

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?



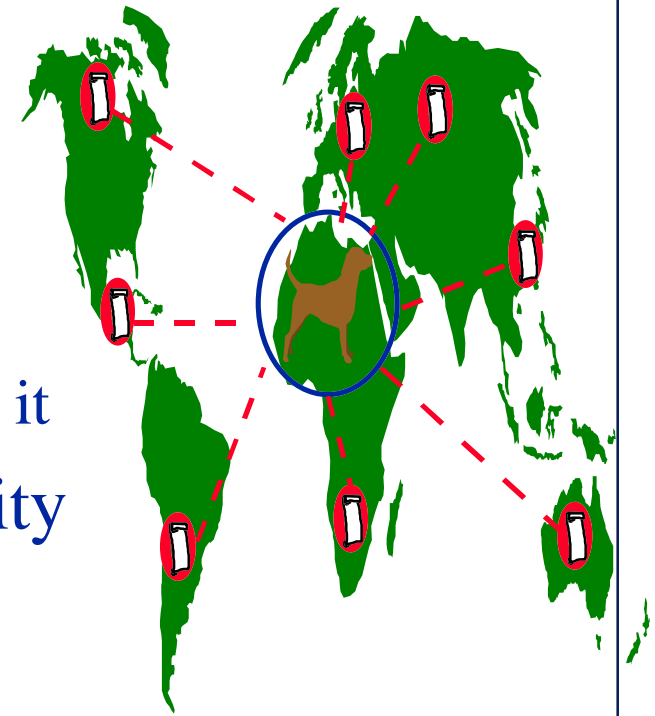
Mobile Agents Everywhere

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



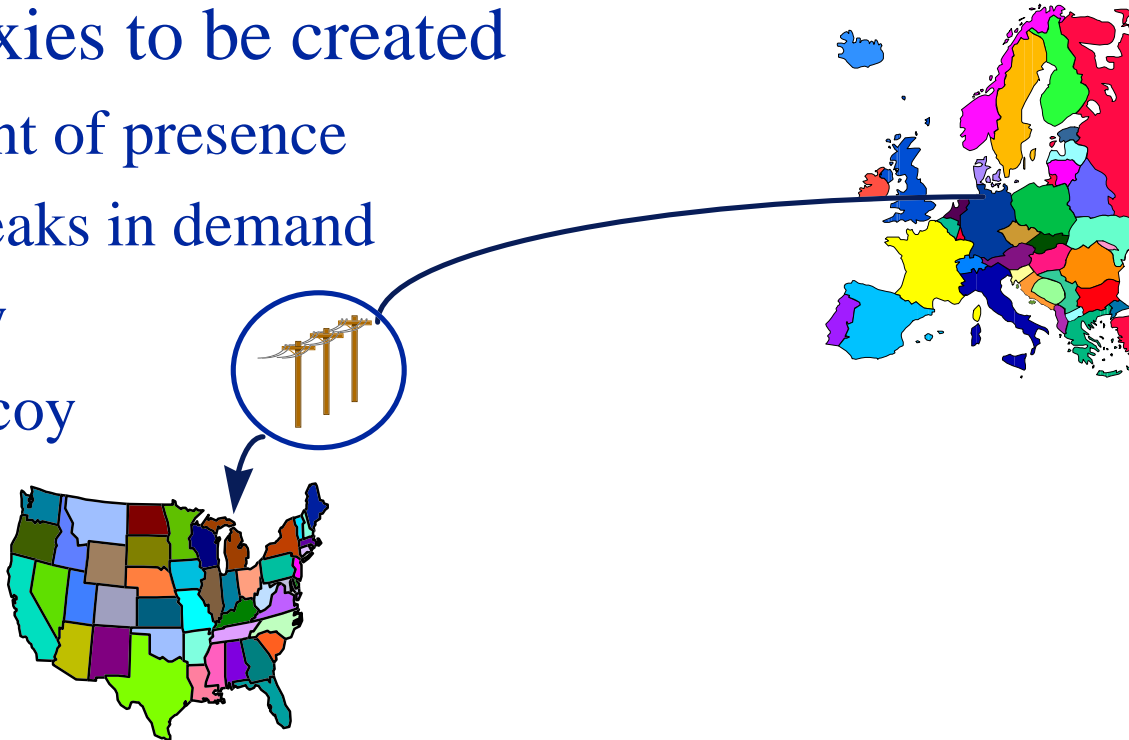
Mobile Filing System

- 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



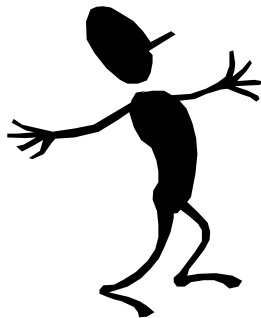
Mobile Shops

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



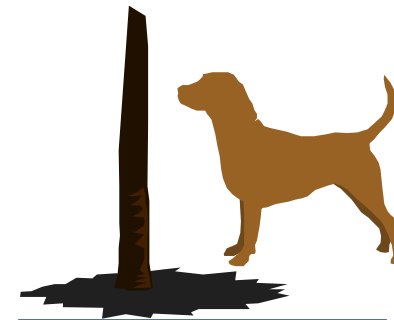
Contacting Agents

- 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?

