

# AST (Asynchronous System Trap)

What is an *Asynchronous System Trap*? This is similar to Unixes signals or OS interrupts. Technically this is callbacks from the Lock Manager into the Engine, called when somebody acquires a lock at a level not compatible with the current level. In this case all processes who own the lock receive notification and should take appropriate action to release the lock (immediately or deferred-ASAP).

The main trick with AST's handlers is that AST is sent asynchronously and the handler must take care to work correctly. Since v.2.5 all ATS handlers run in a separate thread. Before v.2.5 it works using signals on Unixes and threads on Windows.

P.S. the issue with old `glibc` and Firebird 2.5 is that since v.2.5 we abandoned the usage of old `System V semaphores` (do you remember semaphores are exhausted error? now you can forget it completely) and started to use `pthread` mutexes. And old `glibc` have bugs in the pthread mutex implementation.

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