Taxonomy of Mobility

From: D.S. Milojicic et. al.
Taxonomy of Mobility

From: Tanenbabum and van Steen
Mobility and Remote Operations

- **Remote execution**
  - Program
  - Parameters/data
  - Program

- **Remote evaluation**
  - Program
  - Procedure/parameters
  - Program

- **Process migration**
  - Program
  - Code/data/state
  - Program

- **Mobile agents**
  - Agent
  - Code/data/state/metadata
  - Agent
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
Places and Agents
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