Seamlessly Integrating Service Discovery into UML Requirements Processes

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EU-funded SeCSE IP

– €10m 4-year project on service-centred systems

Mission statement

– "*Create new methods, tools and techniques for systems integrators and service providers that support the cost-effective development and use of dependable services and service-centric applications*"

Four activity areas

1. Service engineering: specification of services
2. Service discovery: discovering and retrieving services at development, deployment and run-time
3. Systems engineering: service-oriented architectures
4. Service delivery: deploying, monitoring and switching services

Industrial evaluation and application

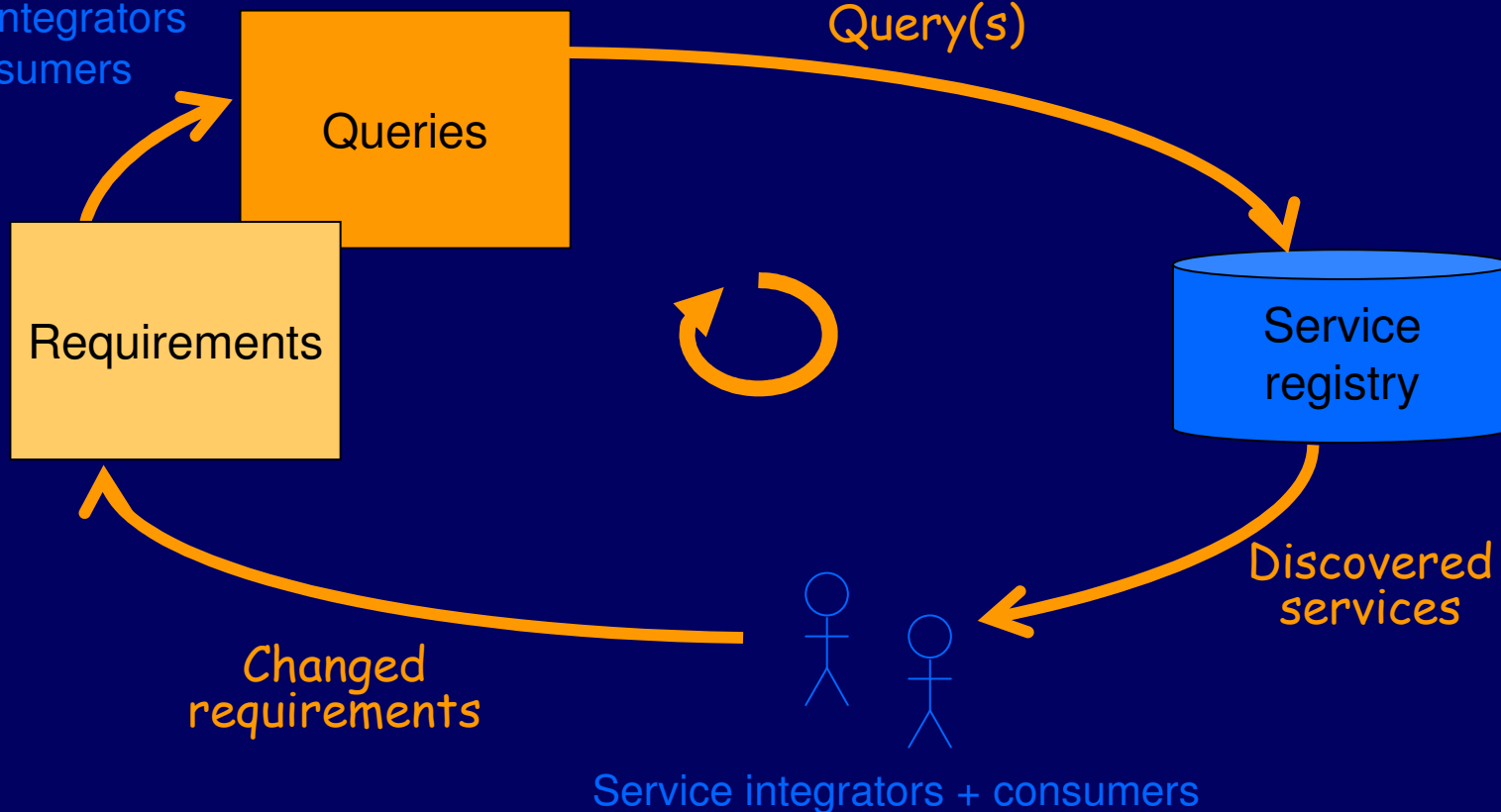– Fiat, DaimlerChrysler, Telecom Italia, Telefonica, Computer Associates, Microsoft, ATOS, Engineering

SeCSE Requirements Process

Flexible processes
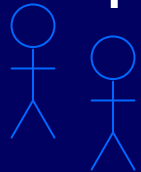
– Different configurations of processes, techniques and tools

Service integrators + consumers

Queries

Query(s)

Requirements

Service registry

Discovered services

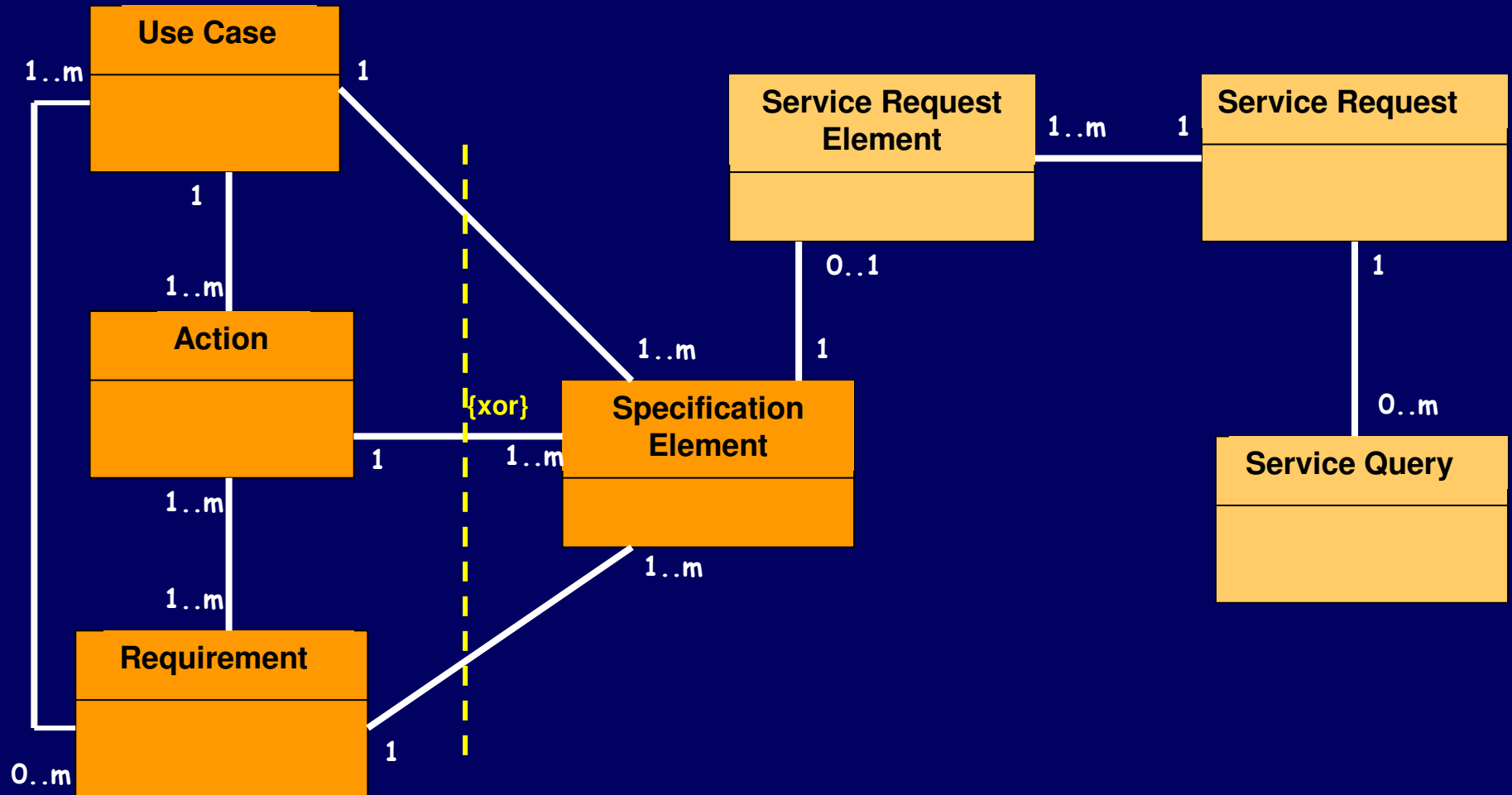Changed requirements

Service integrators + consumers

Problem

Integration

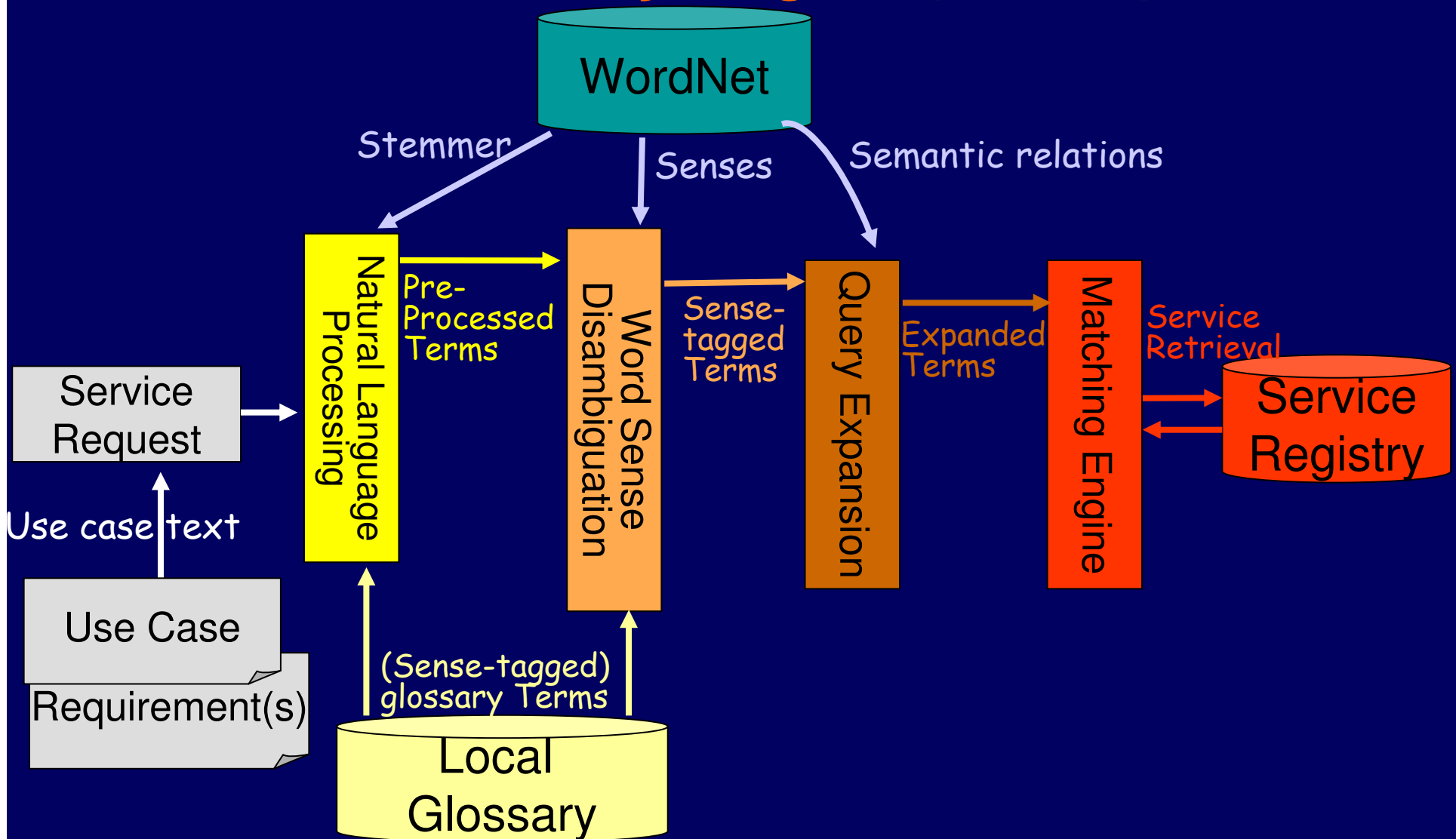– service discovery & selection processes into established systems development methods → extra tasks

Trade-off

– too many tasks can critically reduce the usability and adoption of a method

– manual generation of new artifacts such as service requests from requirements can lead to incomplete and inconsistent queries

→ *Seamless* integration of a service discovery method within existing development processes

UCaRE's Conceptual Architecture

SeCSE's Discovery Engine (EDDiE)

DEMO

Future Work

Pattern Catalogue

– Link classes of requirement problem to service solutions
– Discovered patterns used to reformulate requests with terms specific to software services.

Agent-driven Service Discovery

– intelligent search agents automatically form and revise service queries in background mode whilst the analyst specifies requirements
– retrieve and present descriptions of services that agents infer are useful during requirements tasks.

→ Granularity of Services

Thank you for your attention!

Questions?