

## **ABSTRACT**

Periodically computer inventORIZATION is part of effort to maintain the availability of the service the computer reserves. InventORIZATION report can inform company about assets alteration or lost so it can be anticipated immediately.

Concisely mobile agent is software that works automatically and able to migrate from a computer to others connected in a network. In practice mobile agent moves and executes its task in computer it visit using facility provided by a middleware as an execution or a running environment.

This concept of mobile agent run on top of a middleware can be used to build a software tool to help inventORIZATION process with faster development process easier maintenance since the facility for running and moving the mobile agent are already provided by the middleware and are transparent to the developer while the developer need only to maintain one mobile agent code instead fixing code in entire network host.

The itinerary and branching design pattern are two option among many mobile agent movement patterns inside the network. The itinerary design pattern offers relatively low bandwidth usage in tradeoff with slow-work speed and suitable for low bandwidth with busy traffic while branching design pattern offers high-work speed in tradeoff with high bandwidth requirement which is suitable with low traffic or high bandwidth network.

**Keyword: agent, mobile agent, middleware, and hardware detection**