Fachgespräch „Ortsbezogene Anwendungen und Dienste"

Service-Roaming

Rüdiger Gartmann
Fraunhofer-Institut für
Software- und Systemtechnik ISST
Dortmund

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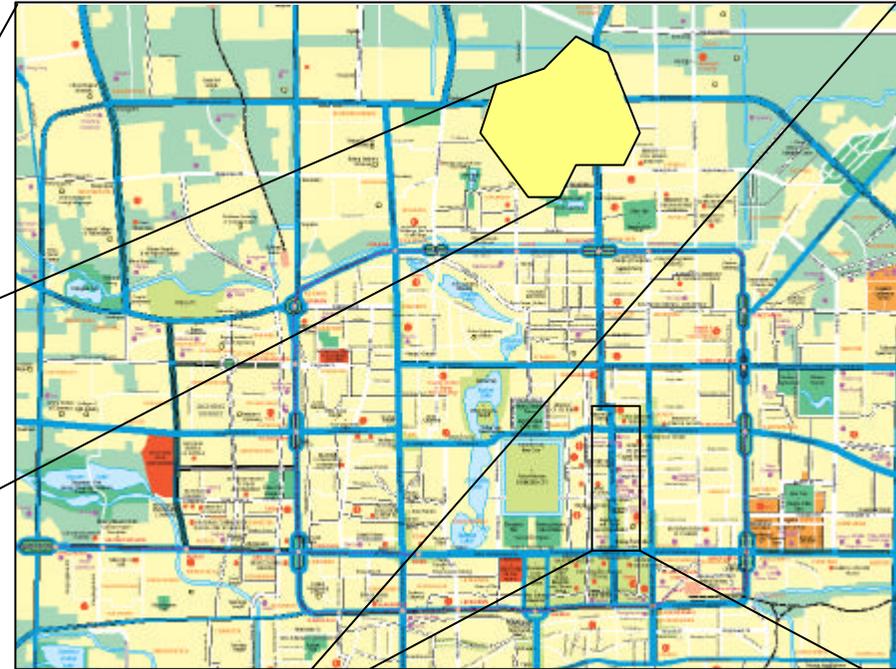
Outline

Motivation for Service Roaming

Fundamentals

Roaming conception

Perspectives

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Why Service Roaming?

Example: Event Service Beijing

Olympic Event Service

Beijing Official Event Service

Wangfujing Event Service

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Different services may have different scopes...

Either spatial

Or temporal

Or temperature dependent

Or user specific

Or ...

Or any combination

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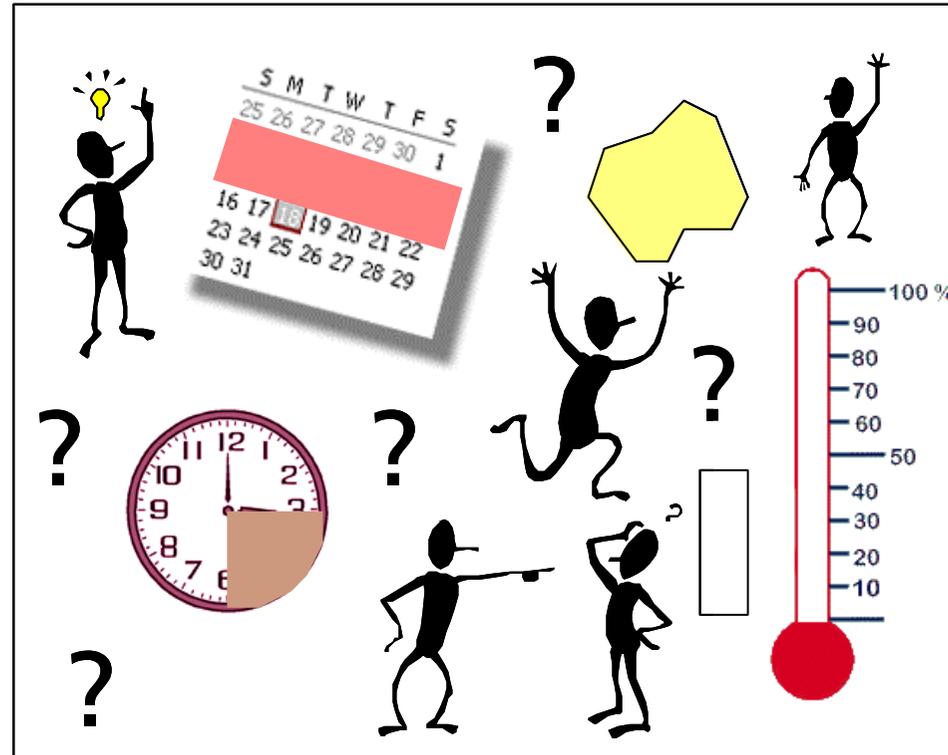
Nowadays...

People have to care about using the right service themselves.

- Search for appropriate services
- Bind those services
- Monitor the service validity
- Switch between services if necessary
- Handling of transactions etc.

Olympic Event Service	Beijing Official Event Service	Wangfujing Event Service

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Service Roaming cares about...

...always providing appropriate services by...

always monitoring service validity

always knowing which services are available

automatically switching between services

providing a unique view for the user

ensuring transaction integrity

acting as a service itself

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Fundamentals

Service Scope

‚Range of validity'

Multiple dimensions (space, time, temperature, user, ...)

All dimensions together form an n-dimensional space

Scope: field(s) within this space
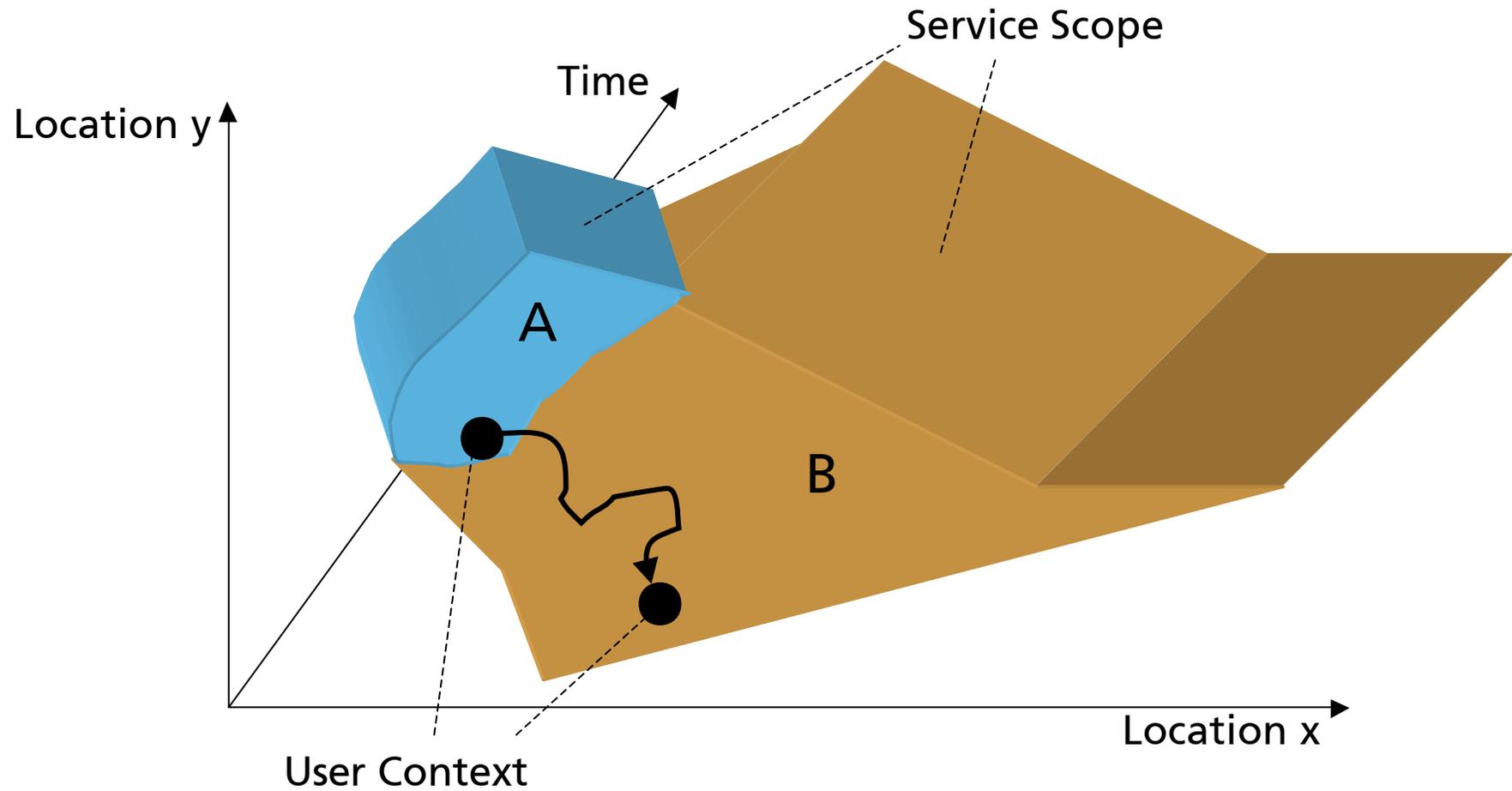
Context

User-Context vs. Request-Context

User-Context: Default

Point in the space

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Scope and Context

Non-functional Properties

Semantically equivalent services may differ in:

       Quality of Service

       Cost

       Privacy policy

       Reliability

       …

Impact to Roaming   Non-functional properties can be considered according to the user's preferences

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Our approach handles (so far...):
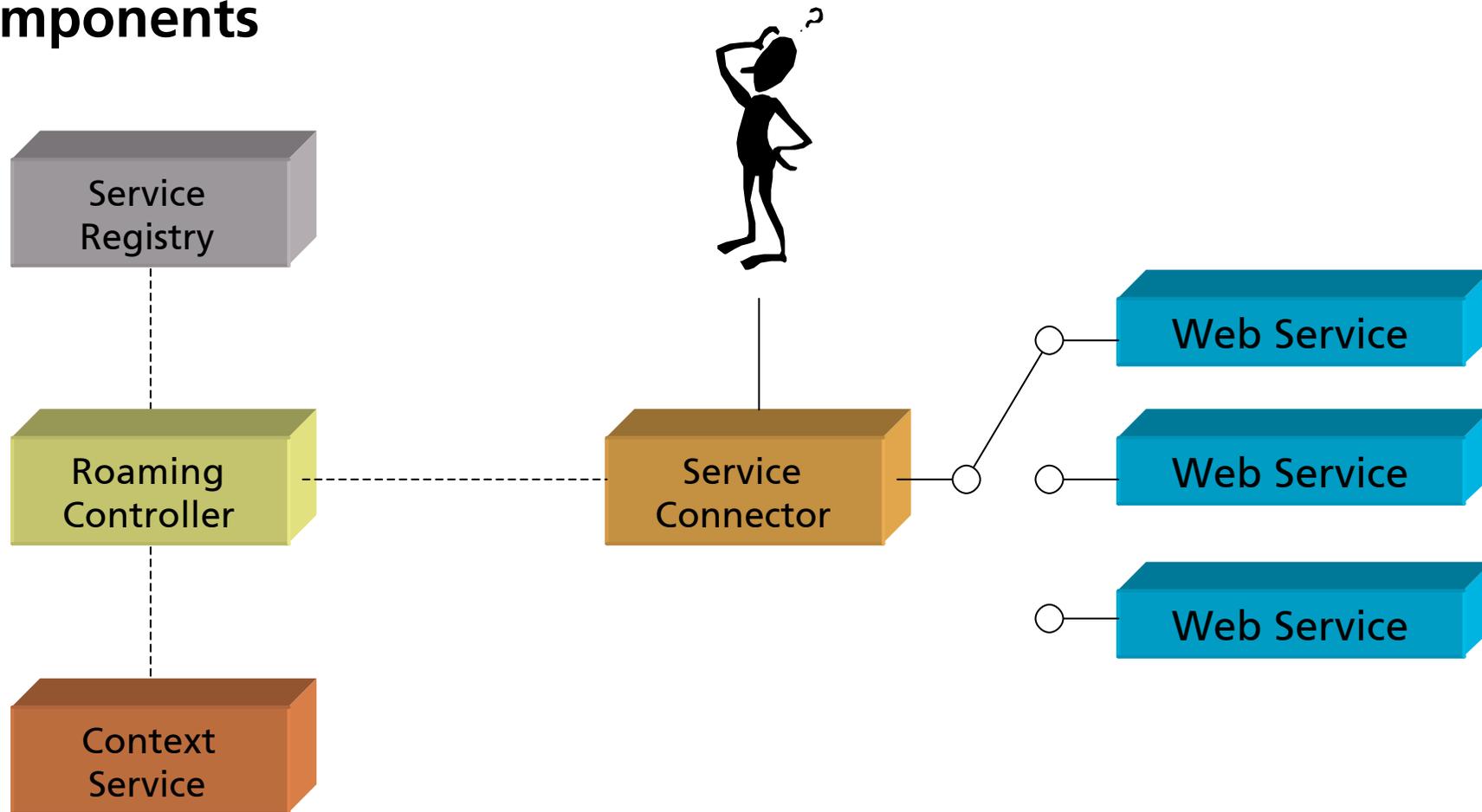
Service types	Active and passive services
	Stateless and transactional services
	Fixed service types
Scope & Context	Decision problem, not optimization problem
Sets of valid services	Aggregation of services
Non-functional Props.	Services with different non-functional properties by user interaction or profile based
Commerce	Commercial impacts are not yet regarded

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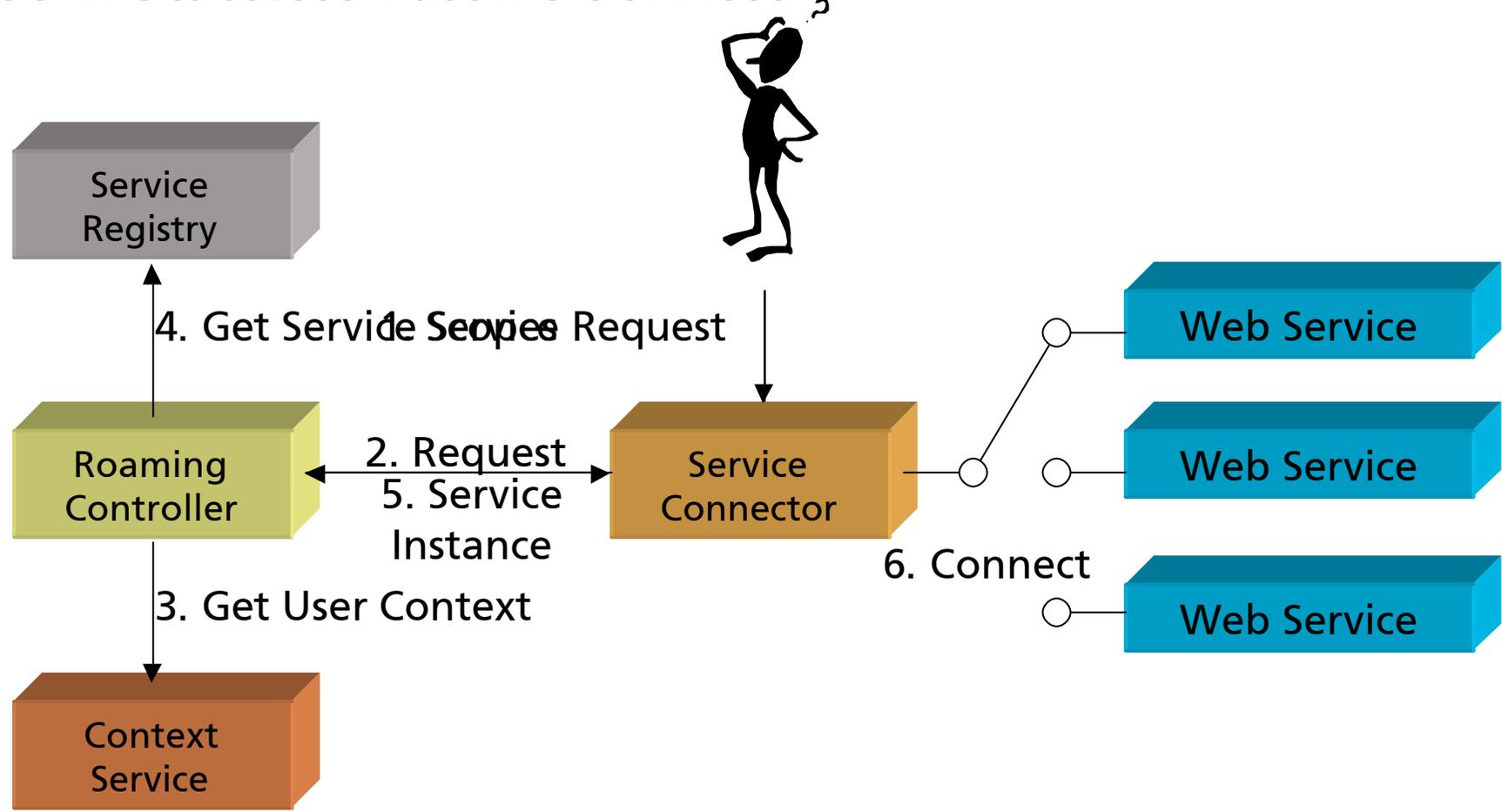Software- und
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And so it works... (for passive services)

Matching
Finding semantically right service roles for the user's demand

Service Connector
A common interface to service instances of the same service role, acting as a single service

Service Roaming
Controlling the service connector

Monitoring service scope and context, detecting context changes
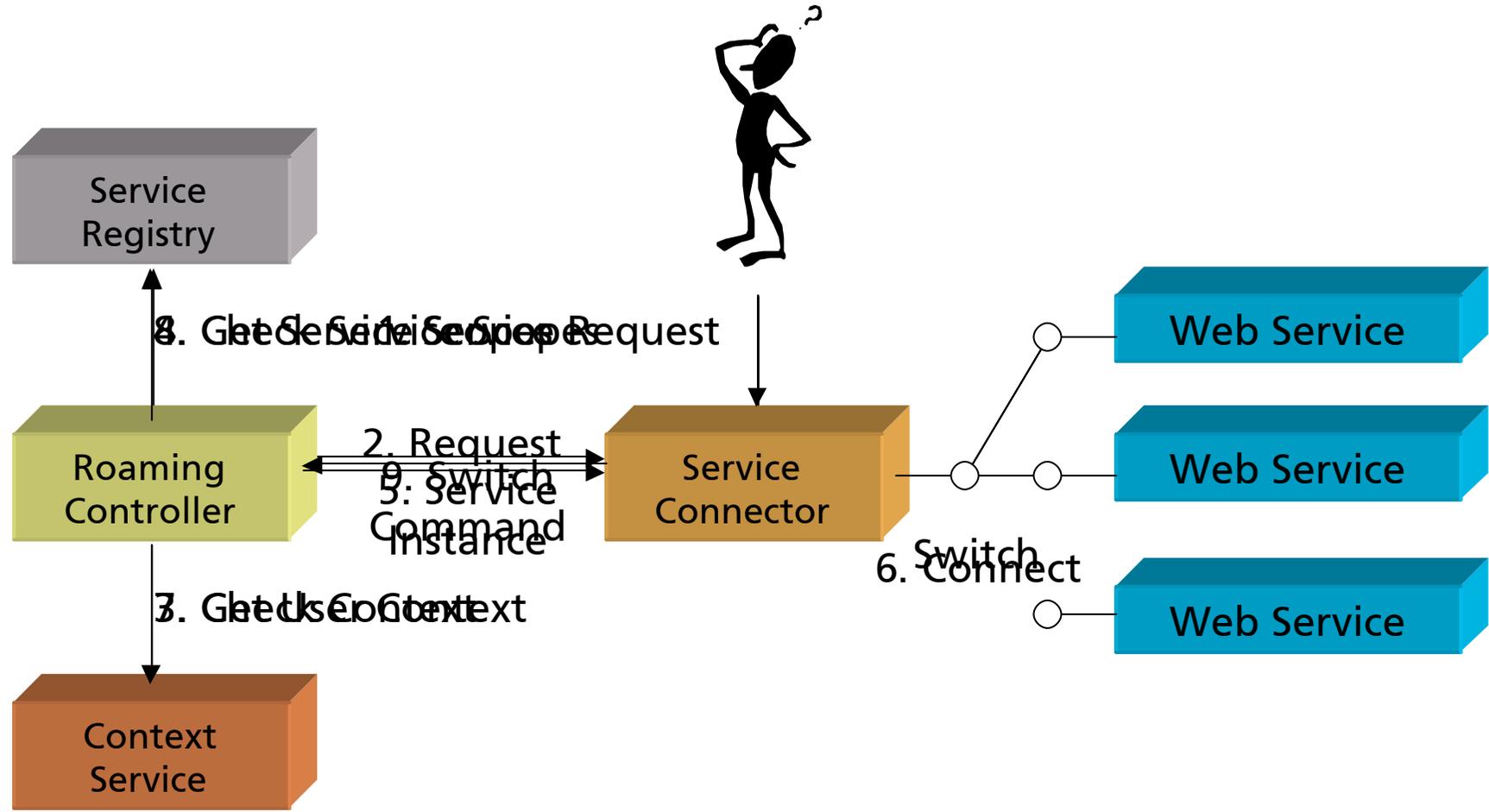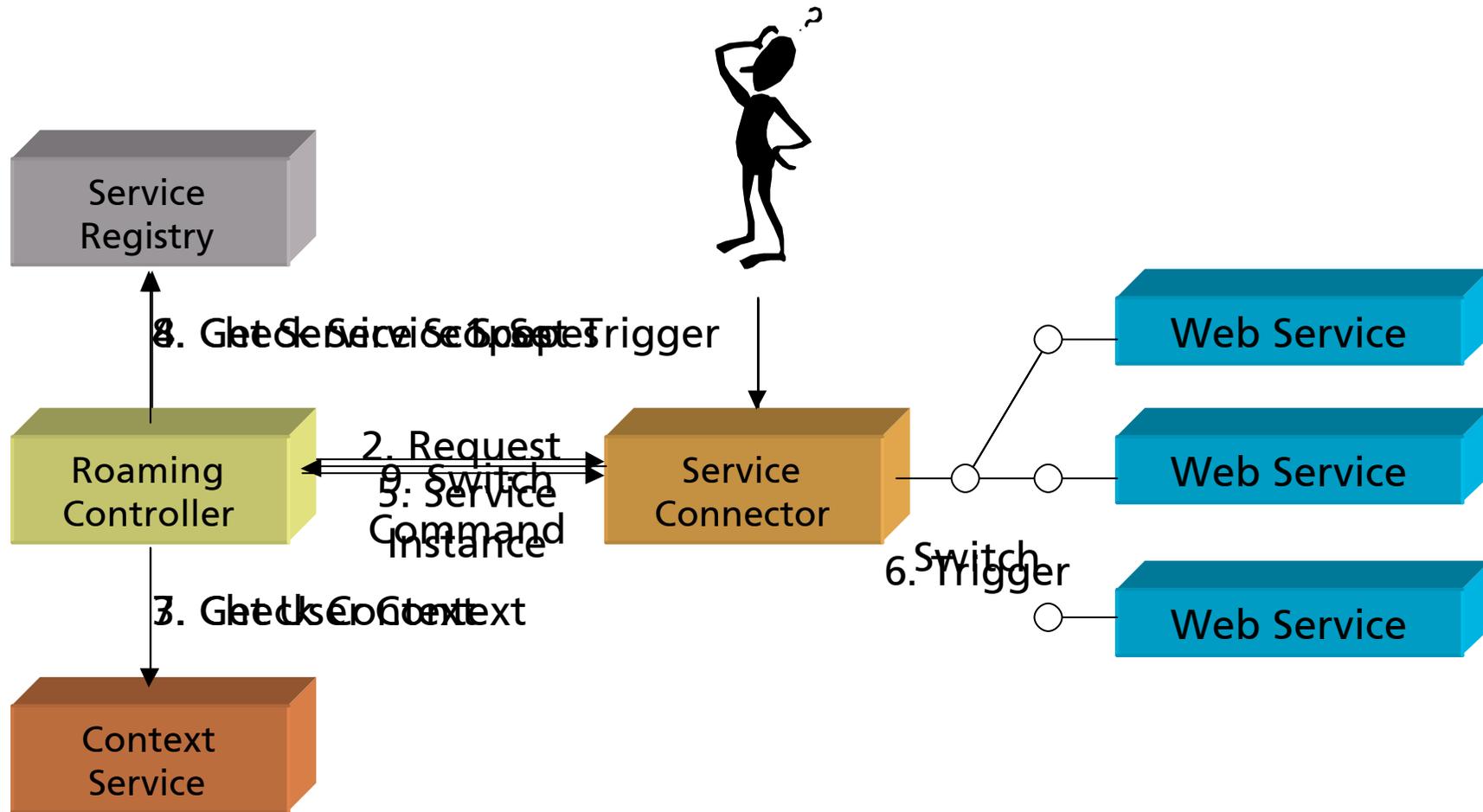
Initiate service changes

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Components

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Case 1: Stateless Passive Services

Case 2: Transactional Passive Services

Case 3: Active Services

Service Registry

Roaming Controller

Context Service

Service Connector

Web Service

Web Service

Web Service

4. Get Service Scope Trigger
8. Check Service Spot

2. Request

9: Switch
5: Service Command Instance

3. Check Context
7. Get User Context

6. Trigger
Switch

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Service changes and what can happen...

Service gets invalid...   and there is one valid service to switch to

                                and there are several valid services to switch to

                                and there is no service to switch to

Service is still valid...   and other services become valid, too

Transactions are running...

...and what about active services?

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Perspectives

Scientific   Optimization of service selection

                        Semantic roaming between different service roles

                        Standardization

                        Commercial roaming concept

Commercial   Ability to provide global services by limited service instances

                        Application provider **?** Service provider

                        Integration of many different content sources

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Thanks for your Attention

...and now your questions, please.

gartmann@do.isst.fraunhofer.de

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