



软件工程

国家重点实验室(武汉大学)

STATE KEY LAB OF SOFTWARE ENGINEERING (WUHAN UNIVERSITY)

Using ODMS for Process Model Selection

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Outline

- Background
- ODMS-based process model selection
- Summary and discussion



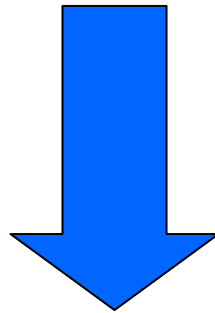
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The Trend of SaaS

- Changes in software development
 - Basic modular: Service
 - Communication method: Invoking



Service can be characterized by process models

Process model becomes an active topic in IT industry



In enterprise computing...

- **Business cooperation** is more and more popular in current practice within/across enterprises
- Key issue is **interoperability**
 - Data exchange
 - **Business process interoperation**

**Business process interoperation is the basis
of process-centric development**



In SOA...

- SOA highlights **process-centric development**
 - Web Services provide plenty of application components
 - Specifications support interconnection between Web services
 - ▣ Description languages: OWL-s, WSDL,...
 - ▣ Protocol for exchanging messages: SOAP
 - ▣ Registry mechanism: UDDI
 - **Web service composition** specifies a means to develop web-based application

A process model can be realized by composition of services



Points of process-centric development (1/2)

■ Aims at technical people

- System engineer

■ Requirements

- Low cost
- Wide applicability
- Quick response
- High quality



Abundant process models as a part of **common** domain assets



Process models are **standardized** and **well-structured**



Points of process-centric development (2/2)

■ Objective

- customize process models to meet requirements of system engineers

- Process model registration → **MFI-5**

- Process model selection

On-demand model selection (ODMS)



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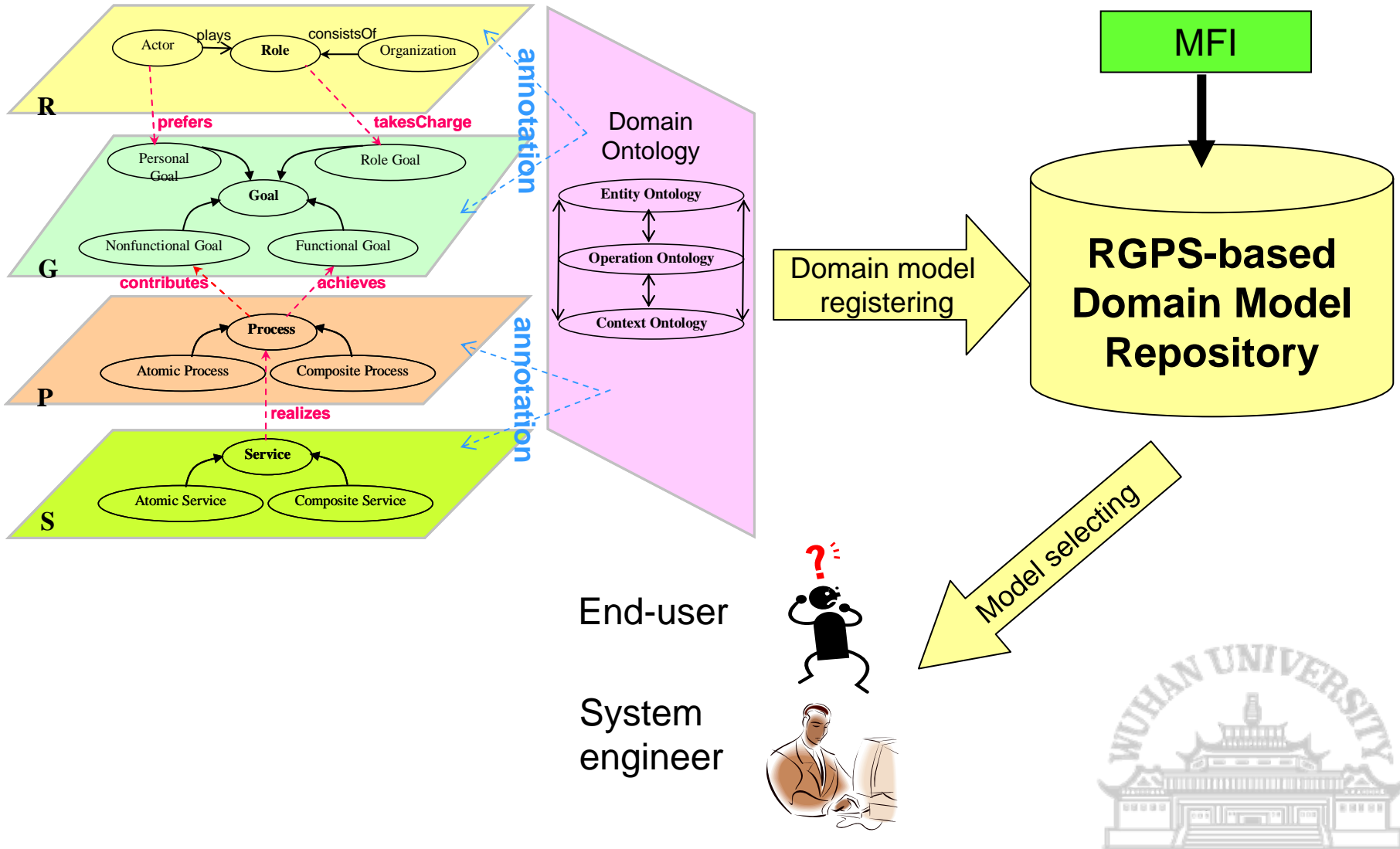


Overview of ODMS

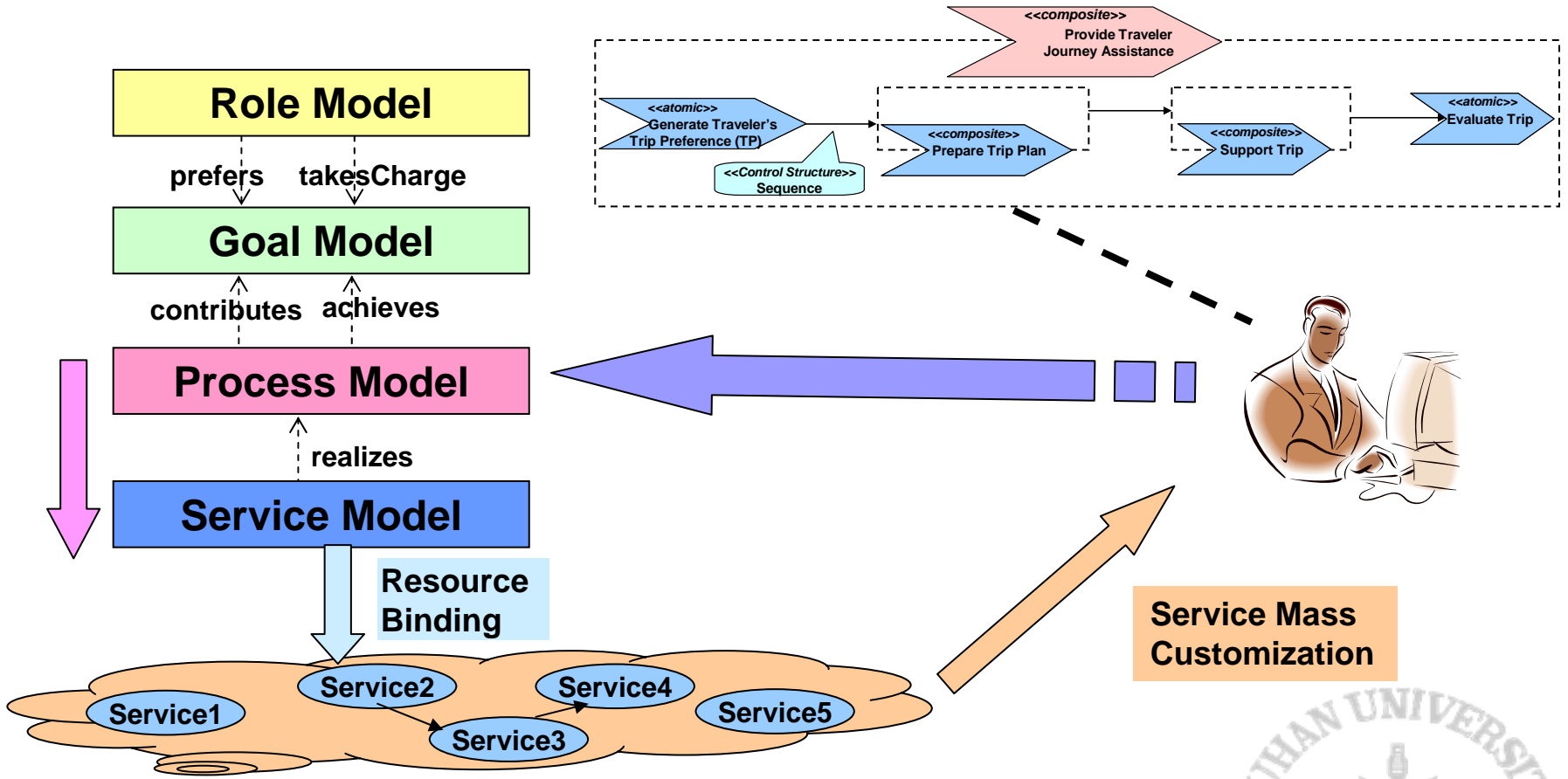
- Metamodel for On-Demand Model Selection
 - Modeling customers' real intention with **Role** Metamodel, **Goal** Metamodel, **Process** Metamodel and **Service** Metamodel
- Help users
 - Organize domain models from disorder to order
 - Select appropriate models to satisfy intentions expressed from different levels and different granularity



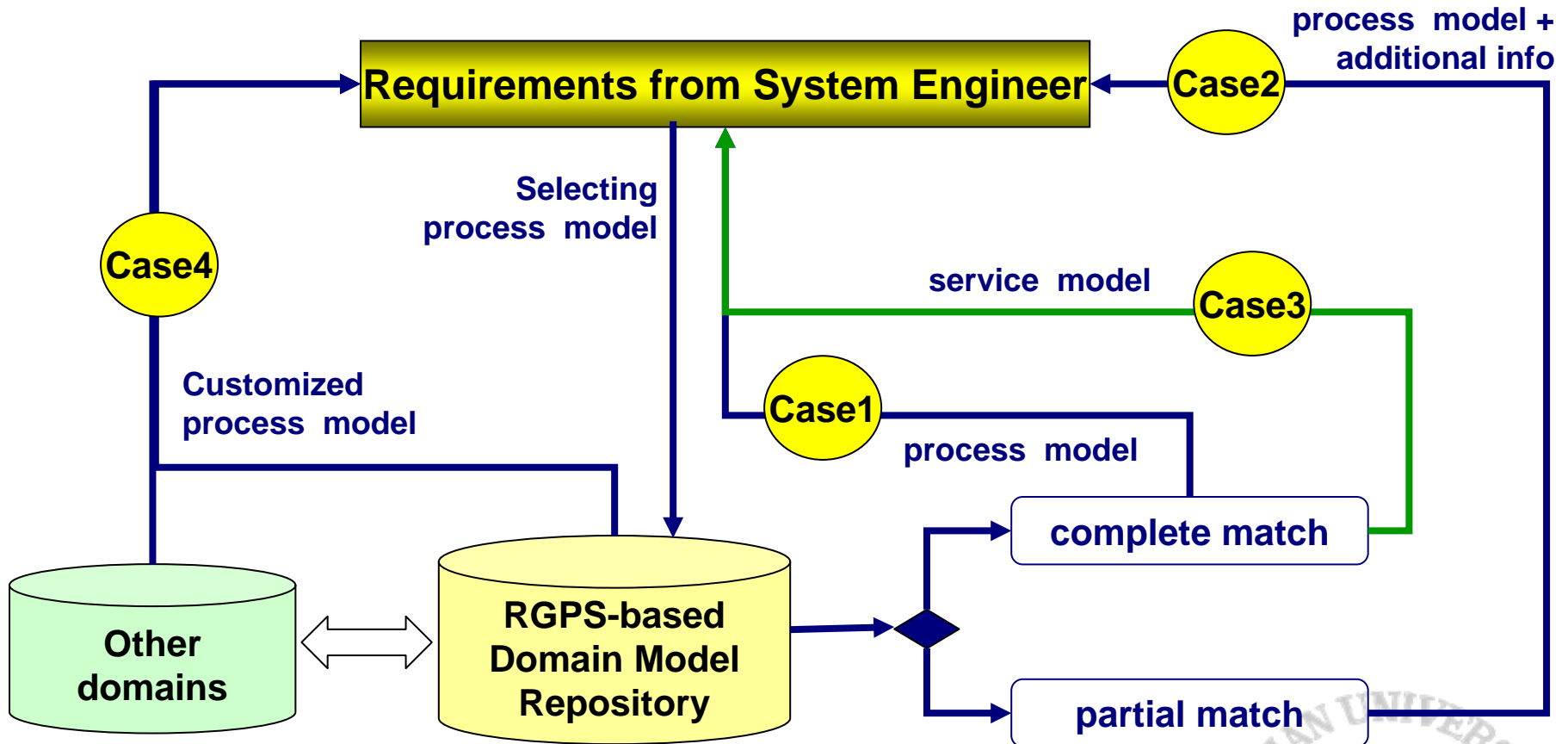
Domain-oriented instantiation of RGPS



For system engineer.....



Case Study



Case 1 (1/2)



Process



**Process-
Goal**

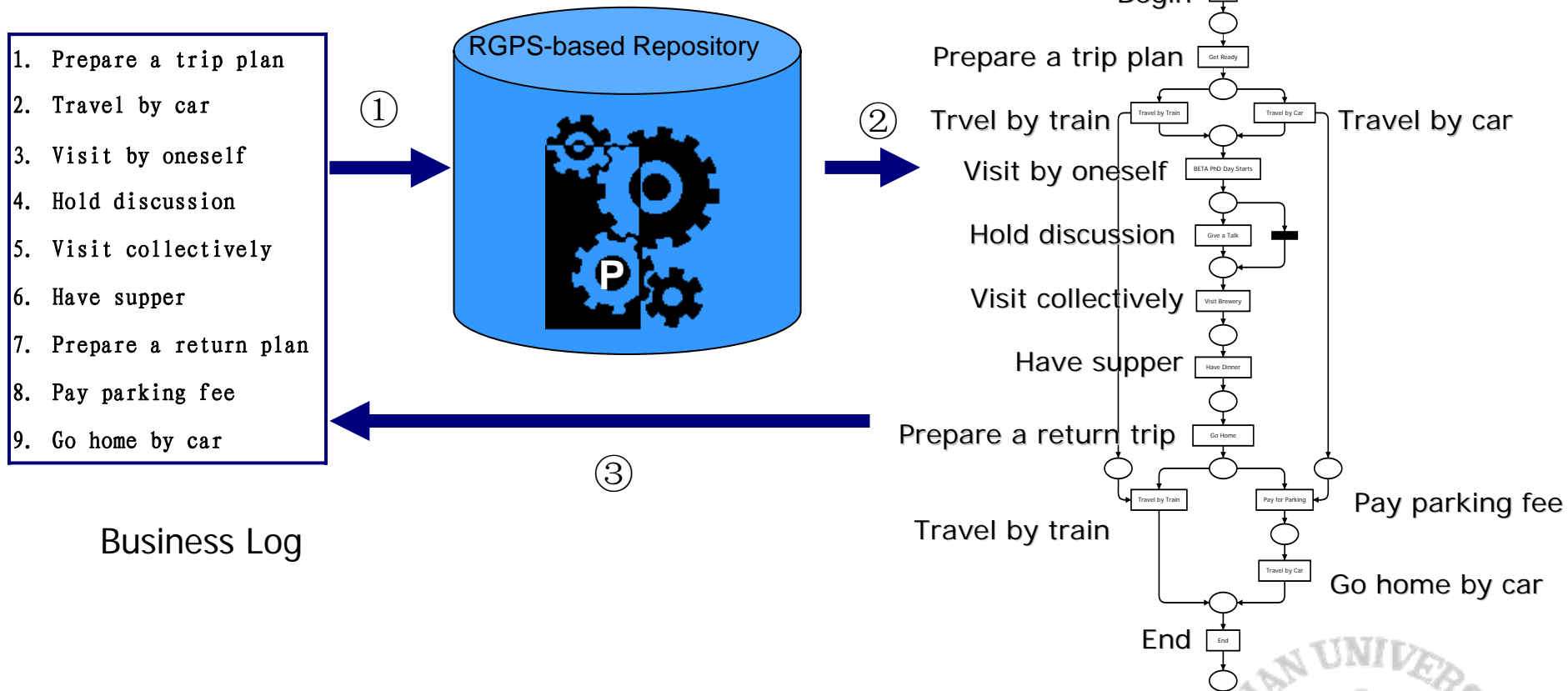


**Process-
Service**

- Provide common process models
 - Include atomic process and composite process
 - Specify relations between process models

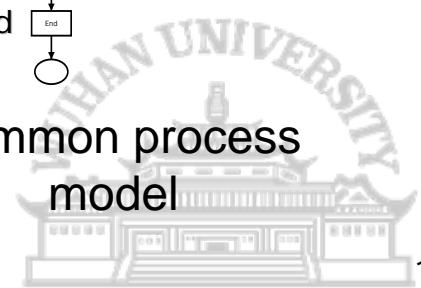


Case 1 (2/2)



Get support from MFI-5

Common process model



Case 2 (1/2)

Benefits of using ODMS



Process



Process-
Goal

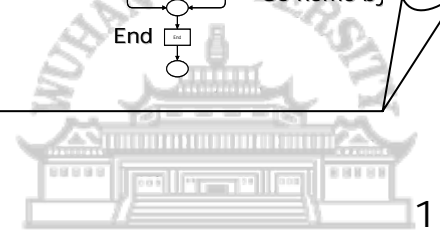
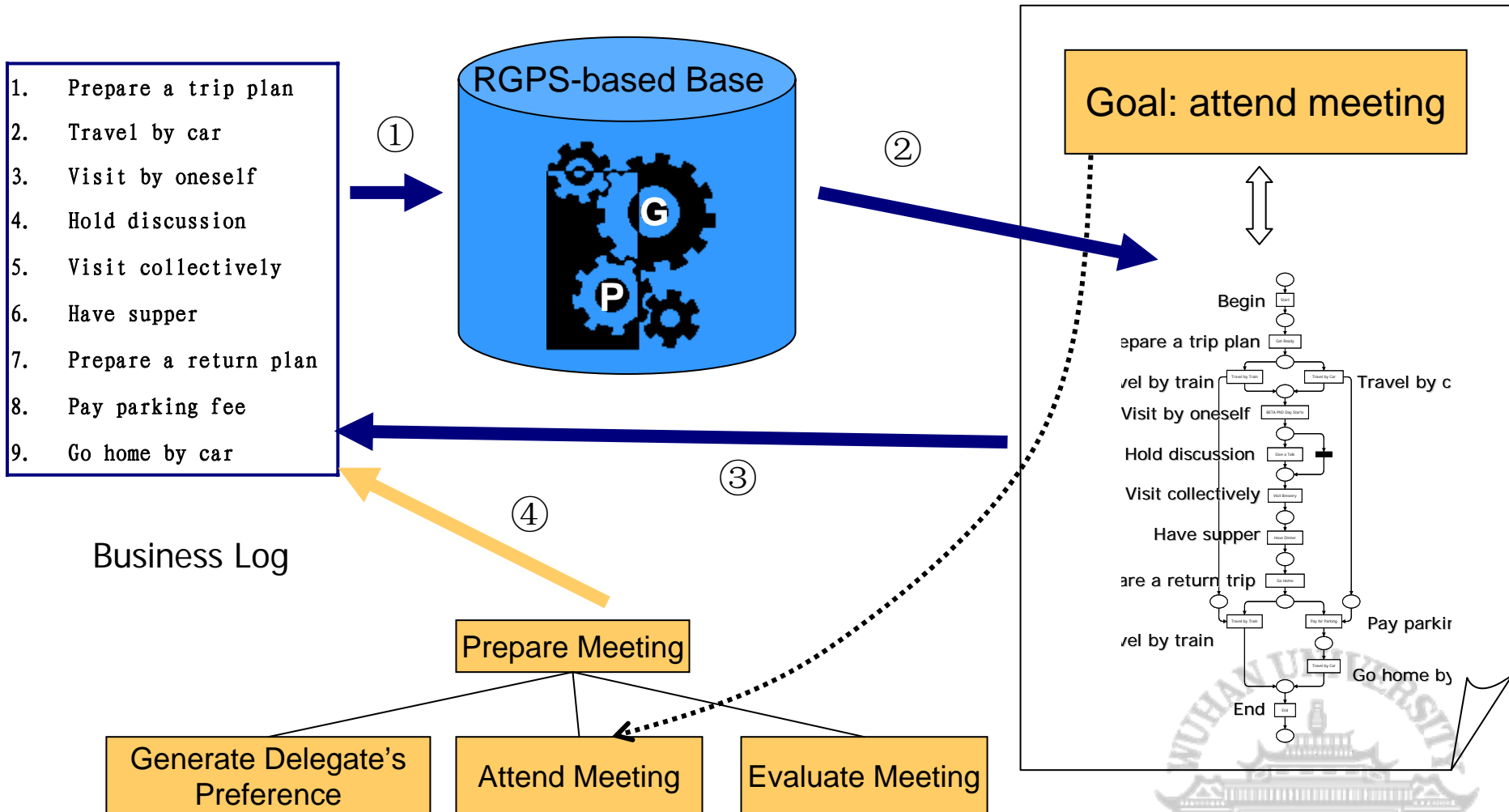


Process-
Service

- Specify Goal-Process pair
 - Goal \leftrightarrow Process model
 - ▣ atomic process or composite process
- Promote reusing process model at larger granularity



Case 2 (2/2)



Case 3 (1/2)

Benefits of using ODMS



Process



Process-
Goal



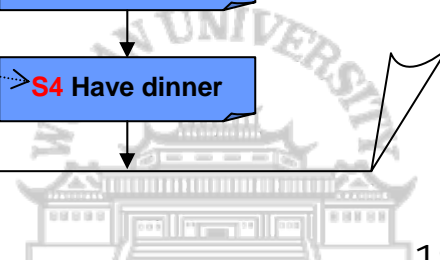
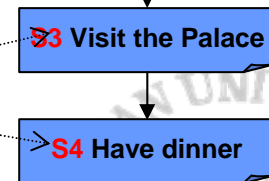
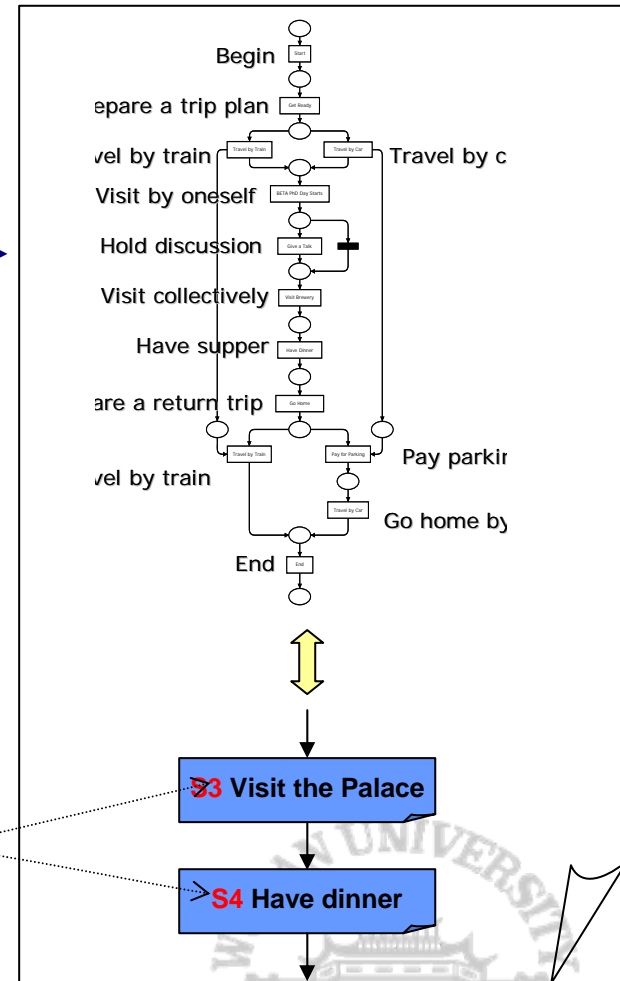
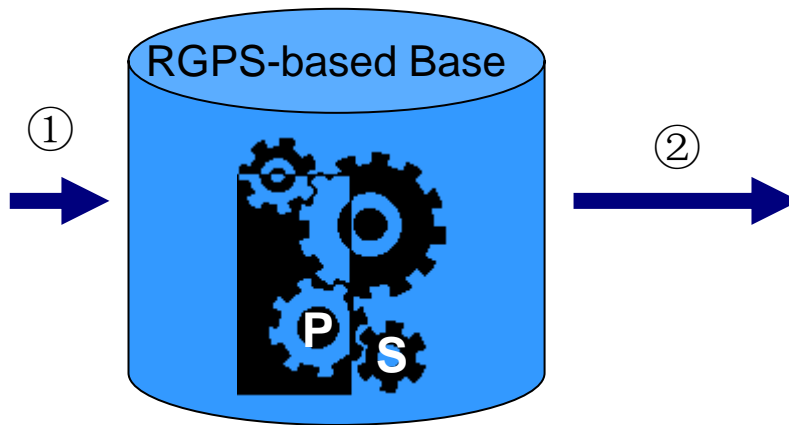
Process-
Service

- Specify Process-Service pair
 - Atomic process \leftrightarrow Atomic/Composite service
 - Composite process \leftrightarrow Atomic/Composite service
- Guide dynamic binding of services



Case 3 (2/2)

1. Prepare a trip plan
2. Travel by car
3. Visit by oneself
4. Hold discussion
5. Visit collectively
6. Have supper
7. Prepare a return plan
8. Pay parking fee
9. Go home by car



Case 4

Benefits of using ODMS



Process



Process-
Goal



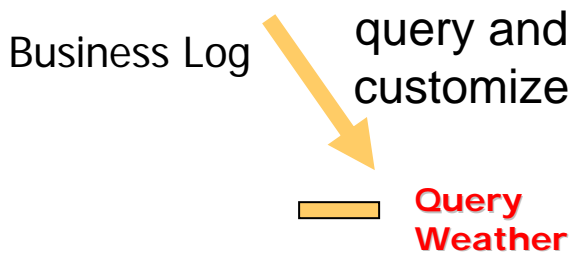
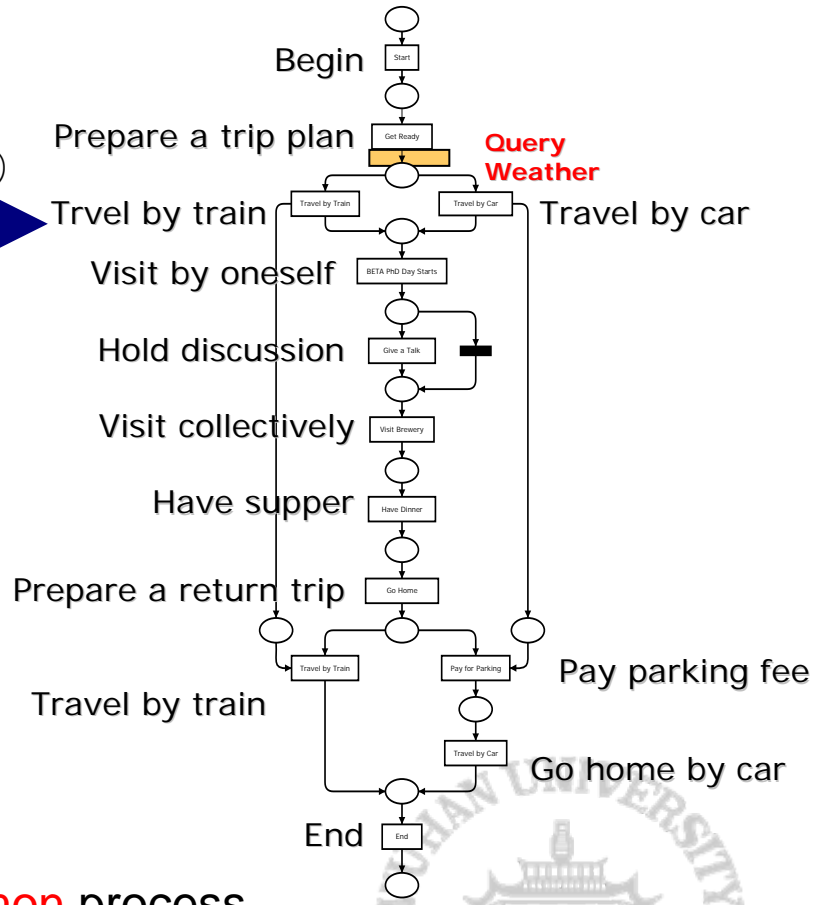
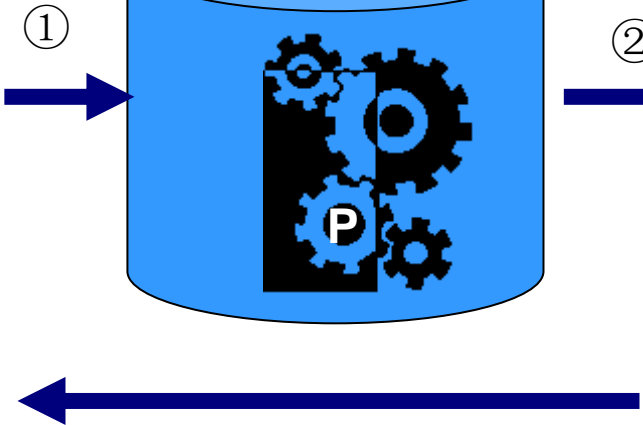
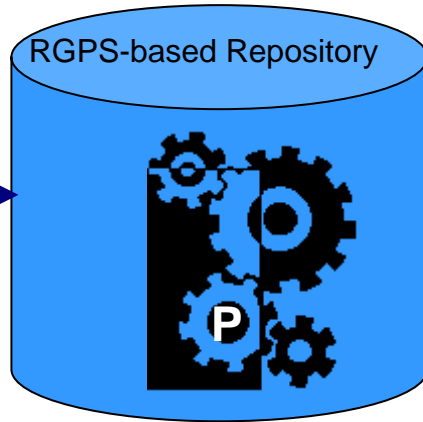
Process-
Service

- Facilitate process models customization within/ across domains



Case 4

- 1. Prepare a trip plan
- 2. Query weather
- 2. Travel by car
- 3. Visit by oneself
- 4. Hold discussion
- 5. Visit collectively
- 6. Have supper
- 7. Prepare a return plan
- 8. Pay parking fee
- 9. Go home by car
- 1. Prepare a trip plan



Common process model



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Summary

- Process model selection is the basis for process model customization
- For system engineer, ODMS can
 - support process model **selection**
 - facilitate process model **customization** for user's intention at different levels
 - provide **value-added services**
 - help to increase their **quality of experience**



To Be Discussed

- 1. How about the version setting?
 - 1st edition: RGPS metamodel
 - 2nd edition: mapping mechanism between user's intention and RGPS models
- 2. What is the scope of ODMS?
 - What should be included?
 - What should not be included?
- 3. What about the contents?
 - Just provide a rough Sketch or provide the details of metaclasses in the metamodel
 - Besides the Metamodel, will the model selection process be consisted in ODMS? Should we list all the possible cases during the model selection process?





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Thank you!