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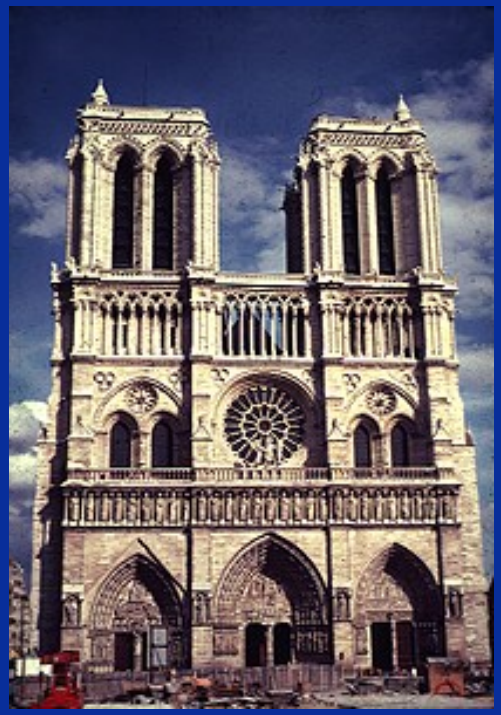
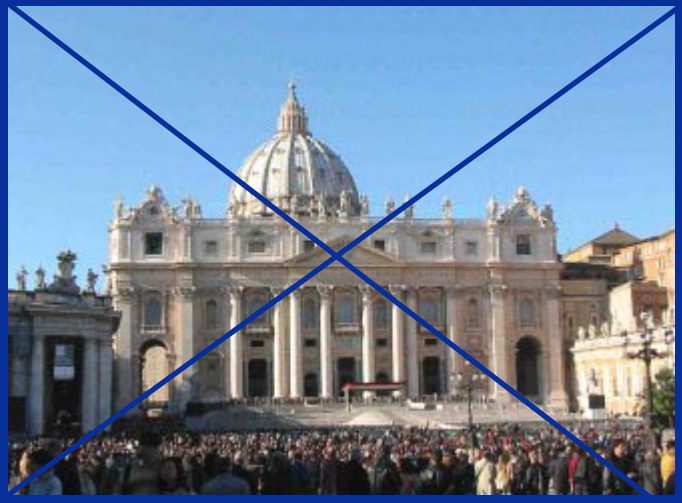
Tjenestearkitektur for morgendagens hjemmenettverk.

Knut Holmqvist
Assisterende Forskningssjef
Norsk Regnesentral

Agenda

- Architectures
- Semantic Web Services
- Home Area Network
- Service Level Agreements





Three levels of Systems Development

- Architecture
  - Technology
  - Materials
  - Tools
  - Esthetic
- Design
  - A Drawing, a Model, ...
  - Limited by technology, materials, tools, ...
- Implementation
  - The Finished Building

Services and SOA

- SOA is an Architecture for Computer Systems
  - As Client Server
- Services
  - Application
- But, then again ...

Services are not Components

- Services solve integration problems
- Components solve programming problems
- Services
  - are not object oriented
  - have document interface
  - are autonomous
  - have behavioral contract with agents
  - are loosely coupled

The Semantic Web

Intelligent software agents roam the internet to do sophisticated things for people.

Very close to a T. B-L quote

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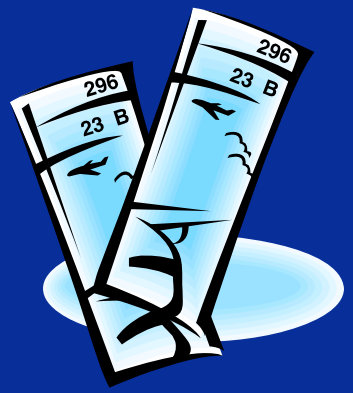
Semantic Web Services
Yield Management Example

What price will an airline charge for a flight ticket?



... and a hotel for a room?

Priser 2006

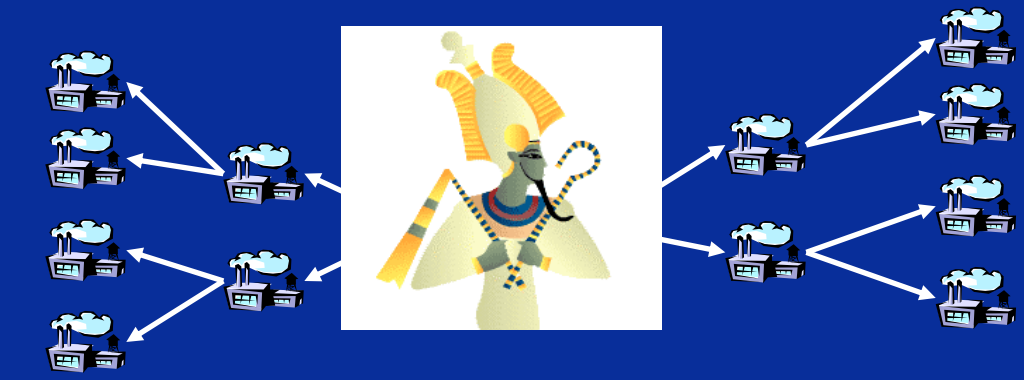
Fjord Pass-priser for hoteller og pensjonater

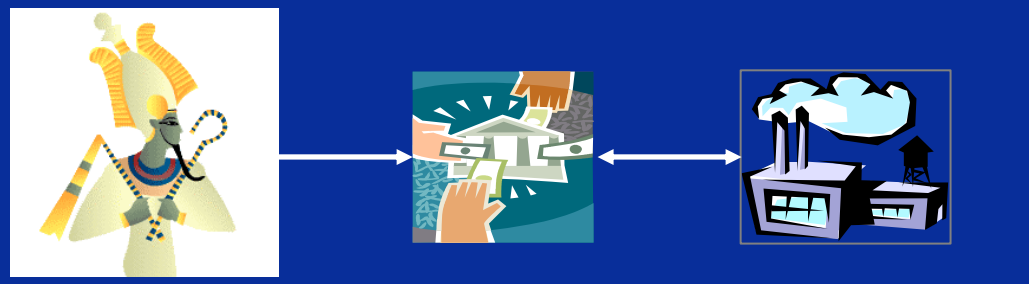
Prisene gjelder for overnatting og frokost pr. person pr. døgn i standard dobbeltværelse.

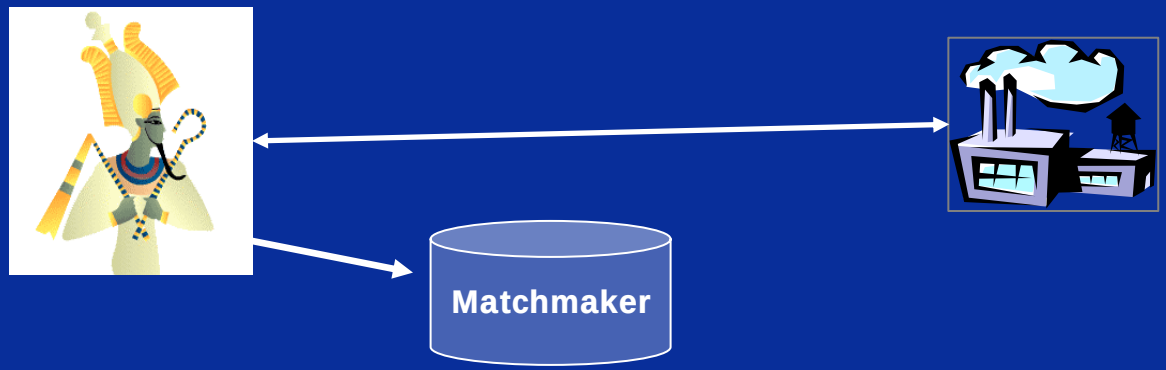
Priskategori	Pr. person i dobbeltrom med dusj/wc	Ekstra seng	Tillegg	Barnerabatter	
			Enkelt værelse	Under 3 år	3 t.o.m. 14 år
A	NOK 290	NOK 150	NOK 180	Gratis	25 % reduksjon på rom pris
B	NOK 340				
C	NOK 390				
D	NOK 445				
E	NOK 525				
F*	fra/til NOK 570-660				

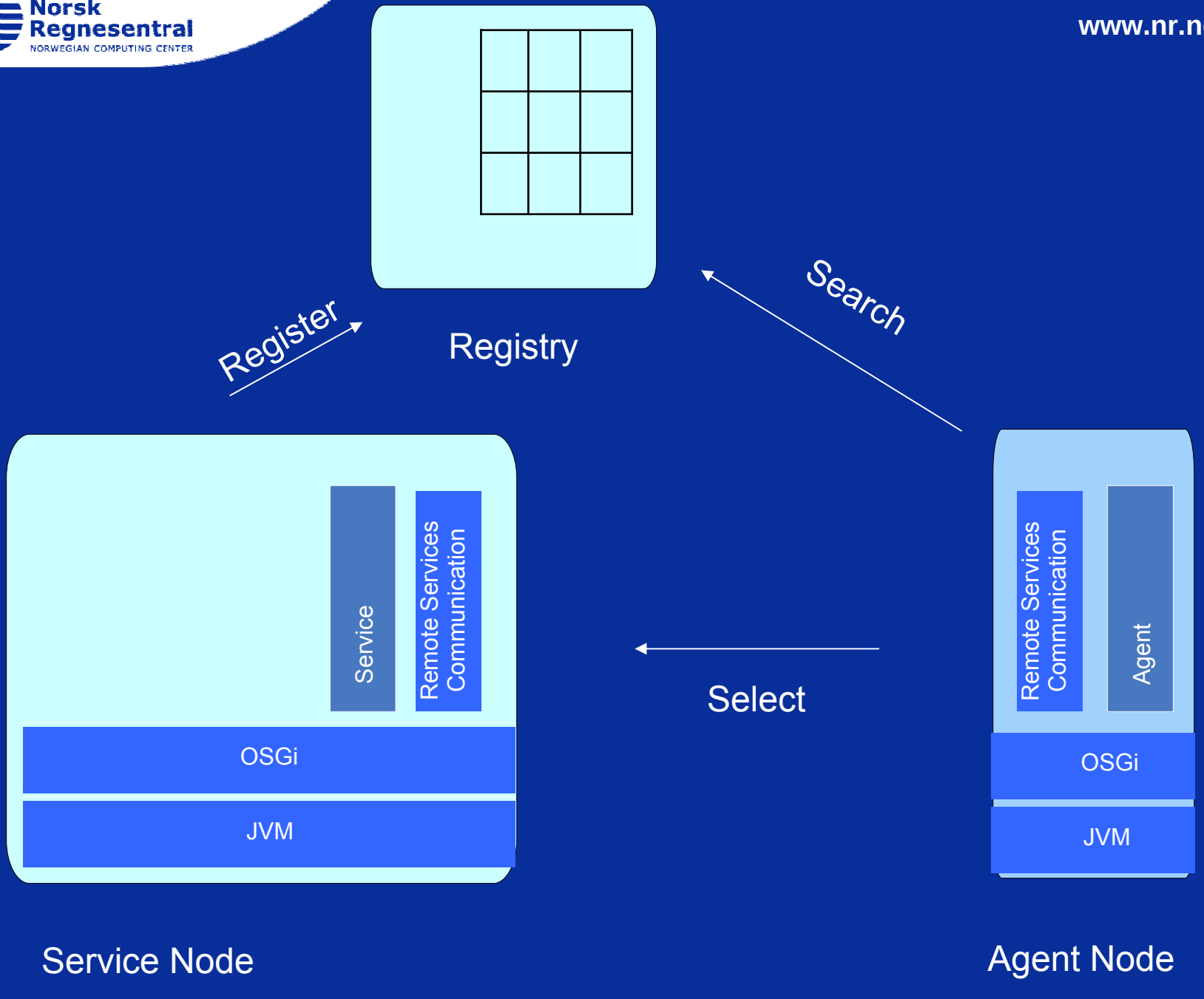
*) Prisene kan variere gjennom perioden.

Three Models of Discovery








Registry
Register
Search
Service
Remote Services Communication
OSGi
JVM
Select
Remote Services Communication
Agent
OSGi
JVM
Service Node
Agent Node

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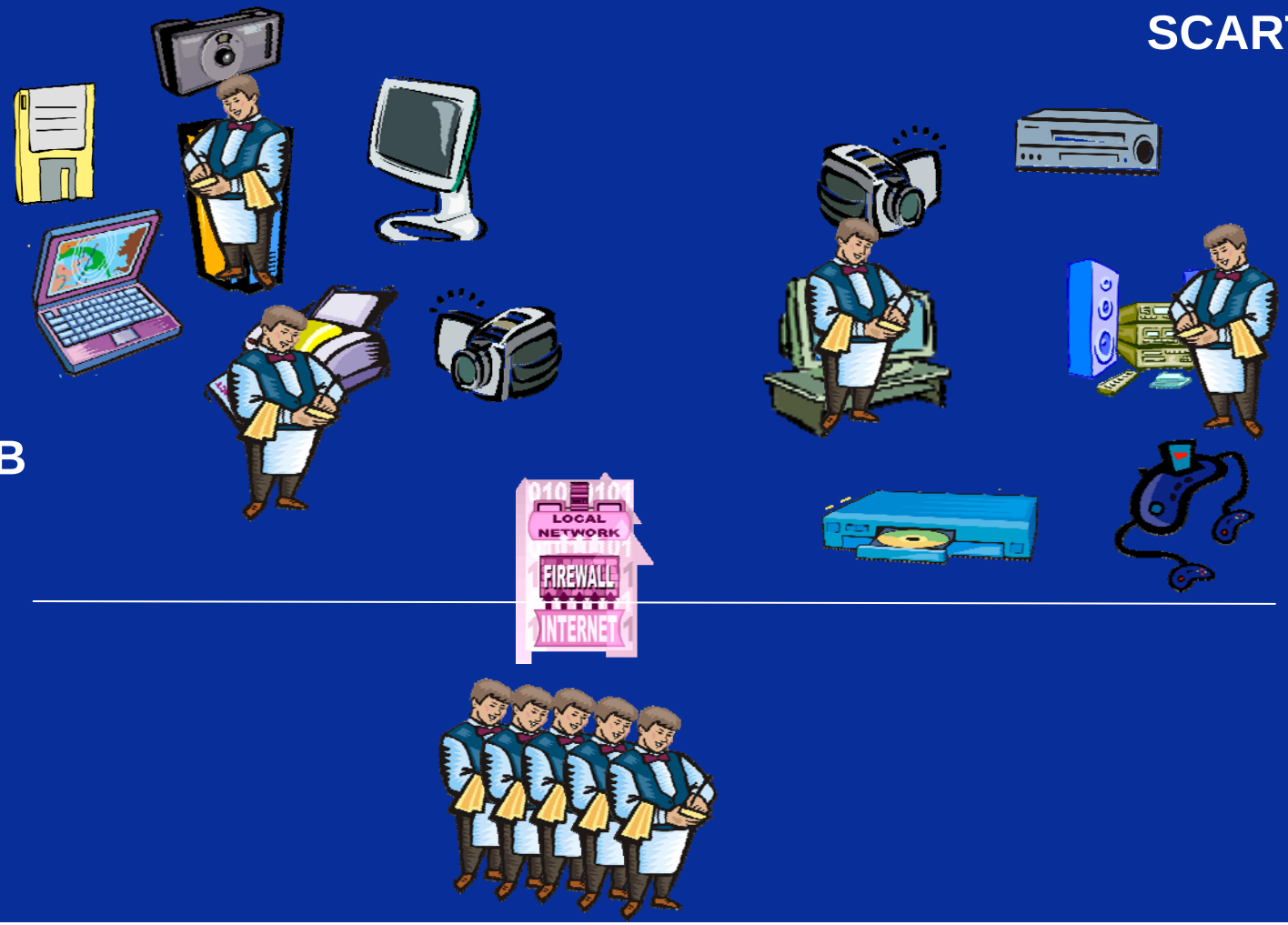
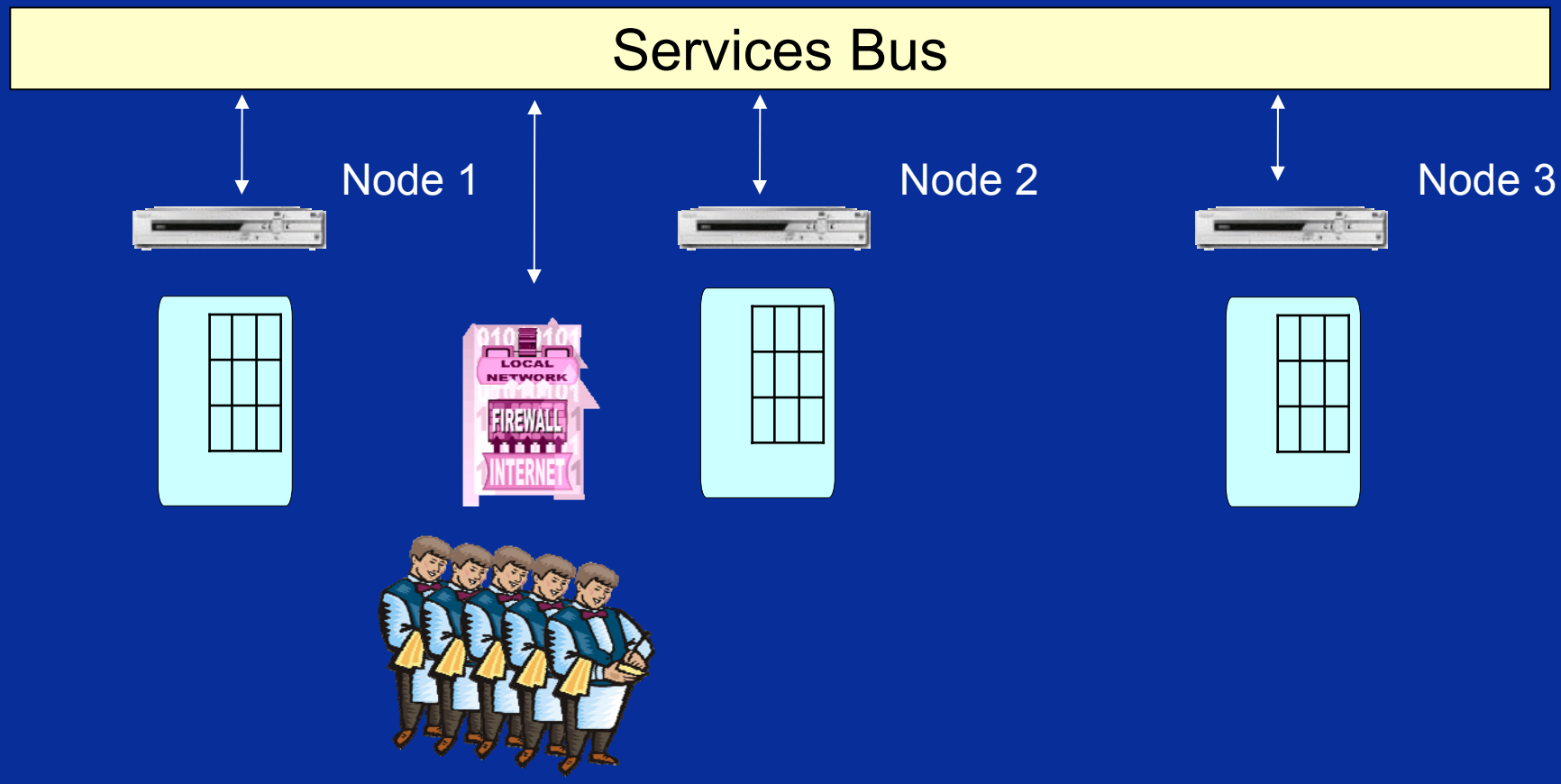
Open Source Infrastructure for Runtime Integration of Services

(OSIRIS)

Home Area Netwok



Telvent Service Bus



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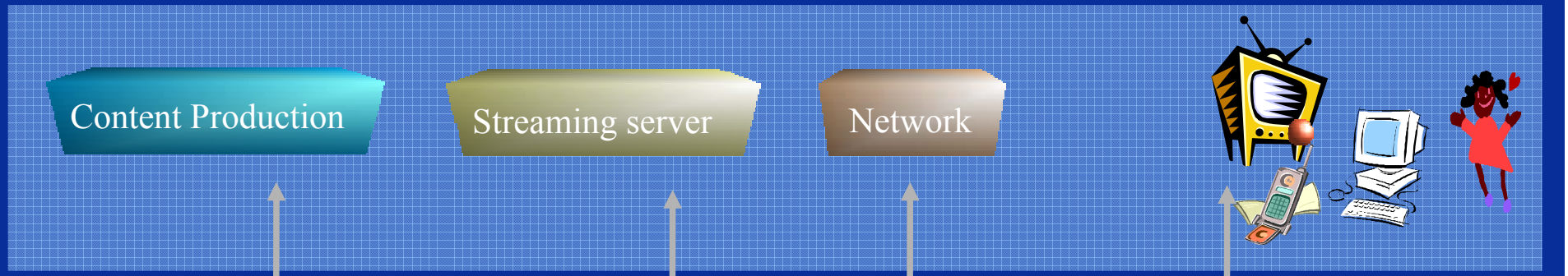
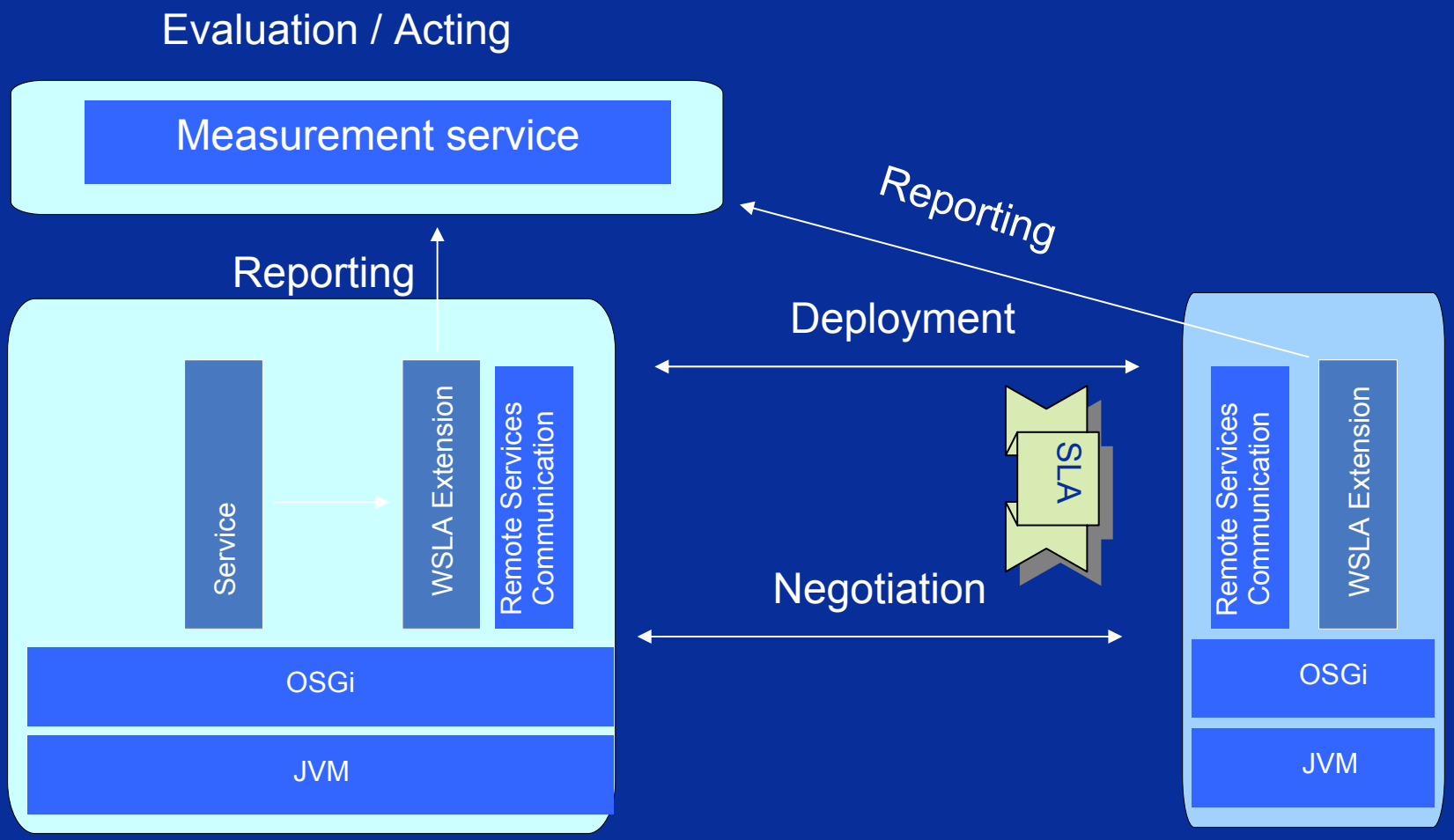
MOVIS

End-to-End Measurement



Content Production	Streaming server	Network	Decoding
Technical quality of original media feed	Streaming server Encoding params Media format	Network	Decoding User equipment
Original quality	Server dependent Encoding dependent	Technical QoS	Perceived QoS Network Encoding
Define reference for max. available QoS	Measure encoding QoS Mapping to potentially perceived QoS without network	Measure technical QoS Mapping to potentially perceived QoS without coding	Measure technical QoS Mapping to Perceived QoS

WSLA-Extension in OSIRIS



Summary

- Architectures
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- Service Level agreements

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Thank you