One ATLAS RAC node down due to ORA-01033

Impact

- ATLAS 3D DB RAC (Oracle 10.2.0.4) @ GridKa/DE-KIT running on only 1 node on Sep 8-17, 2009.

Time line of the incident

- 07-Sep - Reboot of 1-st ATLAS node by DBA
- 08-Sep - Several restart attempts, finally stop of 1-st DB instance, streams propagation restarted on 2-nd instance by DBA
- 09-Sep - Service Request (SR) with Oracle opened by DBA
- 16-Sep - Reboot of 2-nd node for unknown reasons
- 17-Sep - Restart of 1-st instance and streams by DBA, SR closed by DBA

Analysis

- The main issue was "ORA-01033: ORACLE initialization or shutdown in progress".
- Due to too many open sessions on the 1-st ATLAS node we rebooted it on Sep 7. After rebooting the DB was not properly open (was to be seen only in alertlog).
  
  ===Alertlog===
  ALTER DATABASE OPEN
  Picked broadcast on commit scheme to generate SCNs
  Tue Sep 8 15:35:19 2009
  Sending CIC to internal enable redo thread
  Tue Sep 8 15:35:19 2009
  LGWR: STARTING ARCH PROCESSES
  ARC0 started with pid=27, OS id=12028
  Tue Sep 8 15:35:20 2009
  ARC0: Archival started
  ARC1: Archival started
  LGWR: STARTING ARCH PROCESSES COMPLETE
  ARC1 started with pid=28, OS id=12030
  Tue Sep 8 15:35:20 2009
  Thread 1 opened at log sequence 5587
  Current log# 9 seq# 5587 mem# 0: +DGDB1A/lcgdb1/onlinelog/log9.ora
Current log# 9 seq# 5587 mem# 1: +DGDB1A/lcgd1/onlinelog/redo_9a.rdo
Successful open of redo thread 1
Tue Sep 8 15:35:20 2009
MTTR advisory is disabled because FAST_START_MTTR_TARGET is not set
Tue Sep 8 15:35:20 2009
ARC1: Becoming the 'no FAL' ARCH
ARC1: Becoming the 'no SRL' ARCH
Tue Sep 8 15:35:20 2009
ARC0: Becoming the heartbeat ARCH
Tue Sep 8 15:35:20 2009
SMON: enabling cache recovery
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“Completed: ALTER DATABASE OPEN” was missing, though:
SQL> select * from v$instance;

We tried to restart the instance several times, but not successfully.
From Sep 8, we stopped the 1-st instance and the DB only worked on the 2-nd node. Next day we opened the SR.

On Sep 16 the 2-nd node rebooted for unknown reasons (maybe network). Surprisingly, afterwards the DB started properly on both nodes and everything seems fine now.
Therefore, on Sep 17 we closed the SR.

Follow up

- Not clear, but we suspect this problem to be an unexpected consequence of the Oracle July CPU that we applied on Aug 11. By a reboot of the nodes (one after the other) directly after patching maybe we would have noticed this issue already on Aug 11. We are discussing to re-open the SR to find the real cause (during the SR, the Oracle support was not very useful).