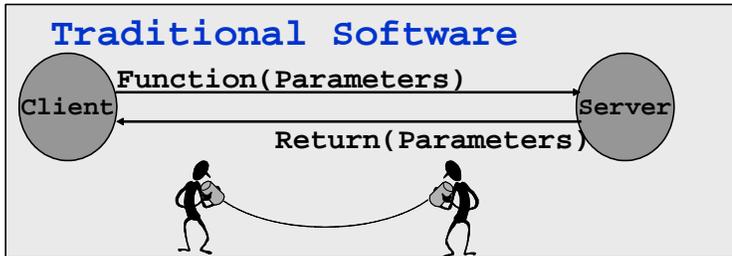


Software Agents

A Breakthrough in Software Development Productivity

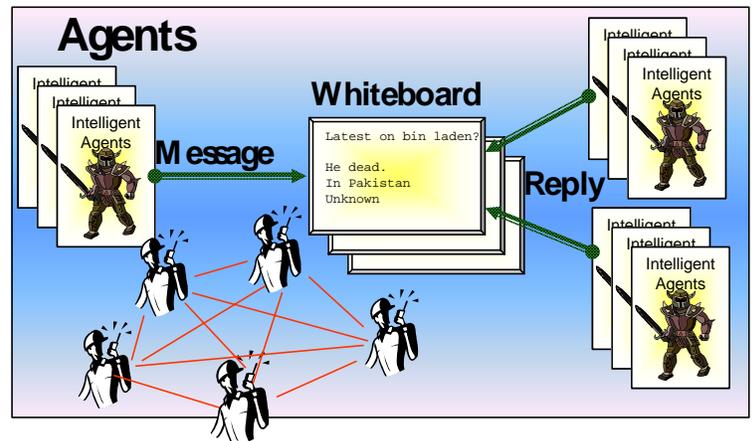
Agent technology is an evolving paradigm that strives to create software that can mimic certain human behavior. Agents are novel in several aspects: 1) They use a peer-to-peer communication and control topology, that is, one agent can communicate with one or several other agents, not just to a client or a server as in traditional technology. 2) Agents can send message to each other through a blackboard



which allows encapsulated and asynchronous communication. In other words, a general message can be posted on a blackboard where any agent can read it regardless of how long it has been posted. This is a very difficult concept to use with traditional technology. 3) The messages that are sent among the agents are using a

higher-level language than the messages sent using traditional technology, like using English rather than Morris code.

Over the last 10 years we have developed a number of agent projects, and an agent framework called the Oak Ridge Mobile Agent Community (ORMAC). This framework facilitates the use of mobile agents that can work on one machine, then move to another machine to complete the work if needed. All messages to this agent are rerouted to new location. The framework is written entirely in Java and is portable across several system architectures.



We have developed agent-based solutions in Intelligence Analysis, Cyber Security, Geospatial Analysis, Supply Chain Management, Lean Manufacturing, Scientific Data Management, Data Fusion, and Semantic Web Applications. Our clients include: The US Army, DARPA, US Pacific Command, US 6th Fleet, Defense Logistic Agency, Intelligence Community, Lockheed Martin, Battelle Memorial Institute, and the Department of Energy.

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