

250 will be alerted of the failure and hence appropriate corrective actions can be designed. For instance, the agent designer may design the agent, upon failure, to re-schedule the goals to be achieved by running alternate task call-back functions or by delegating them to other agents through the coordination engine 210.

5 Furthermore, the execution monitor 250 can decide that the time required to execute a task has exceeded its expected duration, the execution monitor 250 not having received an appropriate input signal. By the same token, the agent designer can determine what appropriate actions should be carried out in such a case.

10 The execution monitor 250 has the following functions for proposals labelled by PID and Seq:

**Book (reserves resources)**

15 Book [ PID, Level, Seq, AID ]

where

- PID, Proposal-ID, labels a particular proposal;
- Level, Seq  $\in \mathbb{Z}$  is the level number and sequence number of proposal.
- AID specifies the ID of the action returned by the function.

20

**UnBook (cancels the reservation of resources)**

UnBook [ PID, Level, Seq, AID ]

where

- 25
- PID, Proposal-ID, labels a particular proposal;
  - Level, Seq  $\in \mathbb{Z}$  is the level number and sequence number of proposal.
  - AID specifies the ID of the action returned by the function.

**Commit (allocates resources)**

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Commit [ PID, Level, Seq, AID ]

where

- PID, Proposal-ID, labels a particular proposal;
- Level, Seq  $\in \mathbb{Z}$  is the level number and sequence number of proposal.