

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

- 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 - Feedback to the responsible author is welcome if you recognize outdated information within the session.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

- 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

- 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)

Table Definition:

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

6.4 News: System Table DetectedDeadlocks (2)

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



Thank you

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