

Service automation in a Model-Driven Service-Oriented Architecture

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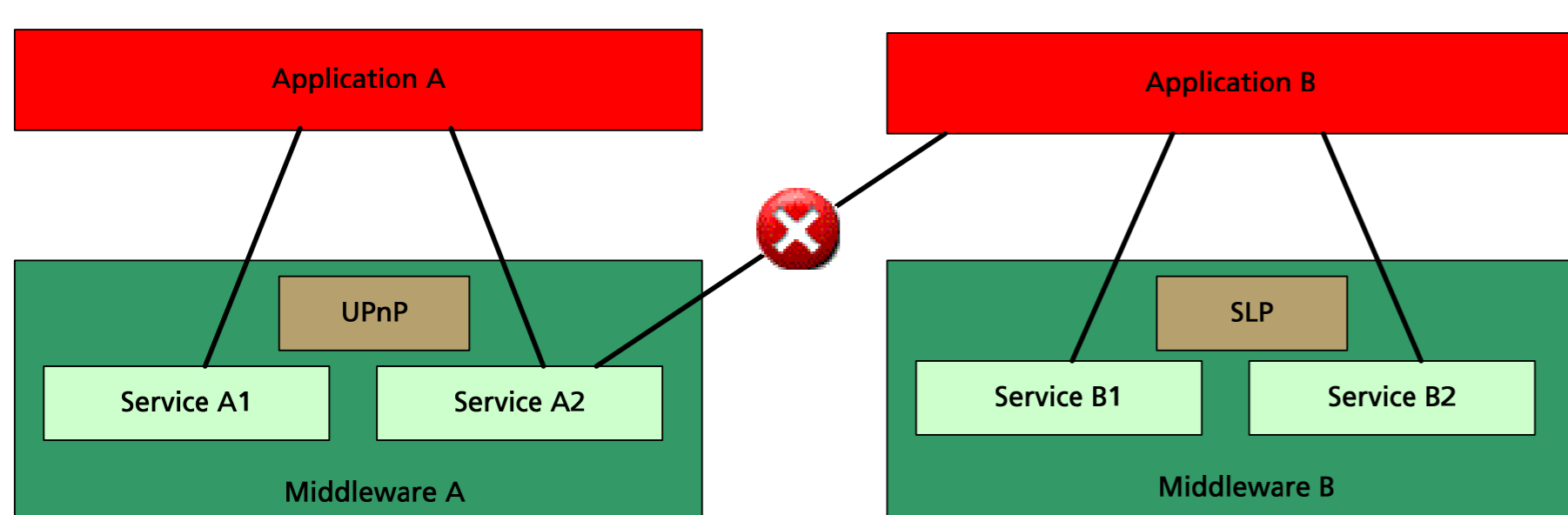
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Goal

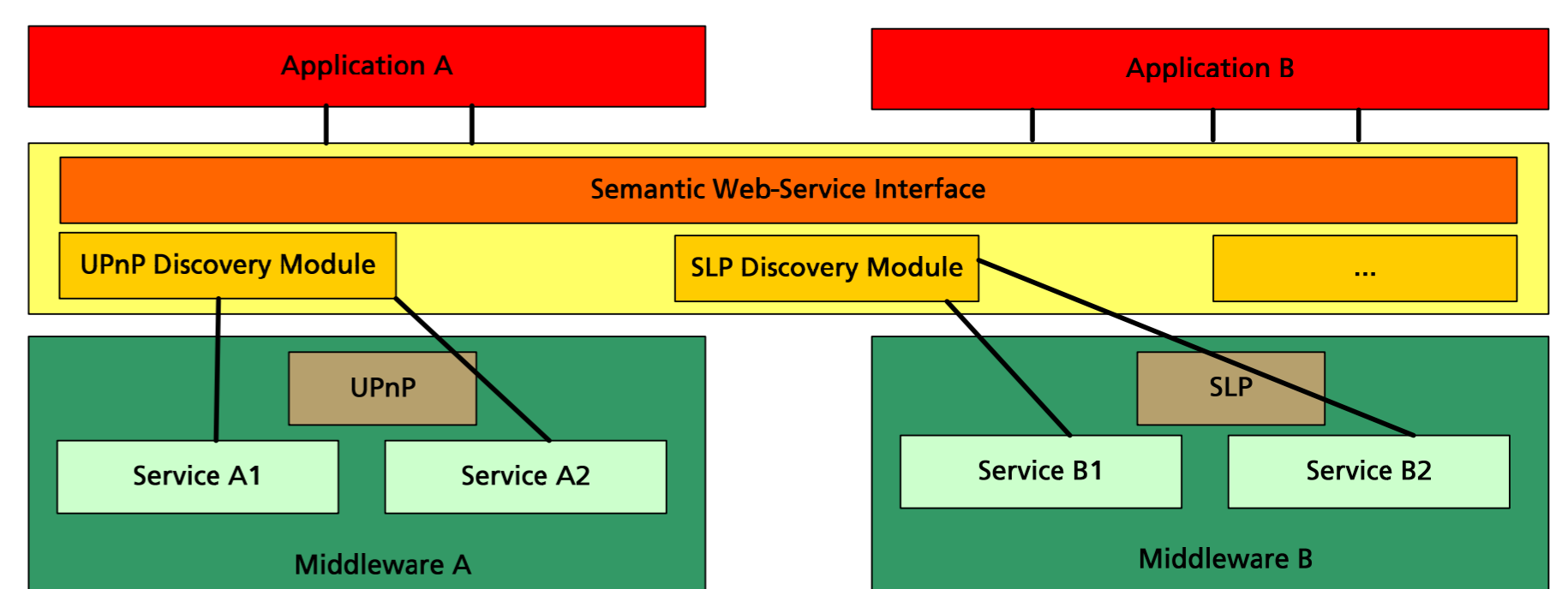
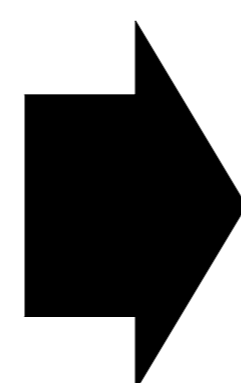
Provide an extensible framework to make services available that are accessible only through specific protocols. The framework will automatically create a semantic web-service providing access to newly discovered services and make the handshake transparent to the calling application. The framework consists of APIs for creating new discovery modules and interfaces to automate semantic web-service creation.

Issues

- Growing number of heterogenous middlewares to support creation and provision of ambient intelligence services
- Applications using those middlewares limited to use services programmed against that specific middleware
- Application cannot use new kind of services (new technology, another middleware) because they are not discoverable
- Service descriptions differ between middleware implementations
- Limited number and availability of services at least after first release of middleware



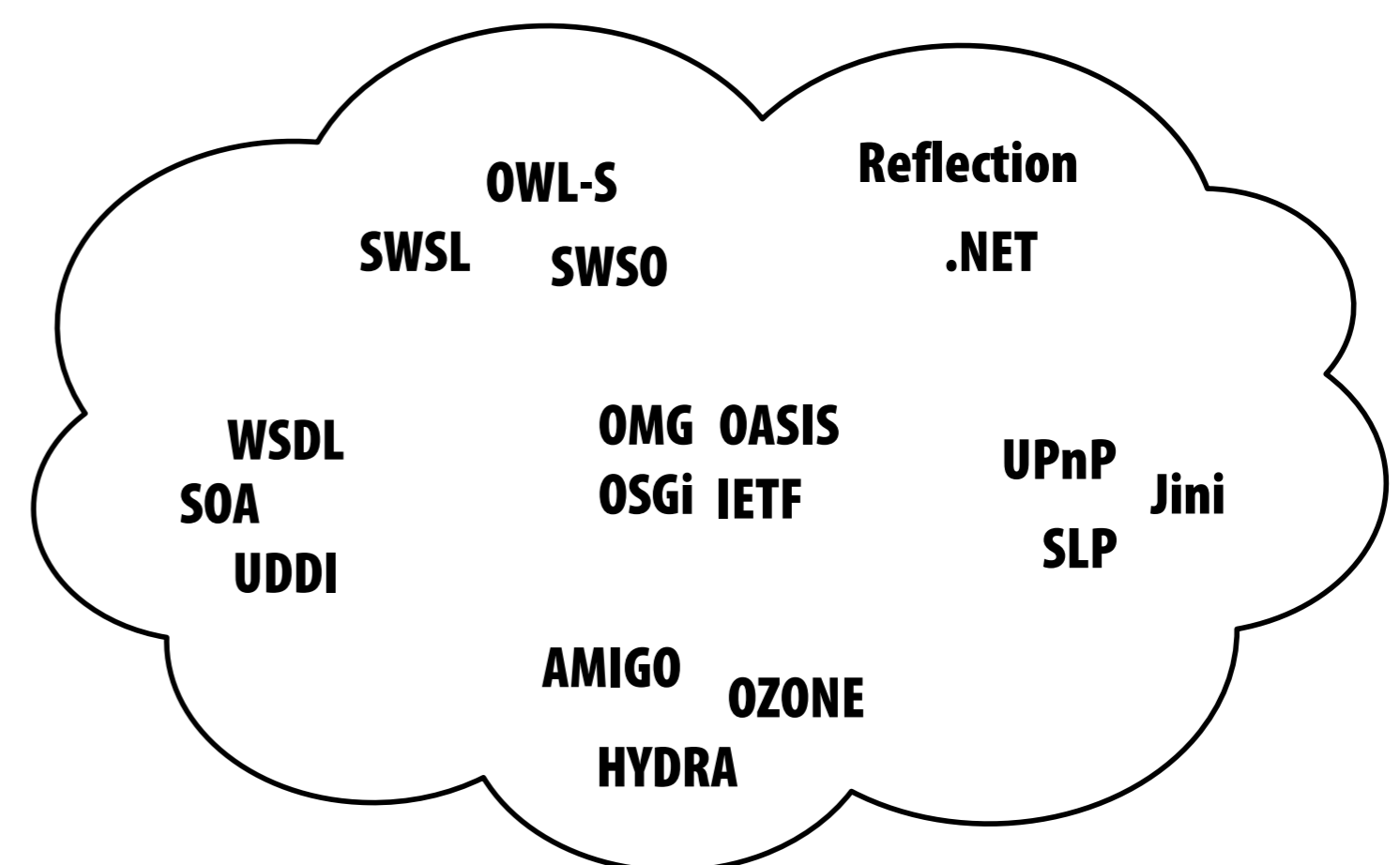
NOW



FUTURE

Intended results

- Development of a definition language to enable automated middleware service discovery module creation
- Concept of PlugIn-mechanism and definition of interfaces for generic service discovery modules
- Concept to semantically translate service descriptions
- Automatic creation and management of new semantic webservices mapping a previously discovered services.
- Reference implementation for two service discovery protocols (e.g. SLP and UPnP)
- Validation



Research questions

- How to design general programming interfaces and a general definition language to implement customized service discovery modules?
- How to automate the semantic translation of the service description of a newly detected service?
- What kind of ontology is needed for the translation of service descriptions and definition of the framework's capabilities?
- How to dynamically install, start, stop, update and uninstall semantic web-services?
- What kind of service was detected? Which attributes and results are available and how to process them? How to handle parameter conflicts?

Status & next steps

- Right at beginning of PhD
- Exchange of ideas with fellow researchers
- Literature study
- Refinement of research questions and results
- Finalizing Exposé

FEEDBACK WANTED!

