

After an inter-agent collaboration stage, the agents 105, 110, 115, 120 will carry out the tasks by outputting control messages to the components of the system 125 they control. The terminal agent 105 must therefore control the terminal 155 so as to provide the storage capacity it has agreed. The user agent 5 110 must launch the authentication application 160. One of the two network agents 120 must provide the bandwidth, agreed as a result of the collaboration, on its respective network link 170.

During their activities, the agents 105, 110, 115, 120 will have access to common resources within the CABS agent system 100, including for instance the 10 infrastructure agents mentioned above; a name server agent 135, a debugging/fault finding agent 140, referred to here as a visualiser, and a facilitator agent 145.

The separate agent 180, controlling a network link 175 of the external system 125, may provide back up to the network agents 115, 120 of the CABS 15 system 100, in the event that bandwidth is not available through network links directly controlled by the CABS built agents 115, 120. It will be clear in that circumstance that the CABS agents 105, 110, 115, 120 will need to share a common communication language with the separate agent X 180, together with some sort of co-ordination protocol. Communication with the external agent 180, 20 for instance to obtain capacity on its link as a backup resource, could be allocated as a task to any one or more of the CABS agents.

## 2. STRUCTURE OF A SINGLE AGENT BUILT USING CABS PLATFORM/TOOL-KIT

25 Referring to Figure 2, the internal structure of a single, collaborative agent which can be built using CABS, for distributed control, monitoring and management of external systems 240, comprises:

(i) a mail box 200 or communicating device which handles 30 communications between the software module and other internal or external software or hardware systems;

(ii) a message handler 205 which processes messages incoming from the mail box 200, dispatching them to other components in the architecture;