOLATCH, etc

```

SET NOCOUNT ON ;

SELECT      @@SERVERNAME Server,
            [SPID] = SESSION_ID ,
            percent_complete [%] ,
            [DATABASE] = DB_NAME(SP.DBID) ,
            [STATUS] = ER.STATUS ,
            [WAIT] = WAIT_TYPE ,
            wait_resource ,
            reads ,
            writes ,
            logical_reads ,
            command ,
            [INDIVIDUAL QUERY] = SUBSTRING(QT.TEXT,
                                            ER.STATEMENT_START_OFFSET
                                            / 2,
                                            ( CASE WHEN ER.STATEMENT_END_OFFSET = -1
                                                  THEN LEN(CONVERT(NVARCHAR(MAX), QT.TEXT))
                                                  * 2
                                                  ELSE ER.STATEMENT_END_OFFSET
                                                END
                                              - ER.STATEMENT_START_OFFSET )
                                            / 2) ,

            [QUERY] = QT.TEXT ,
            PROGRAM = PROGRAM_NAME ,
            [USER] = NT_USERNAME ,
            HOSTNAME ,
            NT_DOMAIN ,
            START_TIME ,
            QP.query_plan AS xml_batch_query_plan
FROM        sys.dm_exec_requests ER WITH (NOLOCK)
            INNER JOIN sys.sysprocesses SP WITH (NOLOCK) ON ER.SESSION_ID = SP.SPID
            CROSS APPLY sys.dm_exec_sql_text(ER.SQL_HANDLE) AS QT
            CROSS APPLY sys.dm_exec_query_plan(ER.plan_handle) QP


WHERE       SESSION_ID > 50
            AND SESSION_ID NOT IN ( @@SPID )

ORDER BY    1 ,
            2

```

Open ASC and check the resource limits metrics for IO. Also check the General tab, more precisely the SLO.

## Mitigation

If General purpose, check [IO limits](#)  and advise to increase the number of IOPS by changing the file size.

Moving forward, Table partitioning can help optimizing this operations by [rebuilding\\_per\\_partition](#).

**How good have you found this content?**

