

# SAP® MaxDB™ Expert Session

SAP® MaxDB™: Analysis of SQL Locking Situations  
News 2015

Public

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# SAP® MaxDB™ Expert Session

SAP® MaxDB™ Analysis of SQL Locking Situations

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## News - General Remarks

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- Some functionality might have been changed or expanded over the years.
  - Recommendations might have changed.
- ➔ For each expert session an update with the most important changes is published.
- Check the additional remarks after having heard or read the expert session.
  - Feedback to the responsible author is welcome if you recognize outdated information within the session.



# Agenda

5. News Lock Escalation Analysis

6. News Deadlock Analysis



## 5.4 News: Lock Escalation

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- SAP MaxDB Version  $\geq$  7.9.08.26
- New Parameter EnableLockOverflowDump = YES dumps the lock list in overflow situations

Possible values are:

YES - write a diagnostic file.

NO - don't write a diagnostic file.

- The first time the number of requested SQL locks exceeds the number of available SQL locks, a diagnostic file is written containing the internal structure of the SQL locks. This diagnostic file is to be used by SAP MaxDB support.
- Parameter is online changeable – no database restart necessary

As of SAP MaxDB Version 7.9.08.26 you can create a lock list dump when a lock list overflow occurs by setting the parameter EnableLockOverflowDump from default *No* to new value *Yes* .

## 6.4 News: Deadlock - Analysis

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- As of SAP MaxDB Version 7.9 a deadlock analysis is possible even when the deadlock situation does not exist anymore.
- New system table **SYSINFO.DETECTEDDEADLOCKS** contains the documentation of detected deadlocks
- List of detected deadlocks via transaction DBACOCKPIT  
-> *Performance* -> *Locks* -> *SQL Locks: Deadlocks*
- SYSINFO.DETECTEDDEADLOCKS is recreated every time the system tables are reloaded.
- After a database restart the table SYSINFO.DETECTEDDEADLOCKS is empty.

## 6.4 News: System Table DetectedDeadlocks (1)

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### Table Definition:

|                                 |  |
|---------------------------------|--|
| <b>DEADLOCKNUMBER</b>           | Number of detected and documented deadlocks                                  |
| <b>DEADLOCKTIME</b>             | Detection time of deadlock   |
| <b>TABLERNAME</b>               | Name of the table  |
| <b>TABLEID</b>                  | ID of the table  |
| <b>HOLDERTASKID</b>             | ID of user task that holds the lock  |
| <b>HOLDERAPPLICATIONID</b>      | ID of process on the client that holds the lock                              |
| <b>HOLDERAPPLICATIONNODE ID</b> | of client hardware on which the application process runs that holds the lock |
| <b>HOLDERKEY</b>                | Prefix of the key of the locked row  |
| <b>HOLDERKEYHEX</b>             | Prefix of the key of the locked row in hex                                   |
| <b>HOLDERLOCKMODE</b>           | Type of lock held  |

## 6.4 News: System Table DetectedDeadlocks (2)

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|  |  |
|--|--|
| <b>REQUESTORTASKID</b>                 | ID of user task that requests the lock   |
| <b>REQUESTORAPPLICATIONID</b>          | ID of process on the client hardware that requests the lock                        |
| <b>REQUESTORAPPLICATIONNODE</b>        | ID of client hardware on which the application process runs that requests the lock |
| <b>REQUESTORKEY</b>                    | Prefix of key of requested row   |
| <b>REQUESTORKEYHEX</b>                 | Prefix of key of requested row in hexadecimal format                               |
| <b>REQUESTORLOCKMODE</b>               | Type of lock request   |
| <b>REQUESTORROLLEDBACK</b>             | Victim of detected deadlock, transaction rolled back (error code: 600 or -60)      |
| <b>REQUESTORSTATEMENT</b>              | Current SQL statement requesting the lock  |
| <b>REQUESTORAPPLICATIONINFORMATION</b> | Optional information on requestor application                                      |
| <b>REQUESTORAPPLICATIONLINENUMBER</b>  | Optional information on code line in requestor application                         |





# Thank you

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