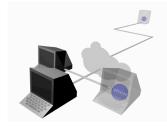# Autonomous objects

- A network node doesn't have to represent a computer, it can also represent a software program or application (an *object*)

- Using IPv6 mobility an object can move between hosts and still retain a permanent IP address (route optimization is preferred)

- An object can exist independently of any specific computer (and is thus *autonomous*)
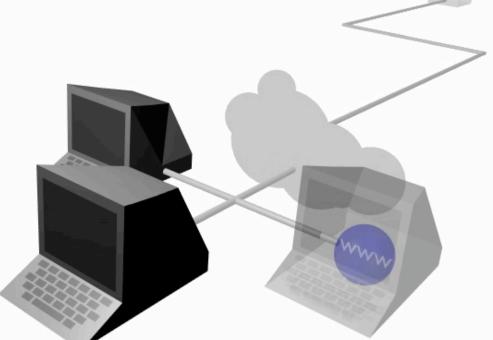
Advantages

- *Computer independence*: AOs can be notified before a computer is shut down, and move to another host

- *Scalability*: If demand increases an AO (e.g. a web server) can dispatch clones of itself to hosts elsewhere in the physical network

- *Robustness*: By using redundant clones a system is less affected by localized errors

Sample application: Web server

- A web server is implemented as an AO

- Requests for server are routed directly to the AO's care-of computer (using route optimization)

- If demand increases the AO can dispatch clones of itself to hosts closer to clients

Other applications: Distributed storage, distributed processing, fault tolerant storage, high availability, P2P systems, games, data synchronization, agents etc.