

# Agent-Based Information Infrastructure for Disaster Management

Zülküf Genç

F. Heidari, M.A. Oey, S. van Splunter and F.M.T. Brazier

Postdoctoral Researcher  
System Engineering  
Faculty of Technology, Policy and  
Management (TPM)



# Outline

Requirements in Disaster Management

Effective Information Infrastructure

Using Agents

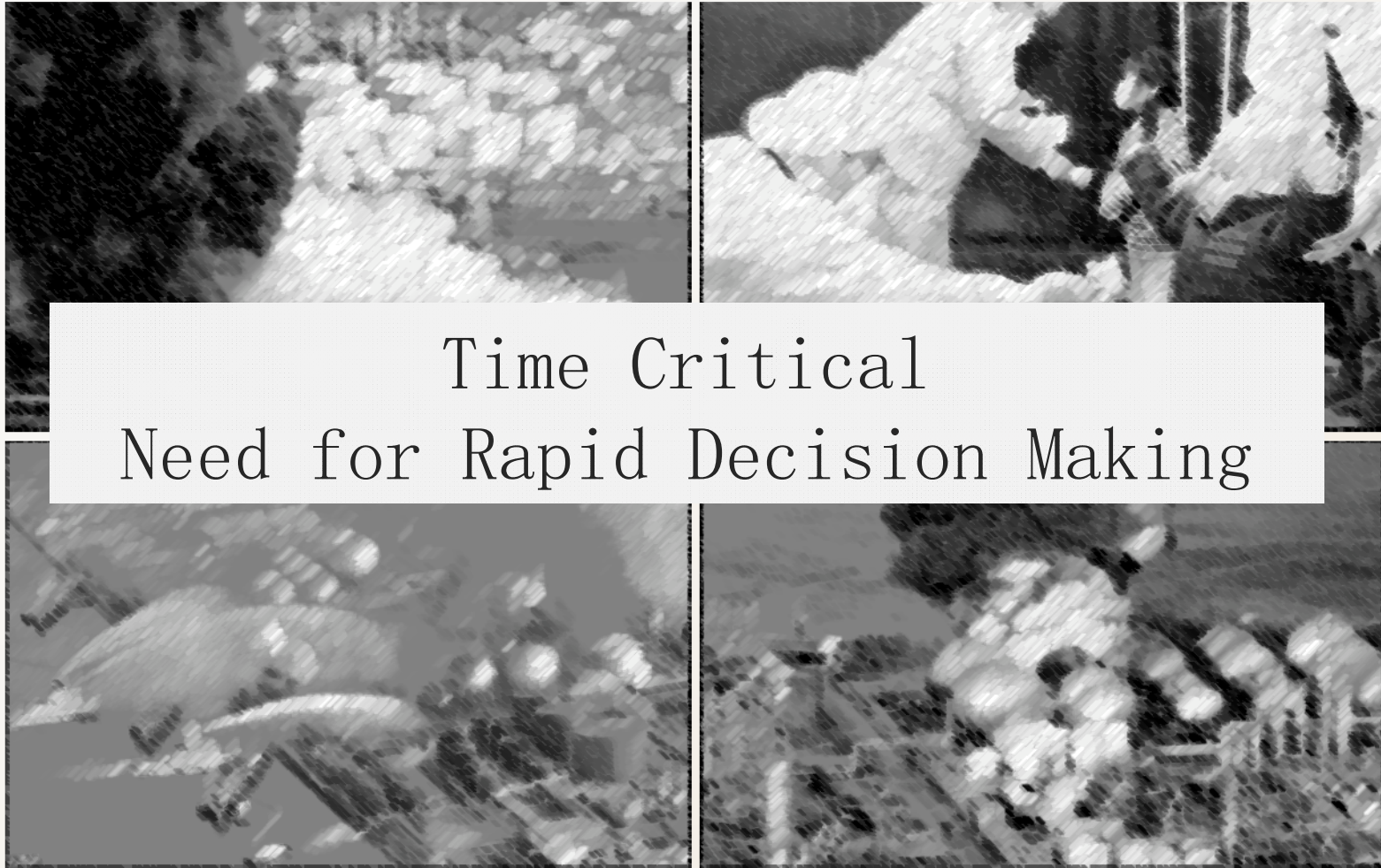
- Processing of Information
- Secure Sharing of Information
- Automated Management of Information

Conclusion

# Disasters are Complicated



# Disasters are Complicated



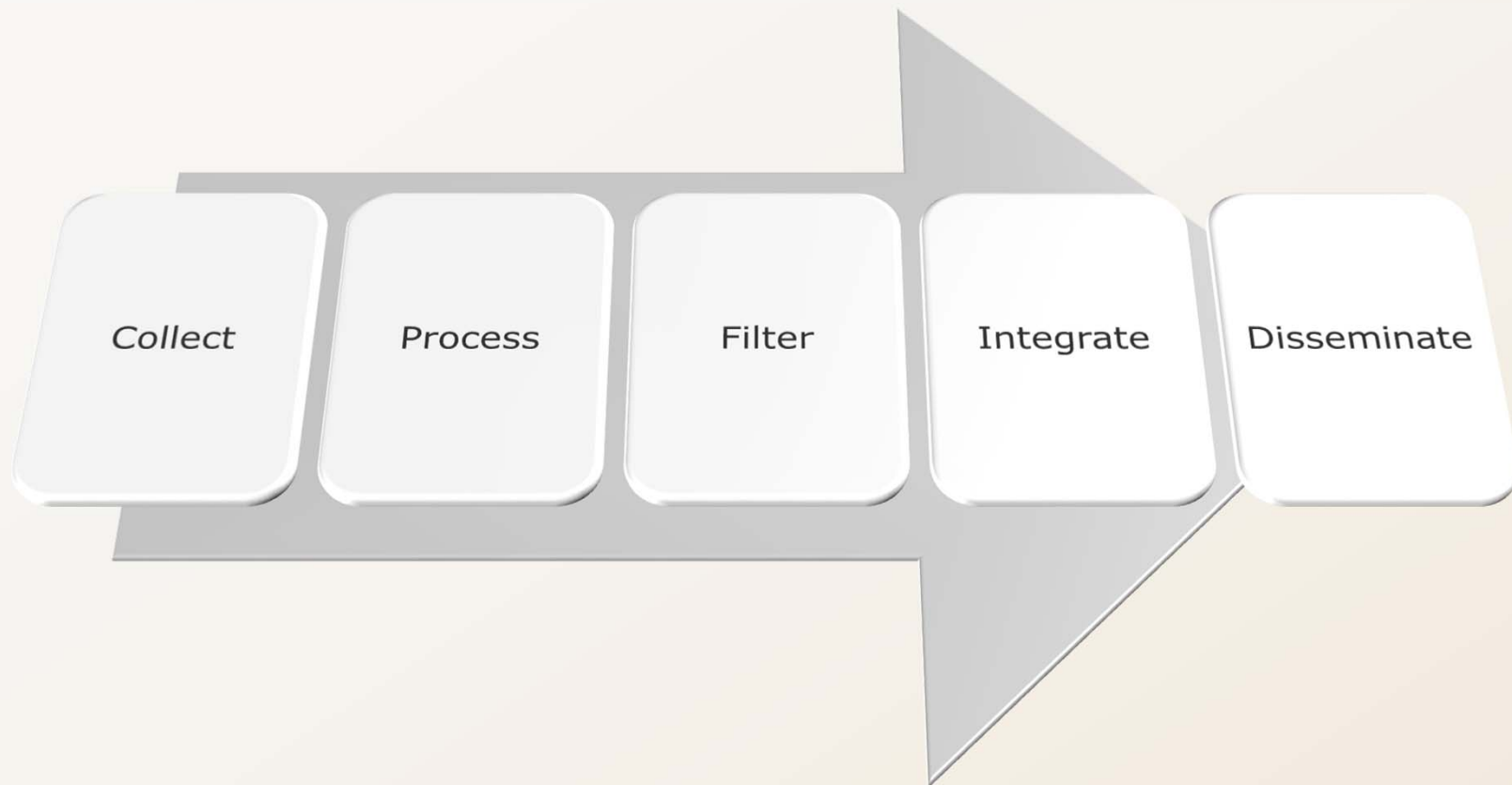
Time Critical  
Need for Rapid Decision Making

# Disasters are Complicated

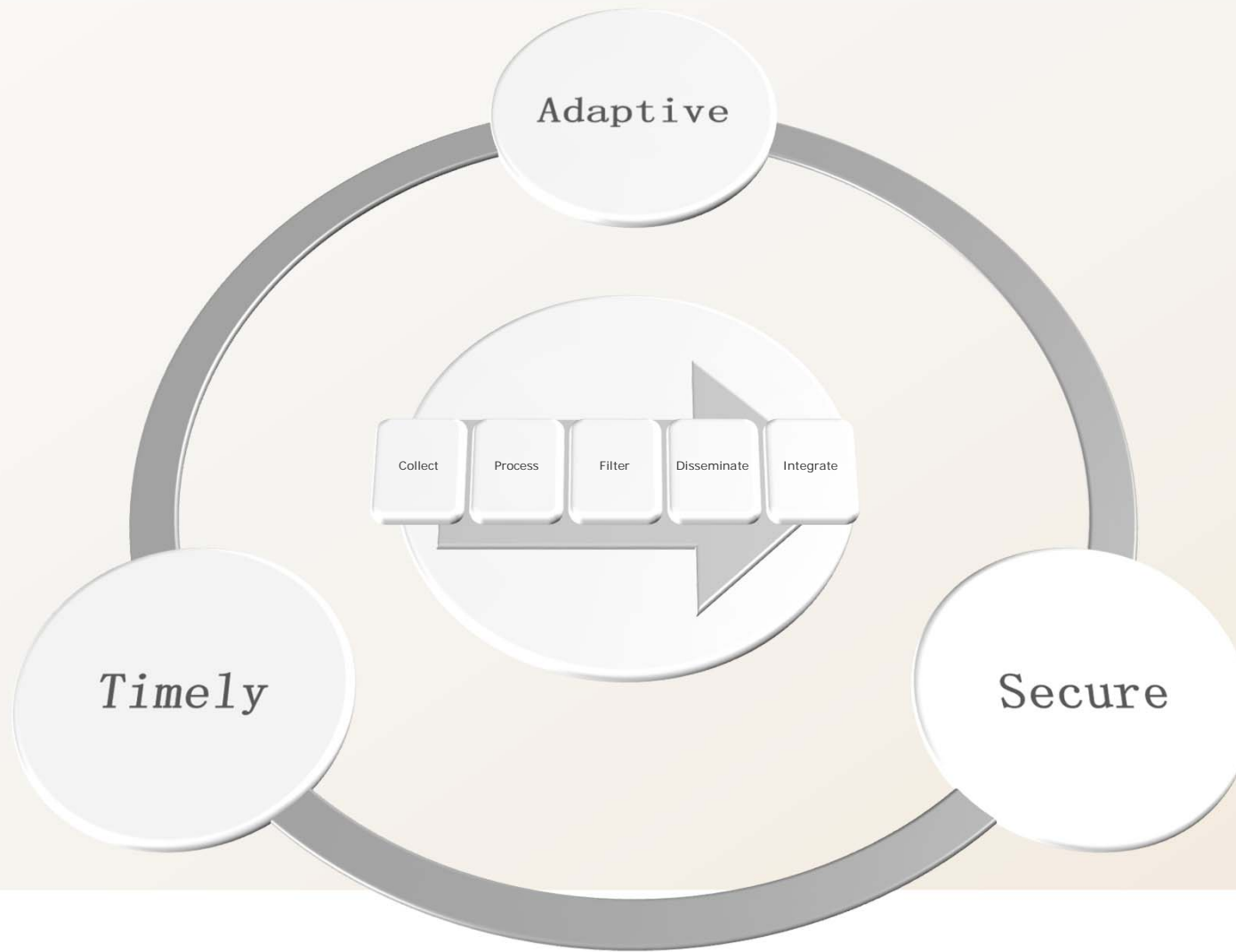


Autonomous Participants  
Need for Coordination

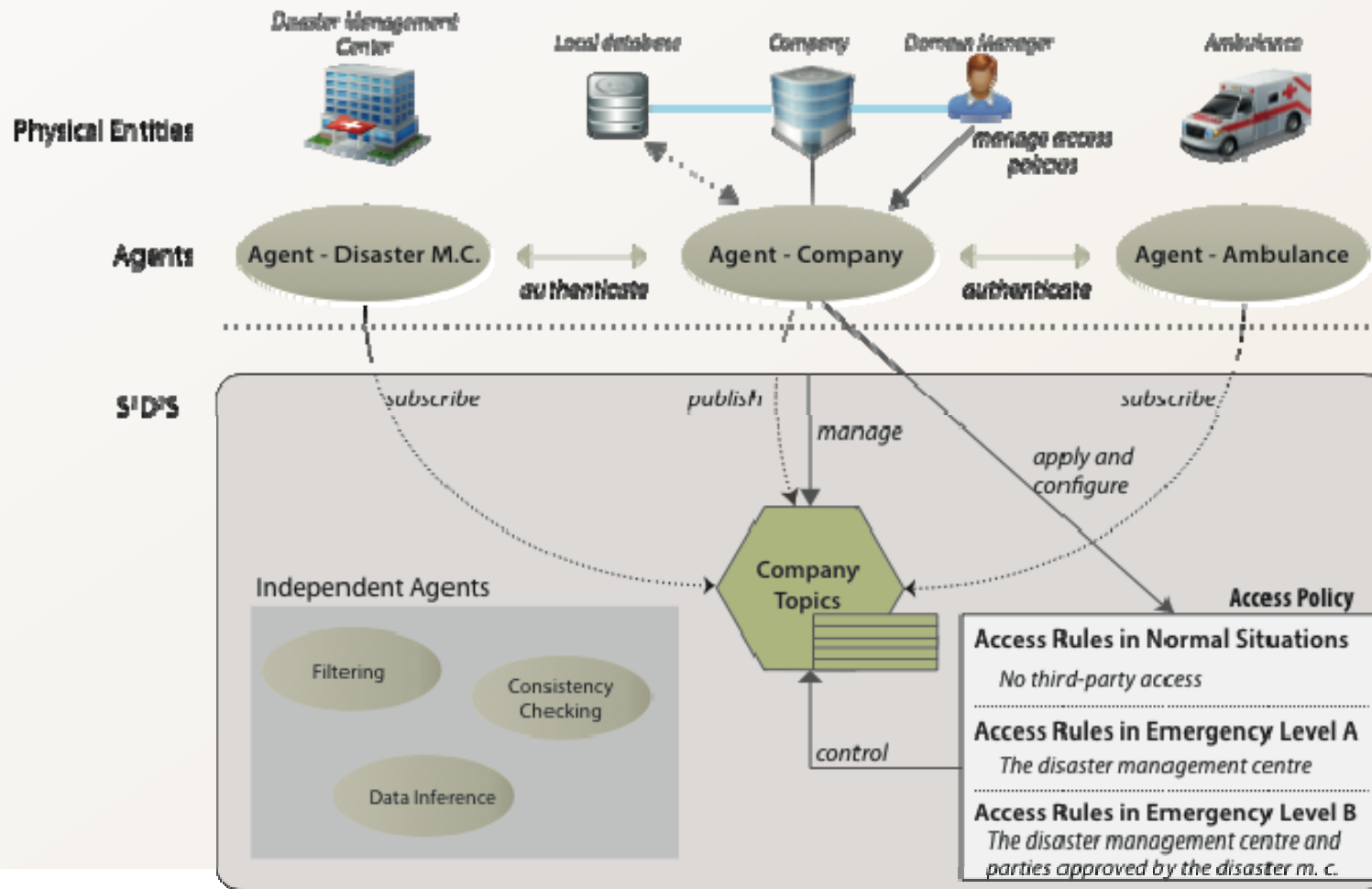
# Effective Information Infrastructure is Must



# Effective Information Infrastructure is Must

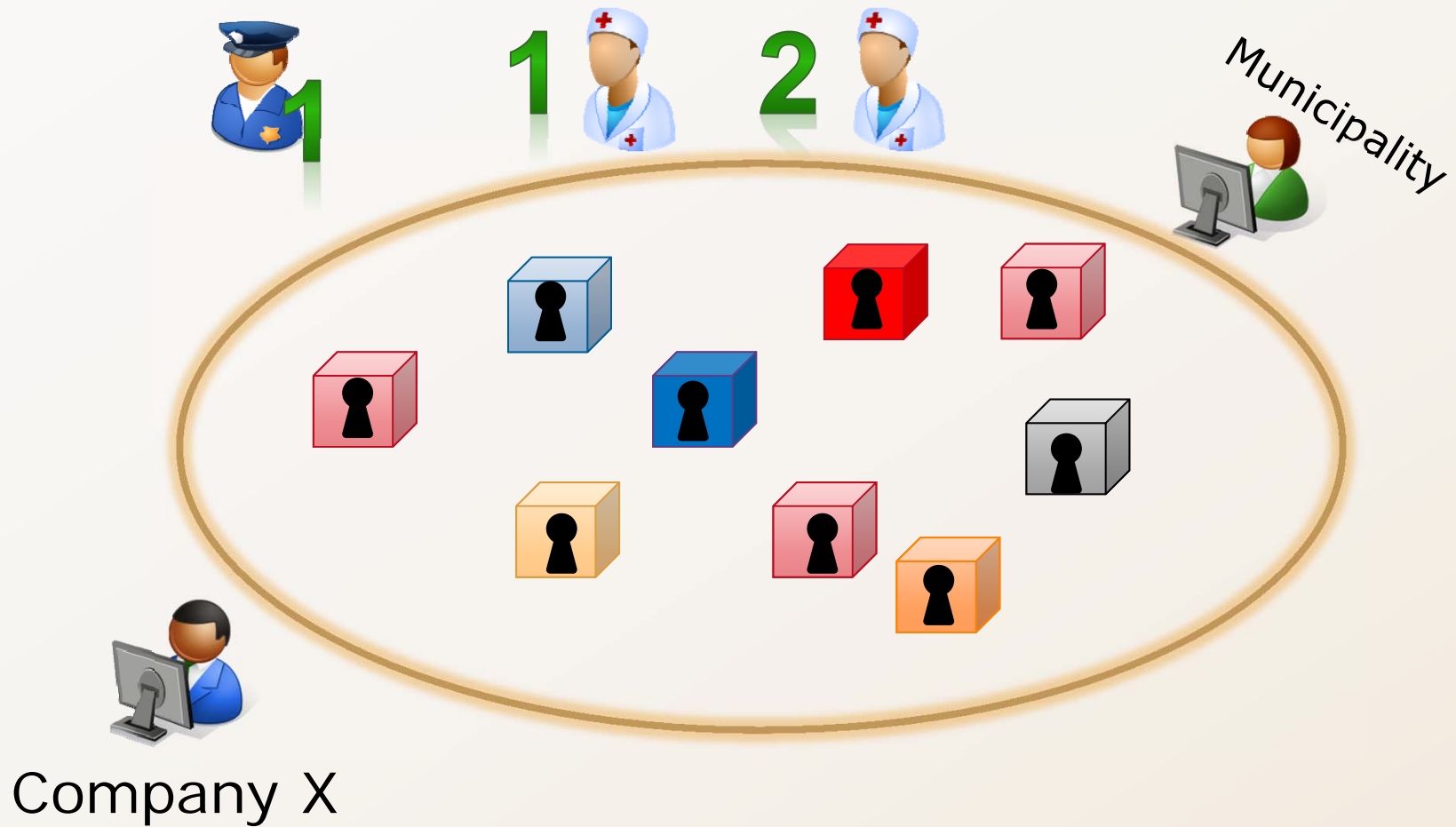


# Information Infrastructure with Software Agents

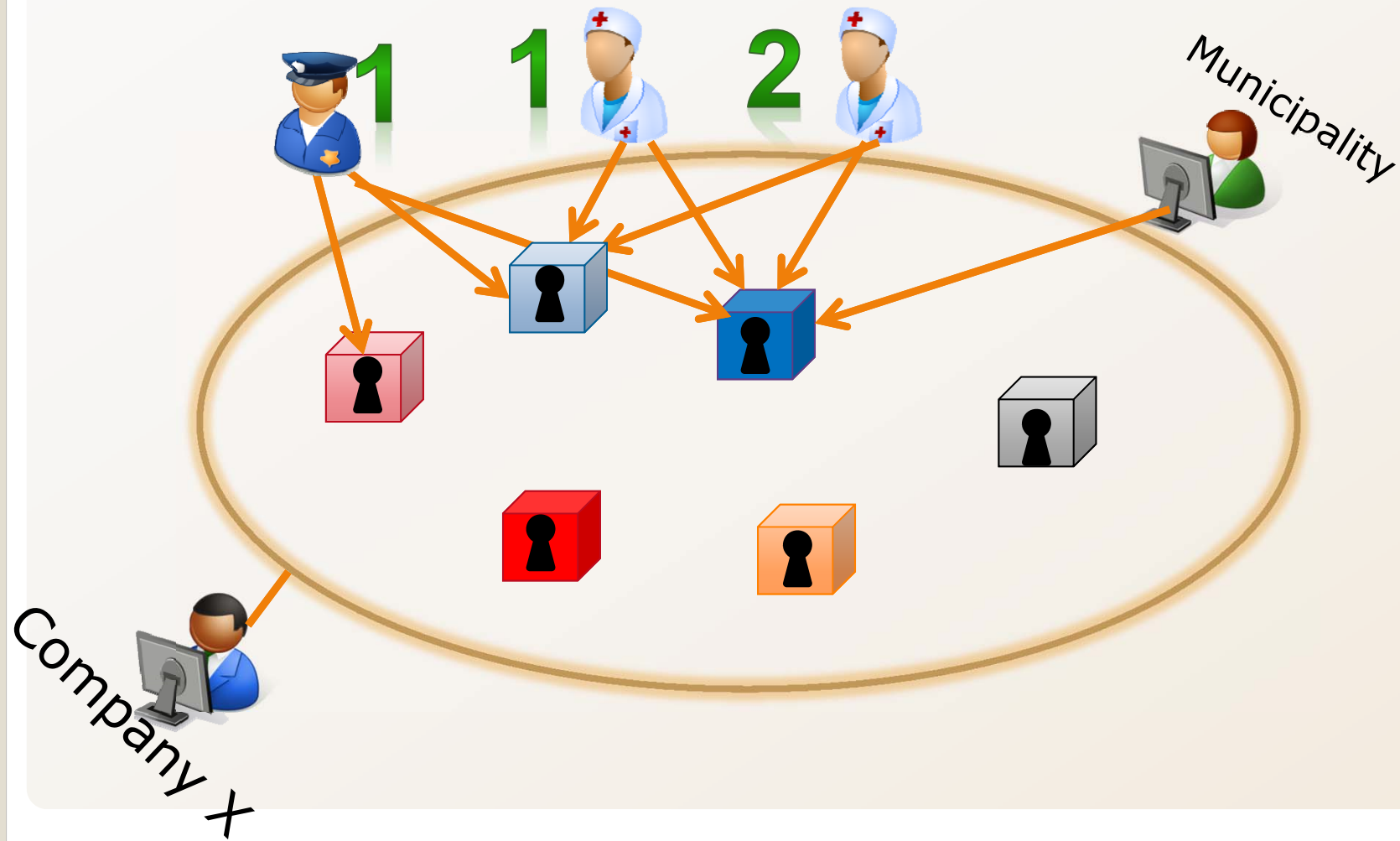




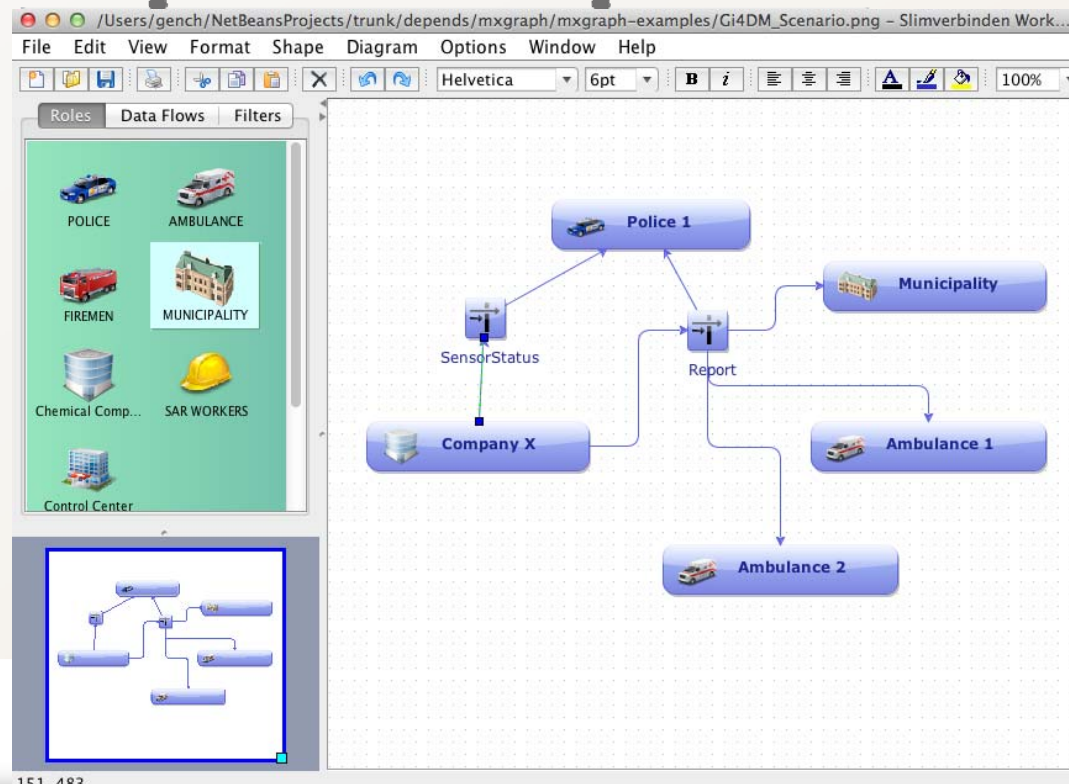
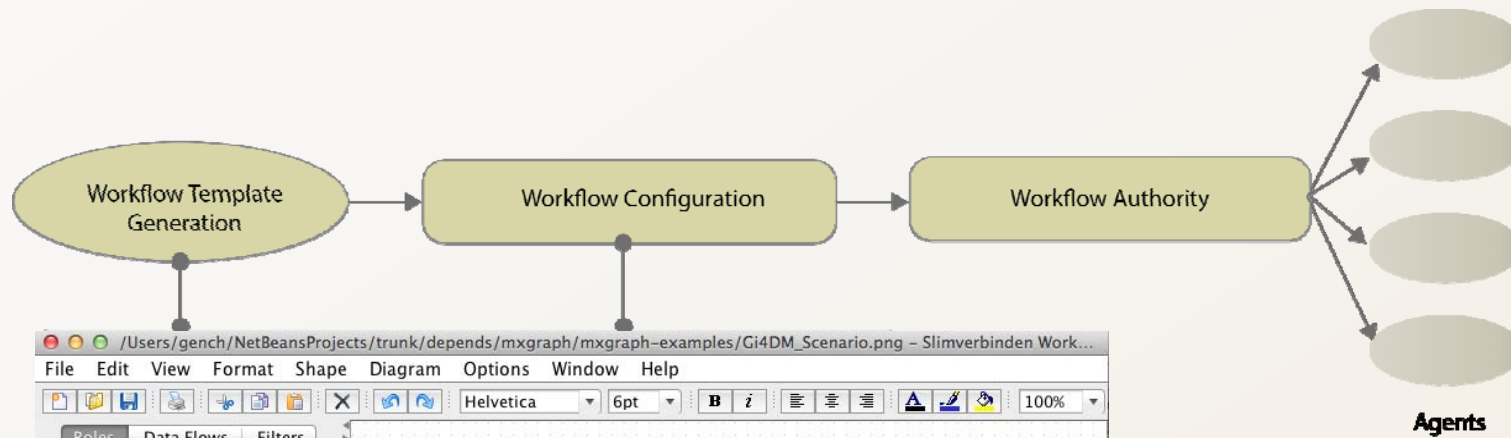
# Agents in Secure Information Sharing



# Agents in Secure Information Sharing



# Agents in Workflow Generation



## Conclusion

*Agents can help in:*

- *Information Processing*
- *Secure Sharing of Information*
- *Management of Information*

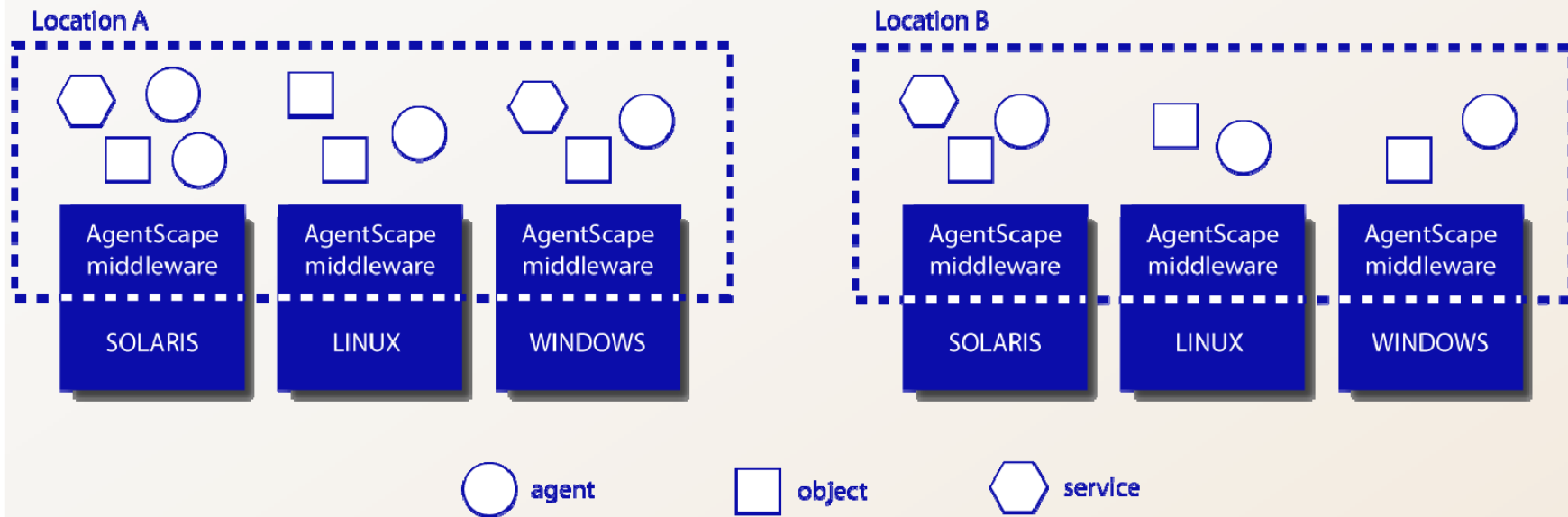
# Feedback & Questions



*thank you for listening...*

# What is Agentscape?

- A distributed middleware to host agents

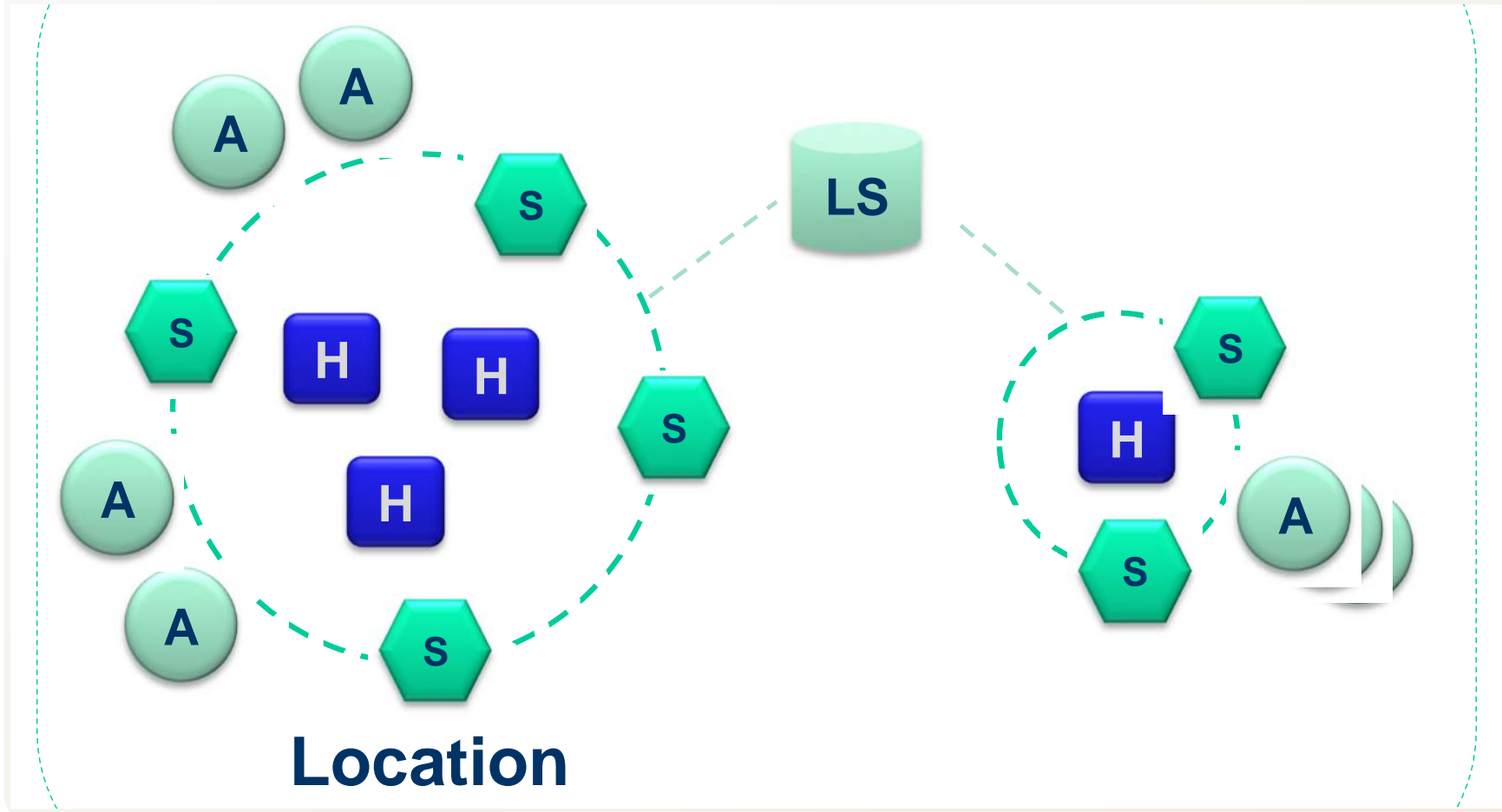


# What does Agentscape provide?

## Platform for supporting agents

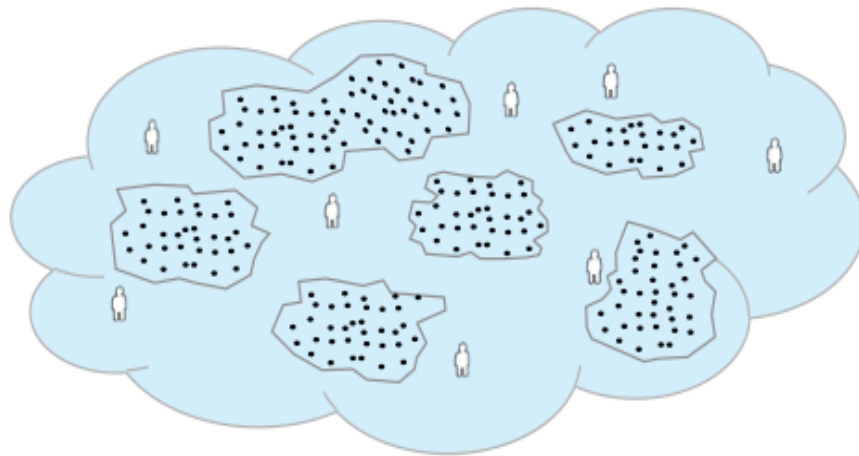
- Create and delete agents
- Agent-agent and agent-service interaction
- Migrating agents from one platform to another
- Locating agents/services

# Agentscape World





# Agentscape Use



## Participatory layer

- user preferences;
- trust;
- reputation;
- policy legislation;
- self management.

## Agent layer

- communication;
- negotiation;
- clustering;
- self management;

## Physical layer

- houses, wind turbines;
- power lines;
- solar panels;

# Disasters are Complicated



Complex Management  
Need for Automation

## A Use Case

