Taxonomy of Mobility

From: D.S. Milojicic et. al.

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From: Tanenbabum and van Steen

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Mobility and Remote Operations

- **Remote execution**: 
  ![Diagram of remote execution]

- **Remote evaluation**: 
  ![Diagram of remote evaluation]

- **Process migration**: 
  ![Diagram of process migration]

- **Mobile agents**: 
  ![Diagram of mobile agents]

Characteristics of Mobile Agents

- **Encapsulated**: code, data, itinerary, activity, etc.
- **Autonomous**: decisions on what to do, where to go and when to go.
- **Asynchronous**: has its own thread of execution.
- **Local interaction**: with other mobile agents or stationary objects locally.
- **Disconnected operation**: in the absence of a network connection.
- **Parallel execution**: among agent dispatched to different sites.
**Mobile Agents**

![Diagram of Mobile Agents]

**Places and Agents**

![Diagram of Places and Agents]

Electronic Shopping Center

On Mainframe

Directory Place

Ticket Place

Flower Place
Travel and Meeting

Authorization and Permission
Example

Architecture
Lange’s Seven Good Reasons for Using Mobile Agents

• reduce network load
• overcome network latency
• encapsulate protocols
• execute asynchronously and autonomously
• adapt dynamically
• naturally heterogeneous
• robust and fault-tolerant