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reports a failure to perform J1, the user will be unable to immediately determine, by looking at Agent A, that the root cause of the failure was because Agent E failed to achieve J111.

The reports tool provides a global view of problem solving in a society of
5   agents and is useful both as a debugging and an administrative tool. It allows a user to select a set of agents and request that they report the status of all their jobs to it. Next, the user can select an agent of interest and a job owned by that agent. (An agent owns a job if it is scheduled to perform the job or subpart at a root node in a task decomposition hierarchy for the job.) For the selection of agent
10   and job, the reports tool generates the GANTT chart type graph 700 of Figure 7 showing the decomposition 560 of the job, the allocation of its constituent subparts to different agents in the community, and the relevant states of the job and subparts. Other attributes of the jobs might also be shown on the chart, such as when each agent is scheduled to perform its part, their costs, the priority
15   assigned to them by the agents, and the resources they require.

Referring to Figure 13 and returning to the "MakeComputer" task mentioned above, the GANTT chart 700 might be displayed on screen with selection boxes for selecting the agent and task to look at. As shown, the selection boxes 1305, 1310 have been used to select task "MakeComputer" for
20   agent C 1300. The GANTT chart 700 shows the decomposition of the "MakeComputer" task into MakeTonerCartridge (Agent T) 1315, MakeMonitor (Agent M) 1325, MakeCPU (Agent U) 1320 and MakePrinter (Agent P) 1316. The Task Status Key 1335 shows by colour coding (not visible in Figure 13) that the MakeTonerCartridge and MakeMonitor tasks 1315, 1325 are running, the
25   MakeCPU task 1320 is completed and the MakePrinter and MakeComputer tasks 1316, 1300 are waiting. A dialogue box 1330 has been brought up to show details of the MakeTonerCartridge task 1315.

The reports tool therefore needs access for instance to the task decompositions 560 and to the commitment database 245 in each agent.
30   As mentioned, the job graph created by the reports tool also shows the current status of each subpart of the job, i.e. either *waiting, running, completed* or *failed*. Thus from the graph a user is immediately able to determine the overall status of a job, and if the job fails where exactly it did so — which obviously aids