PUPPIES
Infrastructure

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Infrastructure

- Provide for agents and their mobility

- Support underlying data storage and access

- Putting people in contact
    - Trading, yellow pages, locating, …
    - Level of contact (negotiation)
    - Restricting contact

Mobile Agents

- Resources
  - Check node has sufficient capabilities
  - Ensure agents are well behaved or face the consequences

- Security
  - Can a node be trusted?
  - Should an agent be allowed to enter or leave?
  - Who should they be allowed to talk to?
 - Are signatures enough or is a program proof required?

Mobile Agents Everywhere

- User data (profiles, documents, …)
- Services (databases, vendors, …)
- Facilities

Mobile Filing System

- All data agents are *independently* mobile

- Movement policy

  - Implemented by data agent itself

  - Can be asked to leave or be evicted

- Access policy

  - Data agent regulates who can access it

- Supports puppies model on mobility

  - Closest or cheapest location
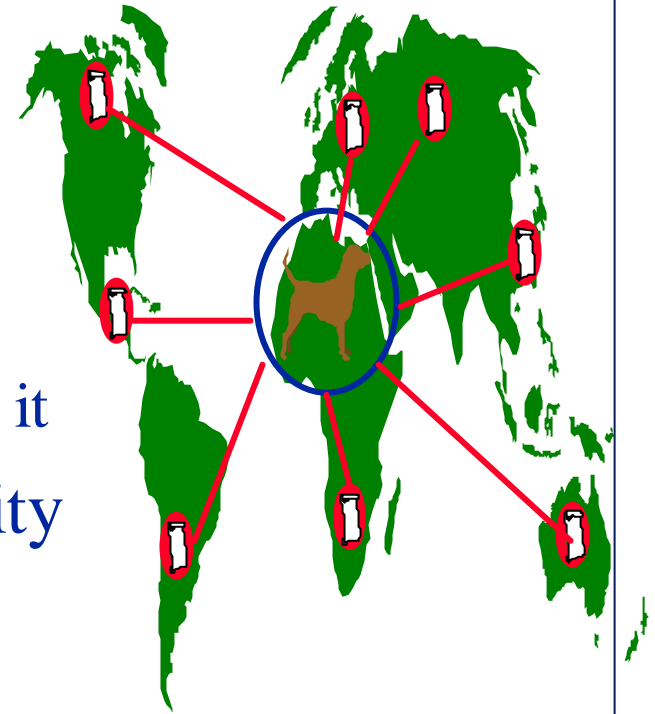
Mobile Shops

- Uniform model

- Enables proxies to be created
  - Global point of presence
  - Meeting peaks in demand
 - Anonymity
  - Service decoy
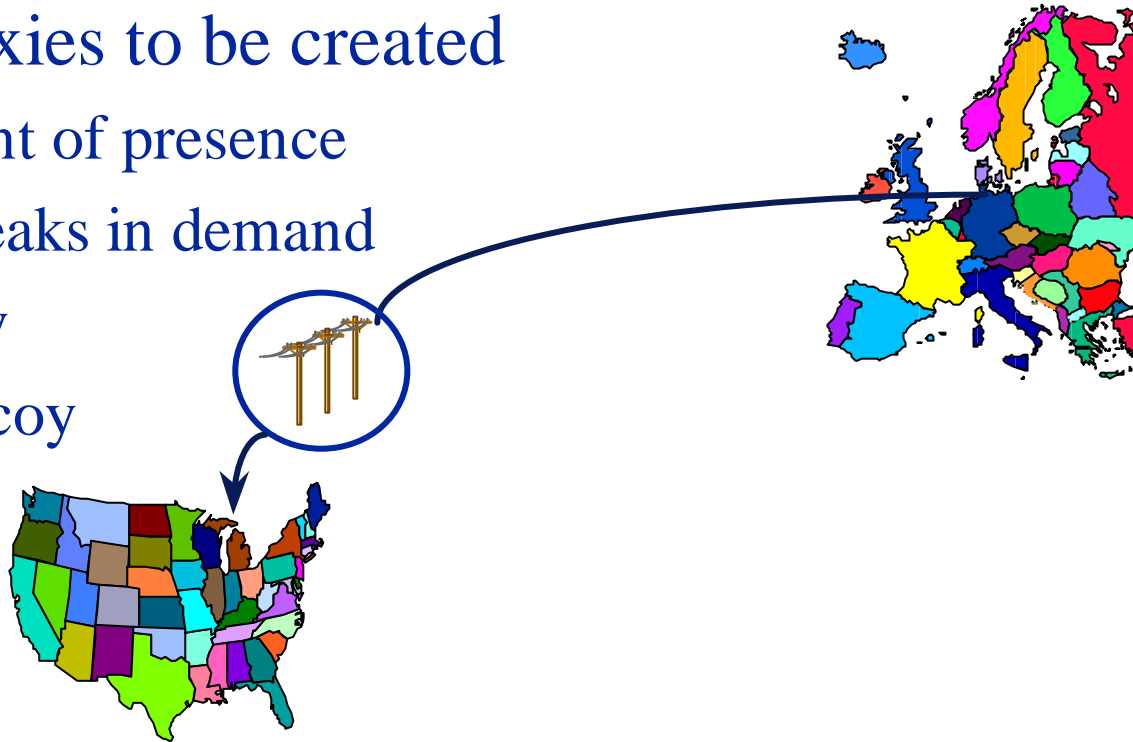
Contacting Agents

- Vast numbers of mobile agents distributed world wide

- Possible approaches:

  - Naming services are notified of agents' movements

  - All agents can register interest - Agents "broadcasts" new location

  - Data where are you? Broadcast to find agents
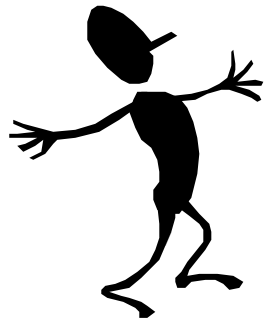
Agent Pruning

- Multiple agents performing equivalent tasks
  - Is collaboration enough to reduce redundancy?
  - Should infrastructure do more?
- Old, unwanted, unused, or inoperable agents
  - When to send out into the cold?
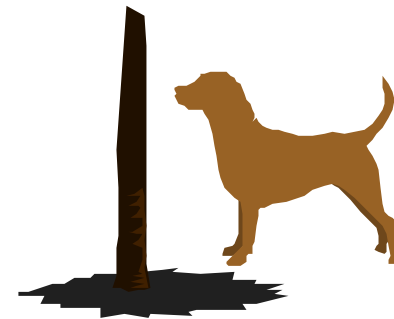
Questions

- What facilities should nodes offer?

- Which security mechanisms are important?

- Are agents suitable for all tasks?

- What is the best way to name and locate agents?

- What other pruning mechanisms are needed?