

Human-provided Services

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https://www.vitalab.tuwien.ac.at/autocompwiki/index.php/Human-provided_Services

Overview

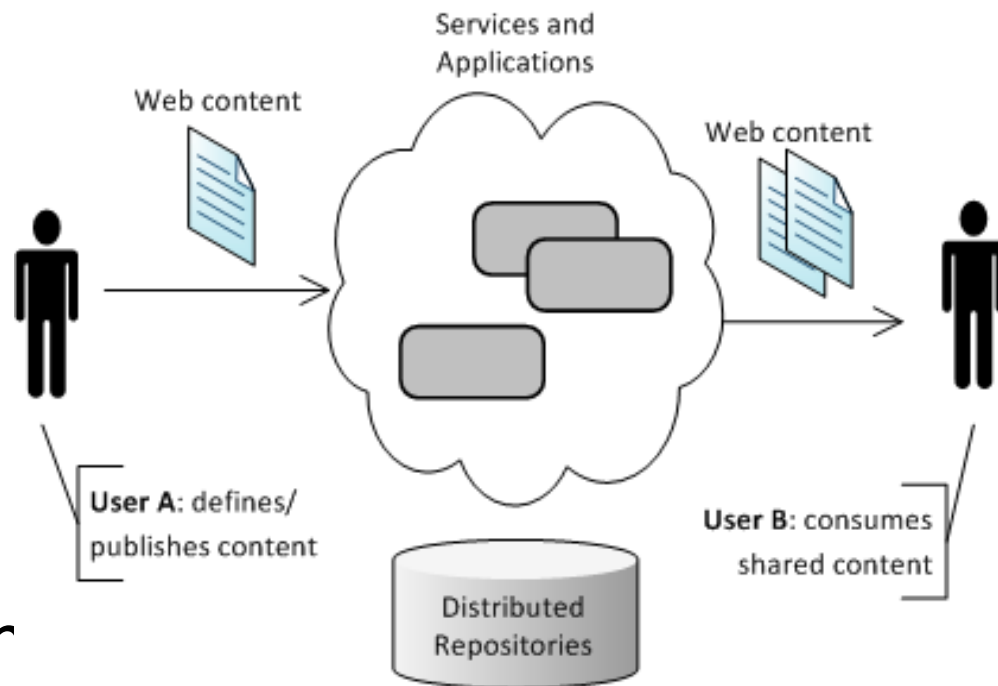
- Introduction/motivation
- Approach
- Framework/middleware architecture
- HpS in collaborations
 - Ad-hoc
 - Process-centric
- Conclusion

Introduction

- Web-scale collaborations and processes
 - Interactions span large number of users and services
 - Global business environment (diminishing organizational boundaries)
- Service-oriented architectures
 - Involving interactions between human and software services
 - User-enriched services
 - User-driven compositions

Motivation (1): Web-scale collaborations

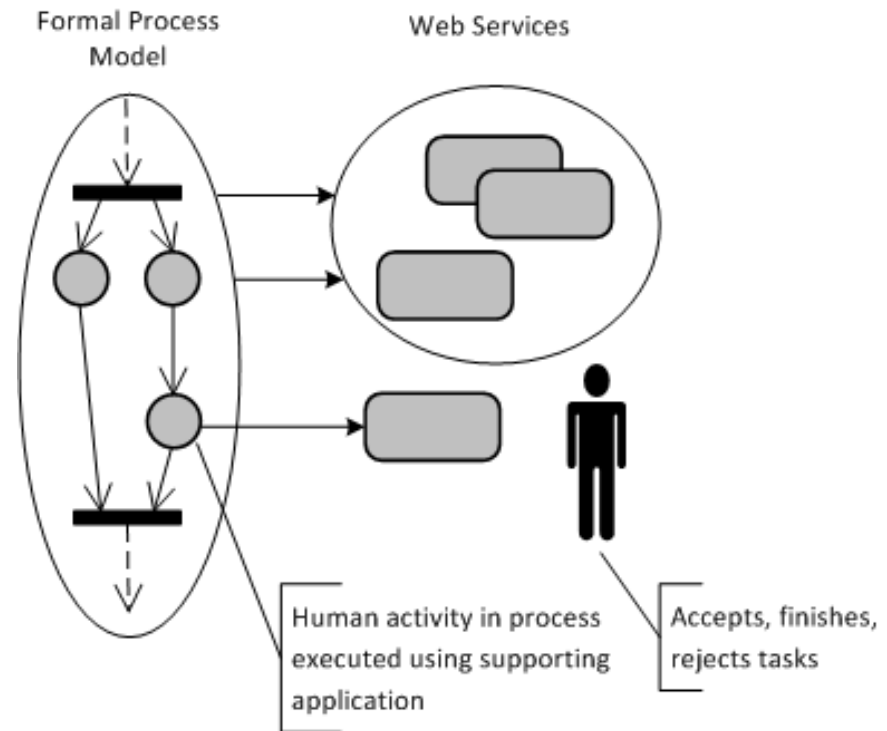
- Web 2.0 paradigm
- User-driven contributions
- Humans and software services er



- How to manage complex interactions?
- How to find the right person I can trust?

Motivation (2): Process/human interactions

- Process interacts with human
- Interleaved interactions humans and software services
- Find human who can solve a problem which software (services) cannot



➤ How to manage novel blend of compositions?

➤ How does process (service) find the right person?

Motivation (3): Open dynamic ecosystems

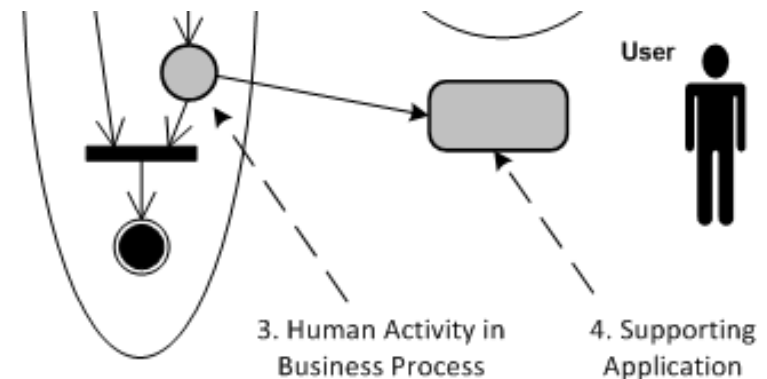
- Communications and Coordination
 - „Anytime-Anywhere“ pervasive infrastructures and mobility
- Devices
 - Smaller/faster/cheaper/always on
- Open dynamic ecosystems
 - People and software services integrated into evolving “solutions”



➤ How to efficiently utilize resources?

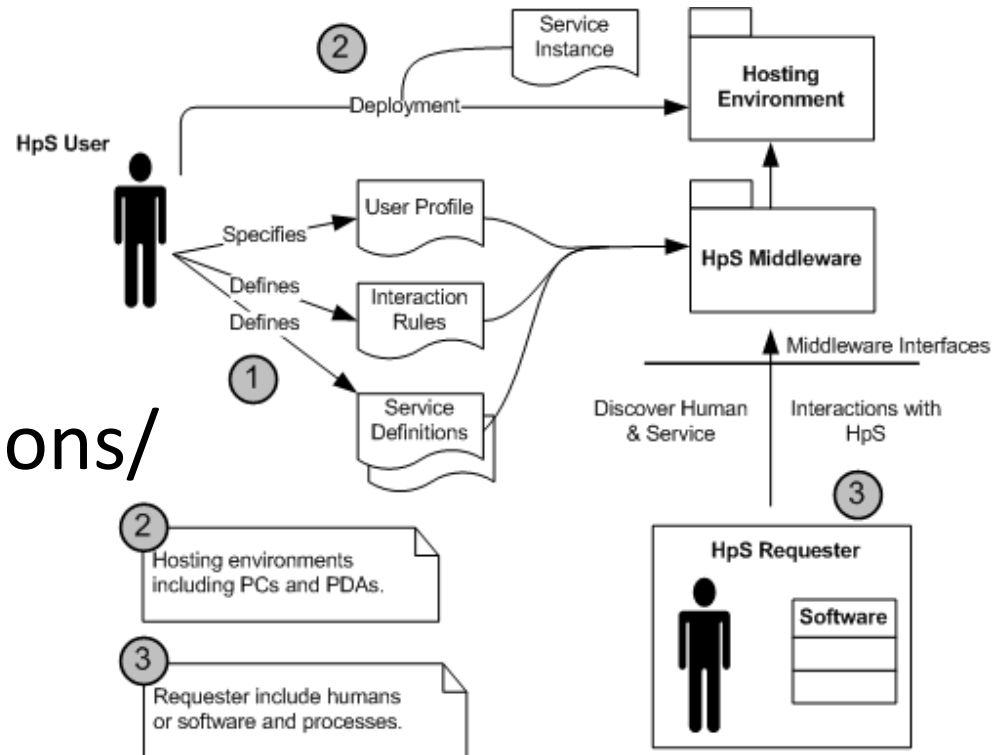
BPEL4People

- Related specs
 - WS-HumanTask and WS-BPEL extension for people, released June 2007
- Interactions between BPEL processes and people
- Not covered
 - Web-scale collaboration
 - User contributions as services
 - Human/service selection
 - Context



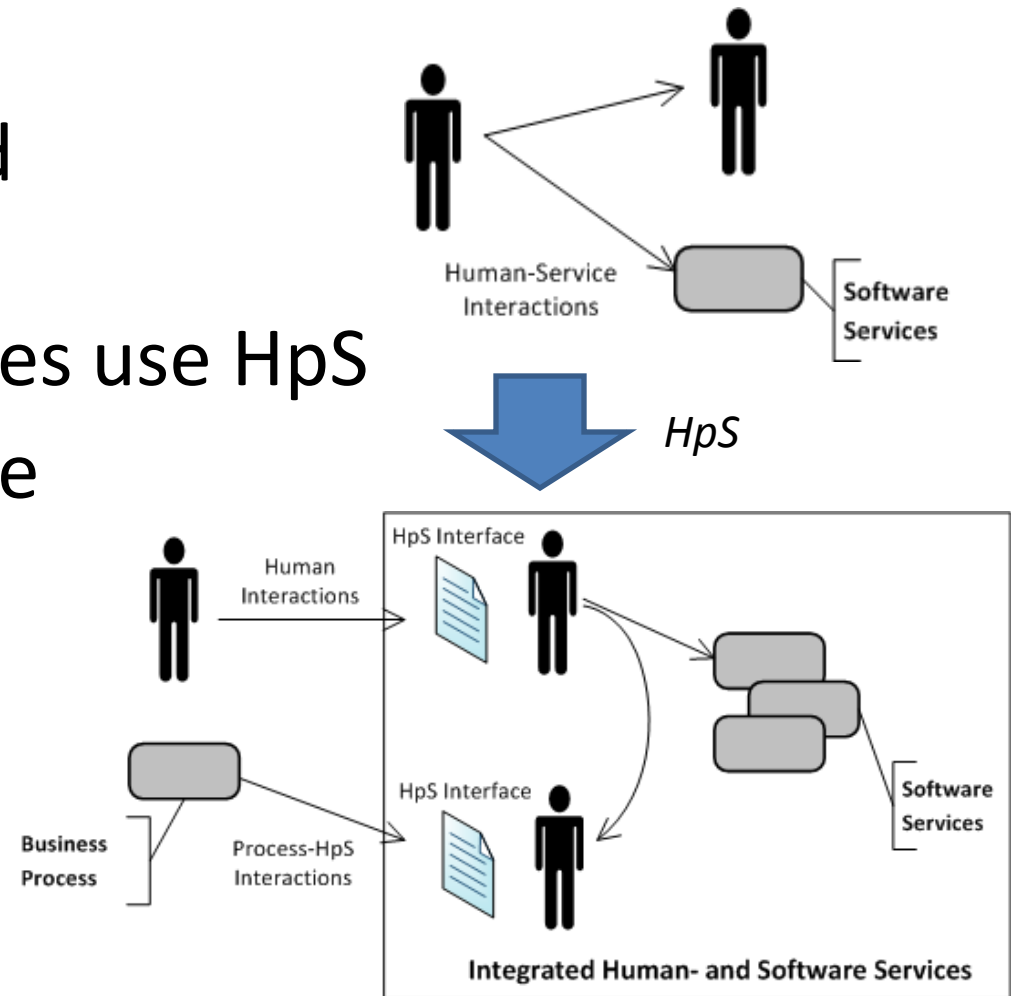
Approach

- Human-provided Services (HpS)
- Users supply services
- Web-scale collaborations/interactions
- Ad-hoc and process-centric
- Interactions between humans and software services (processes)



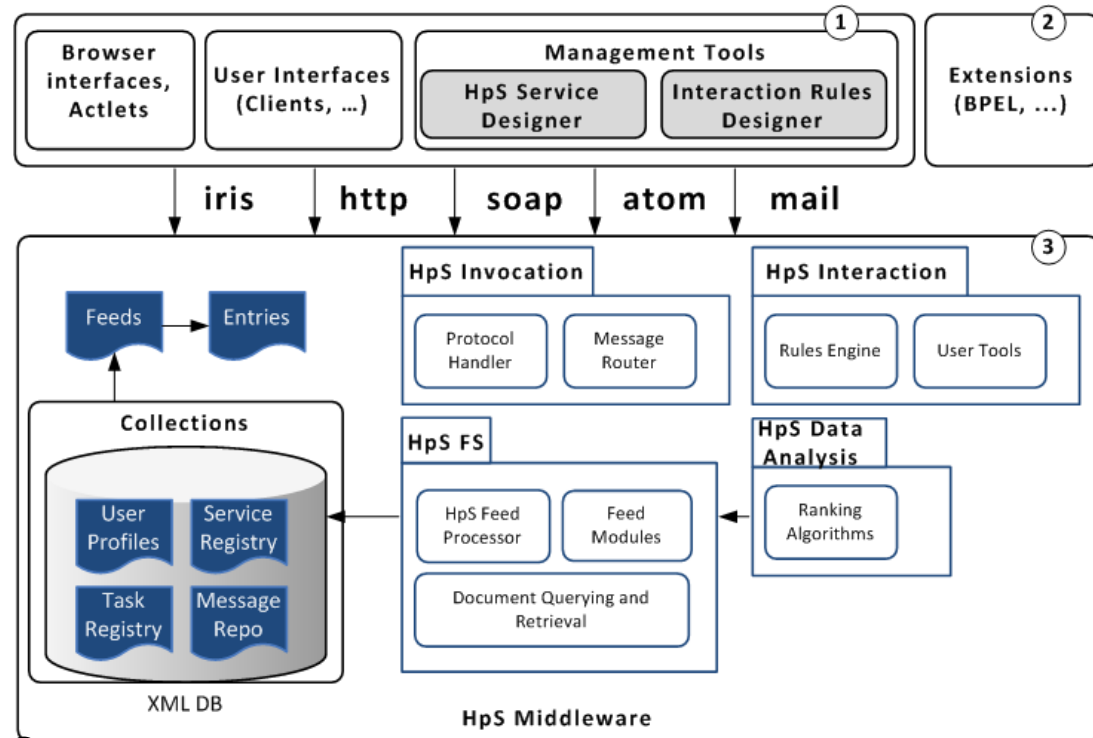
Human-provided Services

- Two-way participation of humans in service-oriented systems
- Unifying human and software services
- Human and processes use HpS
- „Solutions“ comprise HpS and software services
- Opportunistic compositions

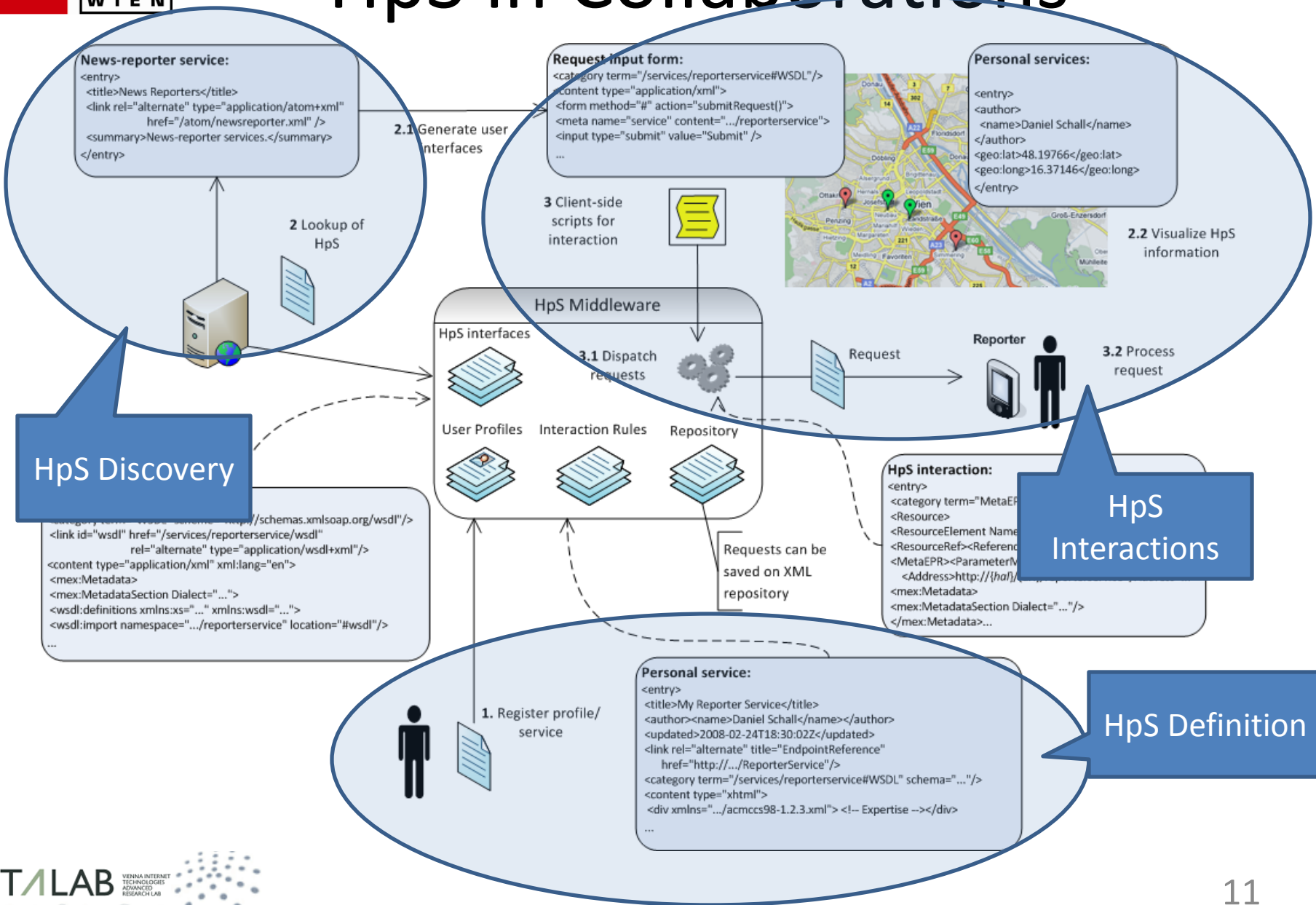


HpS Framework

- *Service registry* enhanced with user profiles/context
- Humans define services (at high level)
- Automatic translation into low level interfaces
- *HpS interaction models* using Web services (human and software requesters)
- Users specify interaction models (rules)

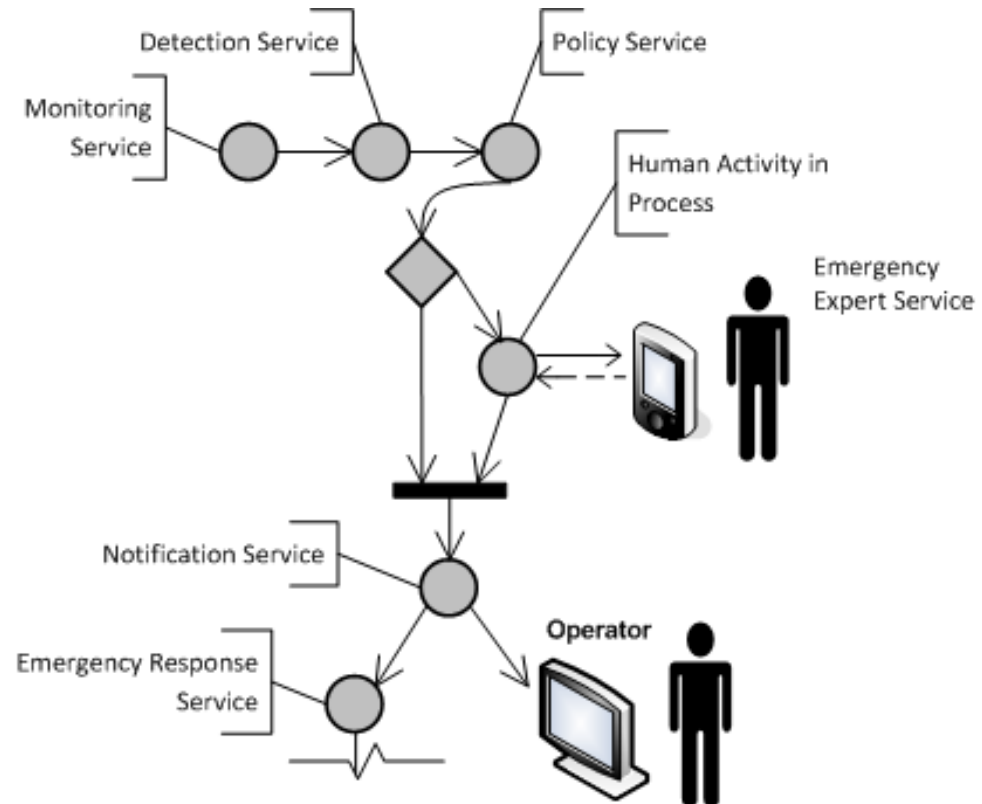


HpS in Collaborations



HpS in Collaborations

- Process comprising:
 1. Software services
 2. HpS
- Process requires human intervention
- Discovery of HpS
- HpS selection
 - Task metrics
 - Ranking
- Interactions using mobile devices



Conclusion

- A framework supporting the design of and interactions with Human-provided Services
- Users supply services
- Interactions between humans and software services (processes)
- Web-scale collaborations
- Ad-hoc and process-centric

- Integration with BPEL4People needed
- Mashups of human and (software) services

Thanks!

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