Extracted from VLDB'07 (Stonebraker et al.; the End of an Architectural Era. It's time for a complete rewrite)

1st BOTTLENECK: LOGGING

- A persistent **redo** log is almost guaranteed to be a significant performance bottleneck. Even with group commit, forced writes of commit records can add milliseconds to the runtime of each transaction.

- An **undo** log should be eliminated wherever practical, since it will also be a significant bottleneck.

Remember that the recovery system is responsible for guarding the A and D features of the ACID properties. To do so, a system log (which keeps track of every read and write (delete or update) performed in the system) is used.
Briefly, the recovery system preserves atomicity by UNDOing or REDOing some operations (e.g., in presence of a rollback or a cancelled tx).
The recovery system preserves durability by using external backups and reconstruction techniques (mainly re-executing the logged actions since the last backup).