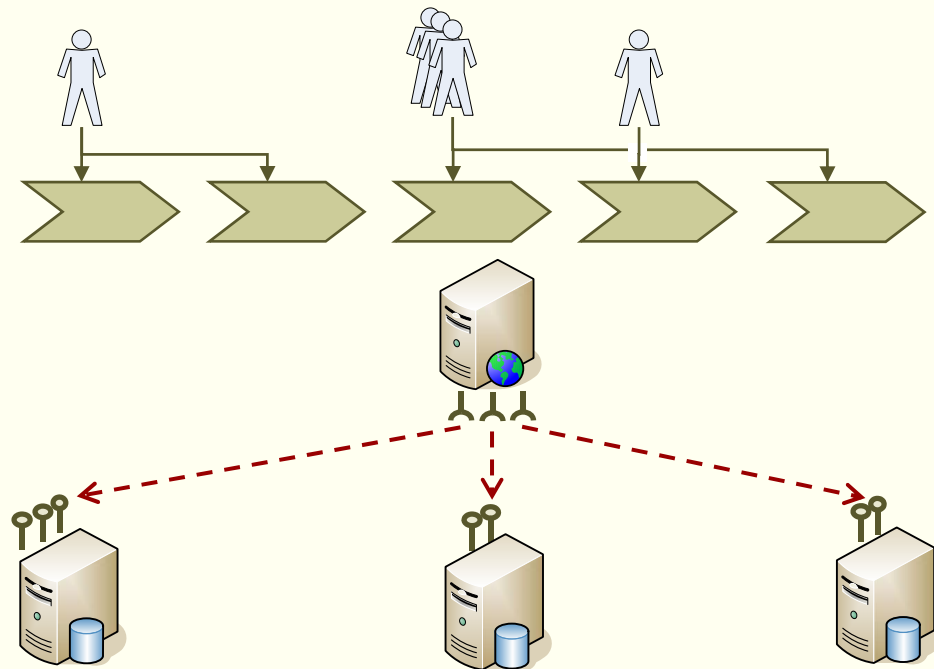




Composition of SOA based Applications



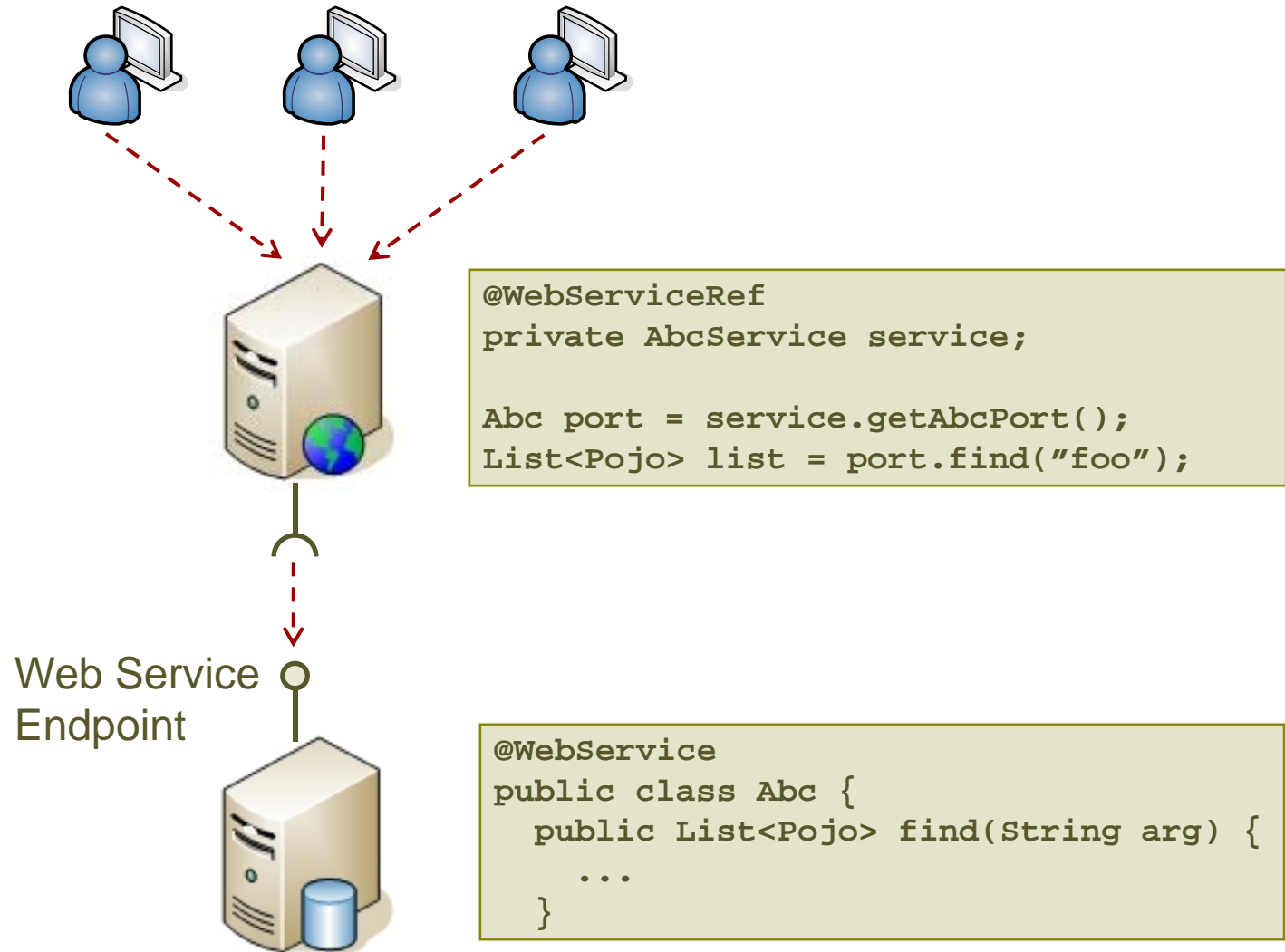
2008-01-23

Magnus Larsson

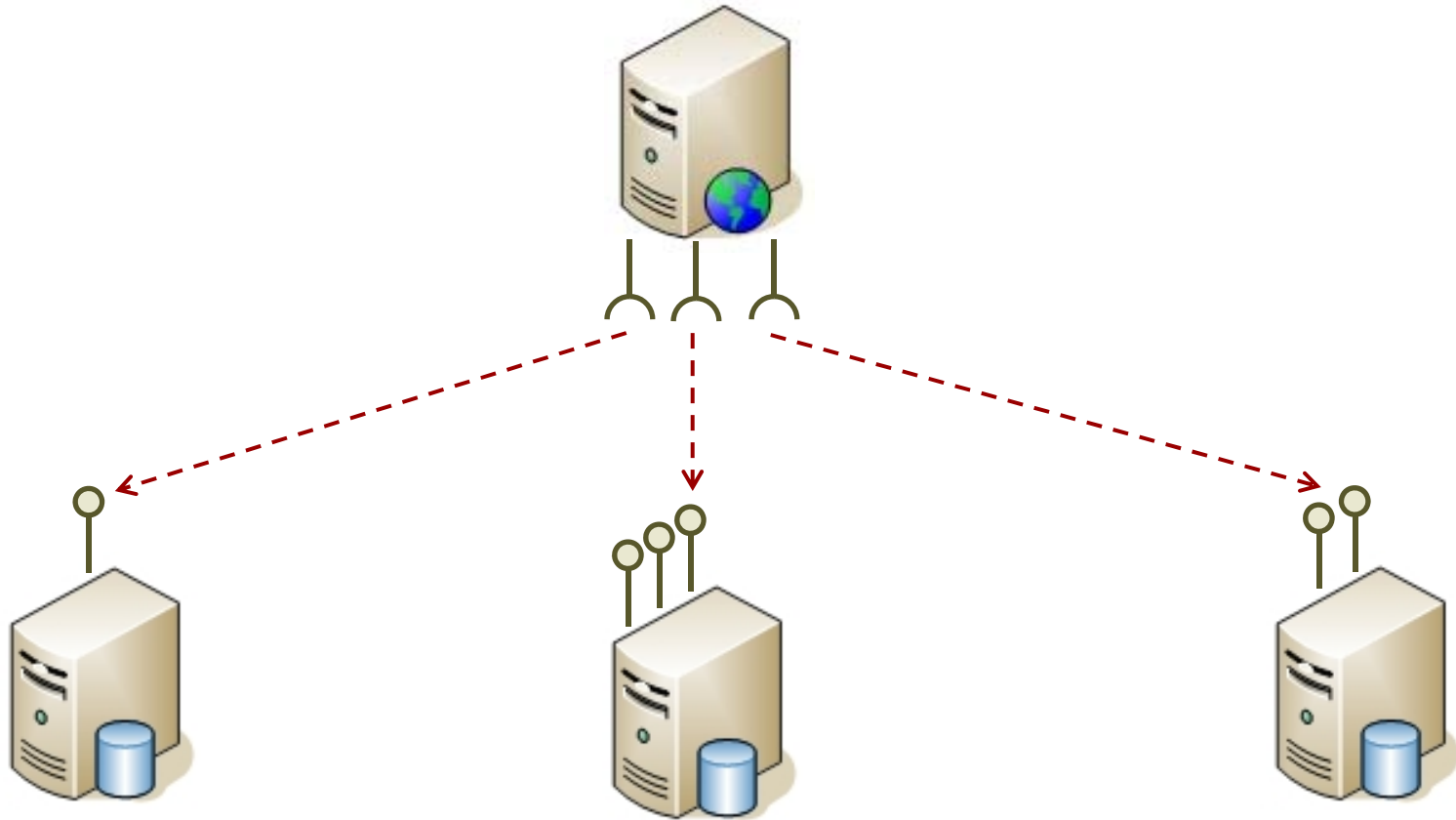
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- Introduction
- Provisioning of stable core services
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- Summary

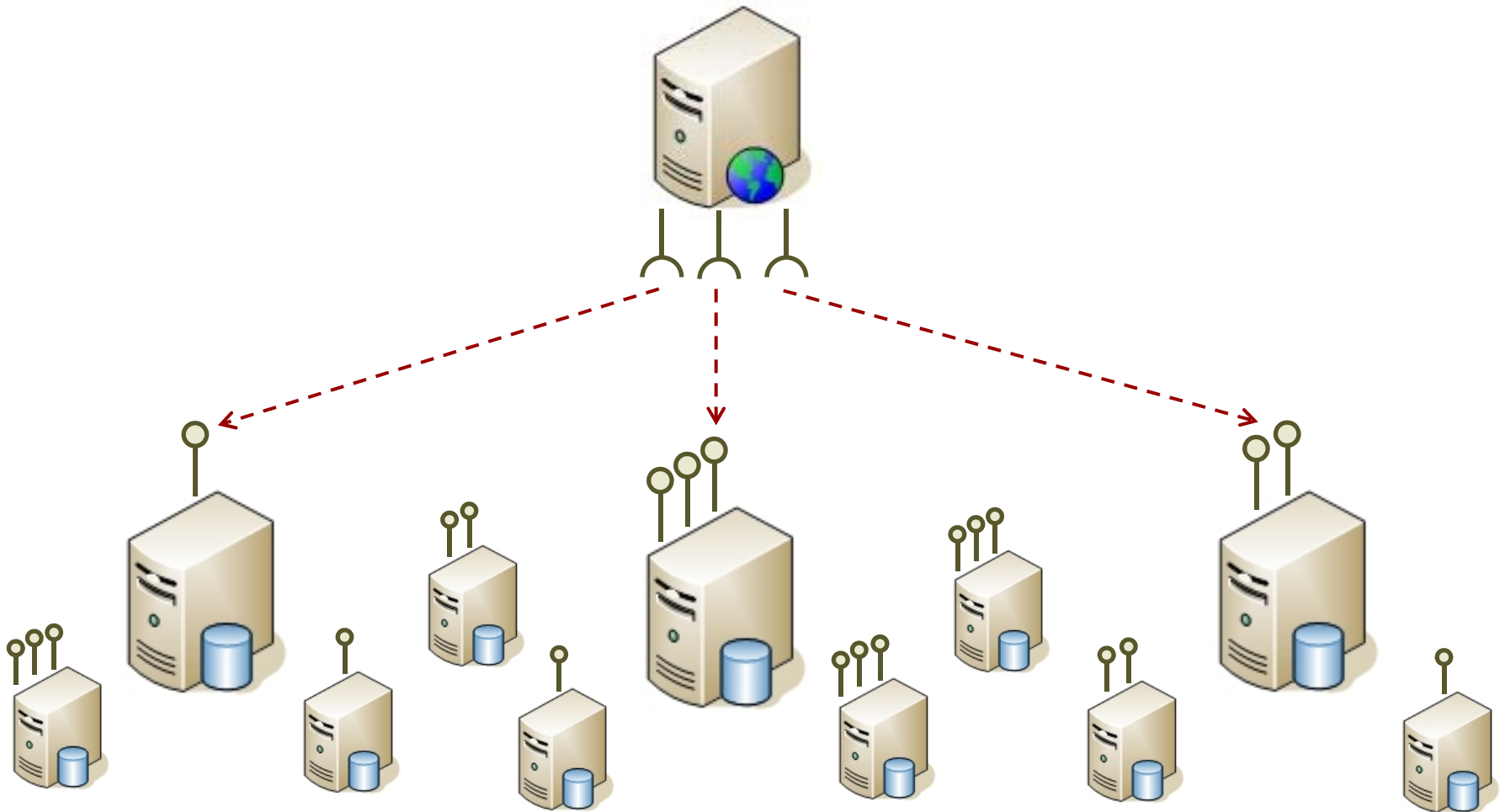
Providing one Service is easy...



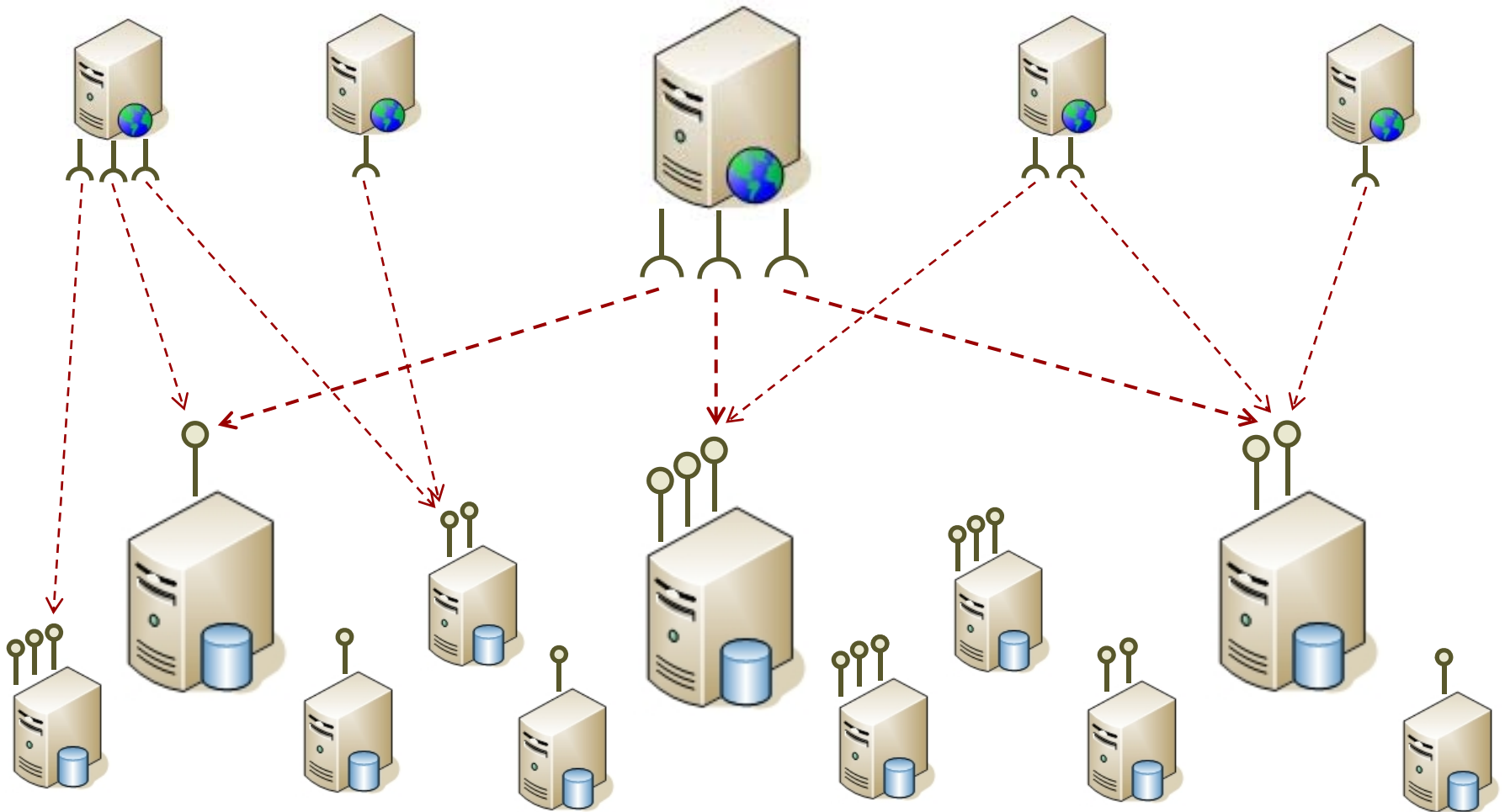
Upscaled provisioning gives some concerns...



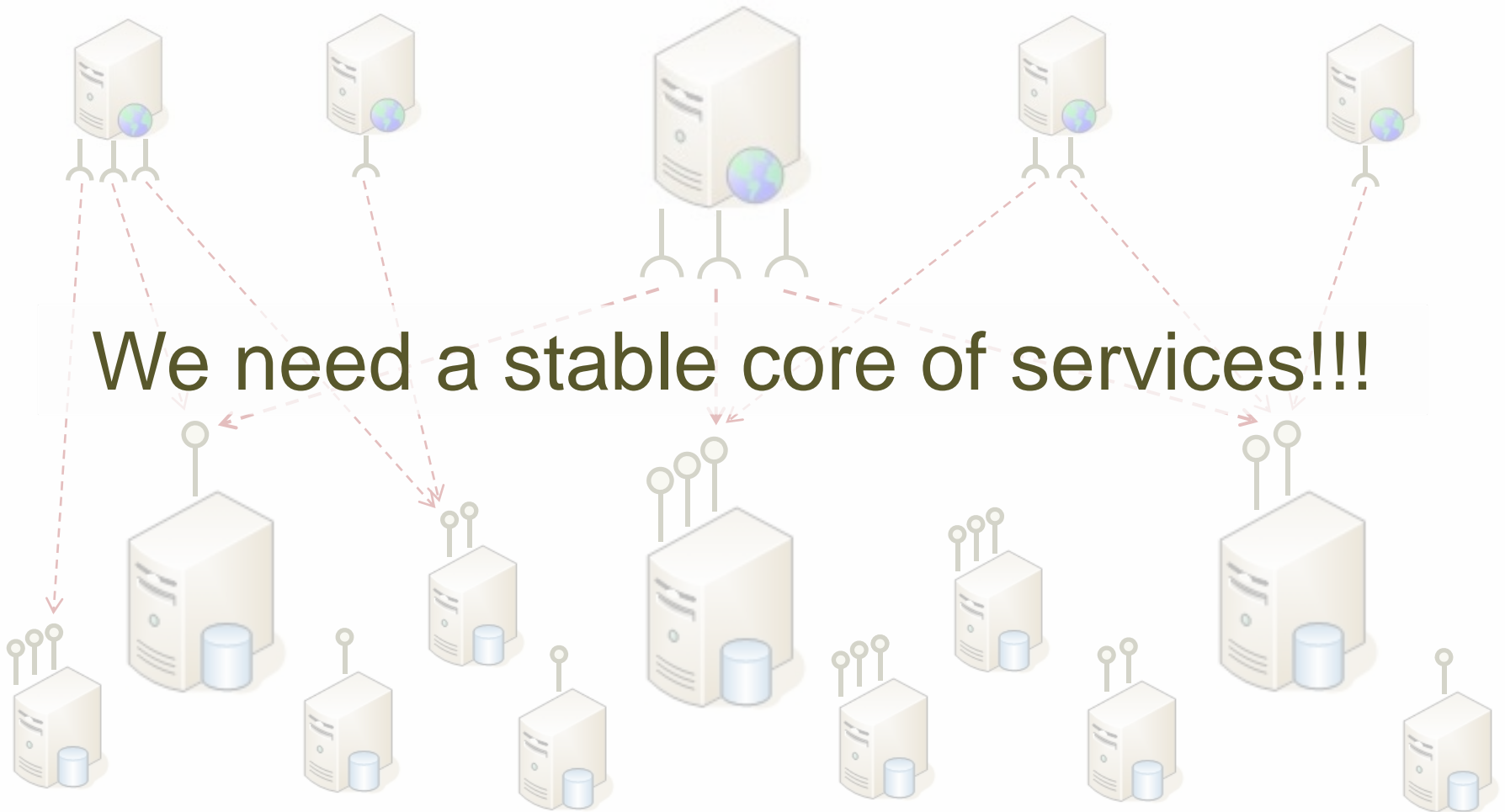
Upscaled provisioning gives some concerns...



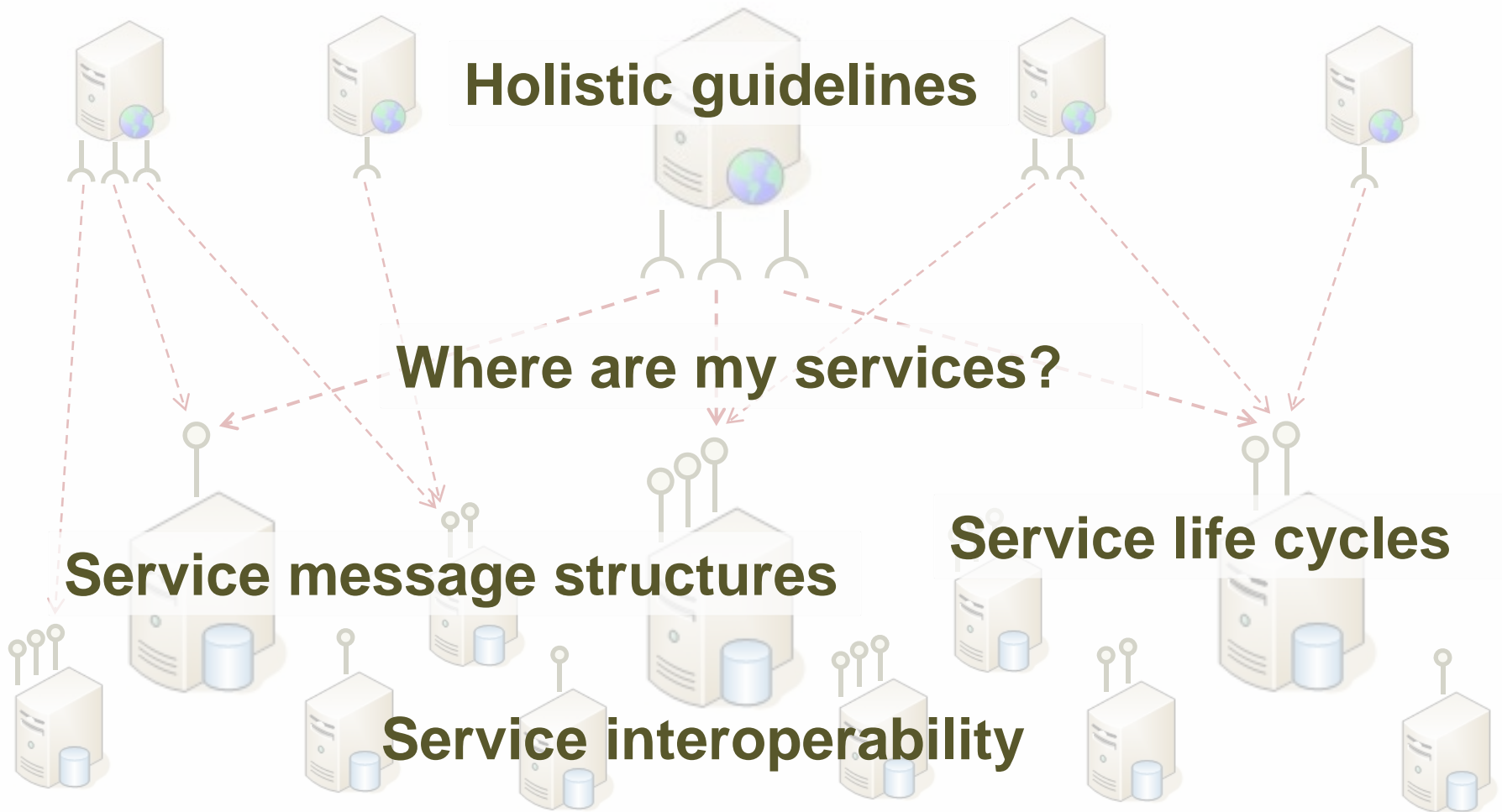
Upscaled provisioning gives some concerns...



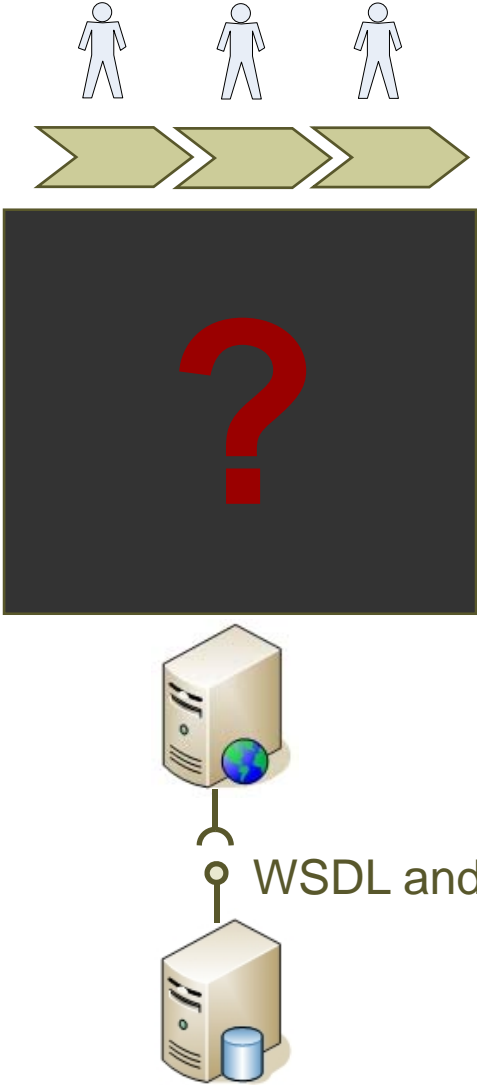
Upscaled provisioning gives some concerns...



Stable core services challenges...



How to bring the values of SOA to the End Users?



- End Users expects:
- 1. Fast development of new GUI
 - 2. Quick adoption to changes in business processes
- ⇒ **Agile development of Composite Applications**

Sample application - SOA Technology

- Seeking for innovation on how SOA can meet the End Users...
...we found one vendor driving innovation in this area

Sample application - SOA Technology

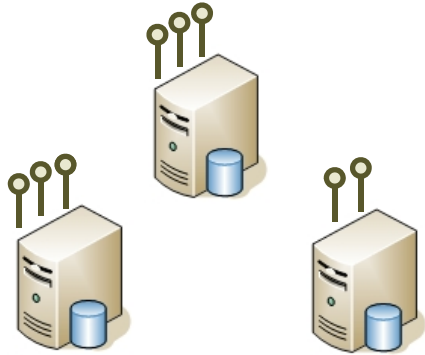
- Seeking for innovation on how SOA can meet the End Users...
 - ...we found one vendor driving innovation in this area
- ...that is SAP
 - SAP NetWeaver Composition Environment (CE) 7.1
 - Built on top of Java EE 5.0
 - Tooling based on Eclipse 3.3
 - Support for the latest WS-* specs
 - Contains tools in all layers supporting agile development of composite applications based on a stable core of services
- Conceptual demonstrations will be based on SAP NW CE 7.1

Agenda

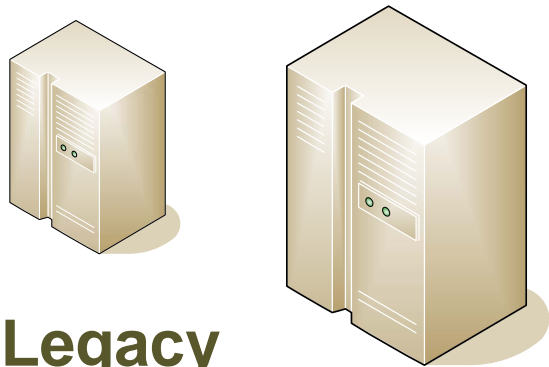
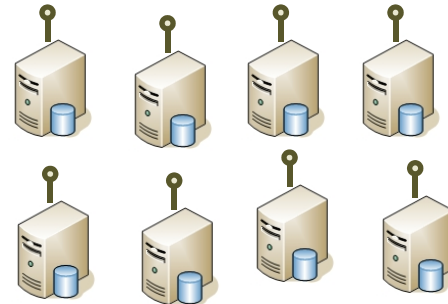
- Introduction
- **Provisioning of stable core services**
 - 1. Service interoperability**
 2. Service message structures
 3. Service life cycles
 4. Where are my services?
 5. Holistic guidelines
- Agile composition of service based applications
- Summary

1. Interoperability in a heterogeneous environment

Java EE

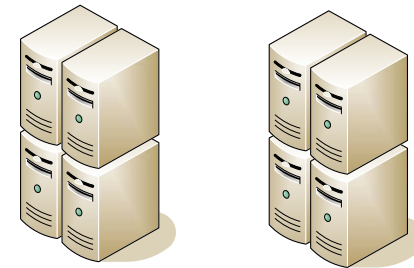


MS .Net



Legacy

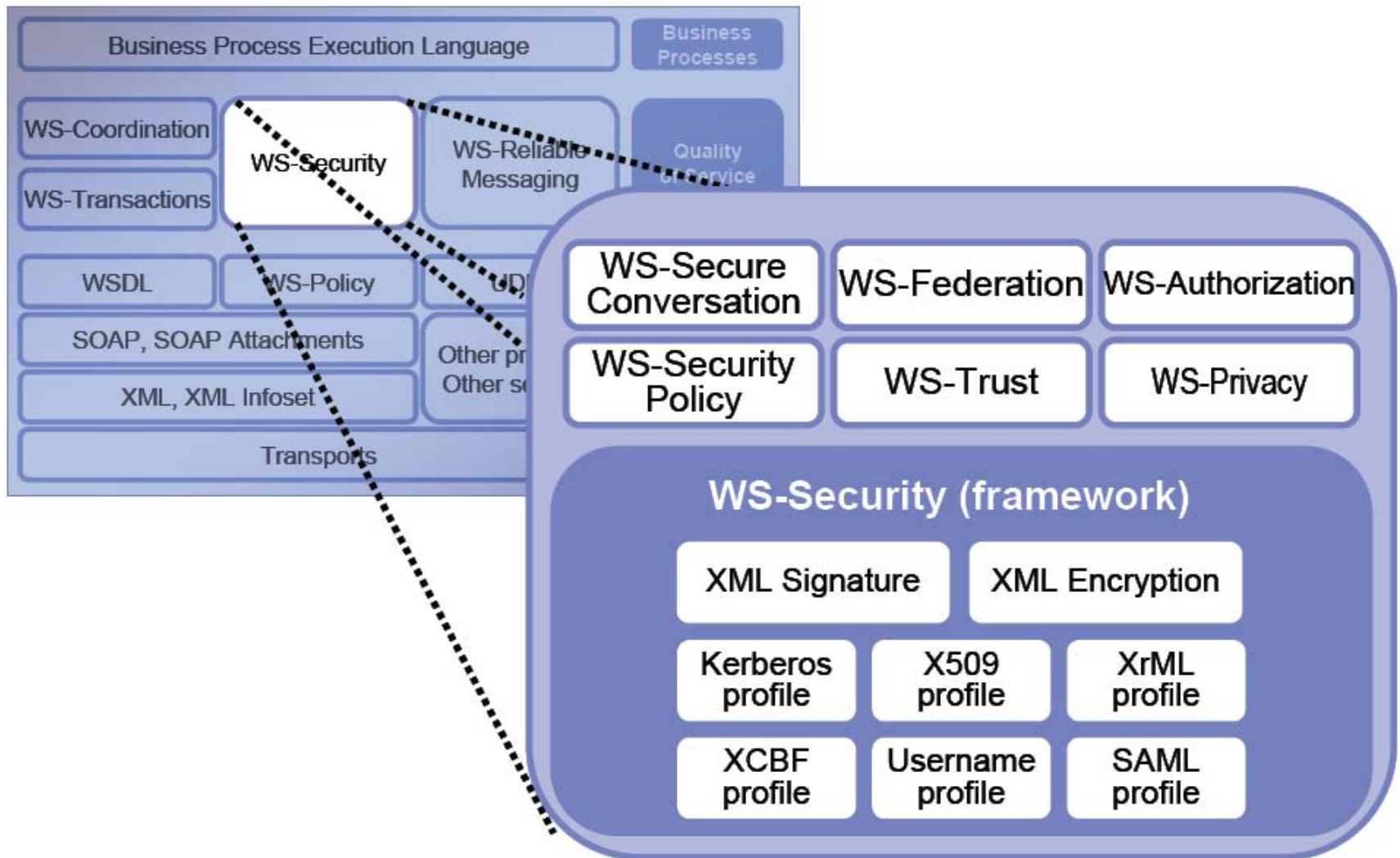
IBM iSeries and z/OS



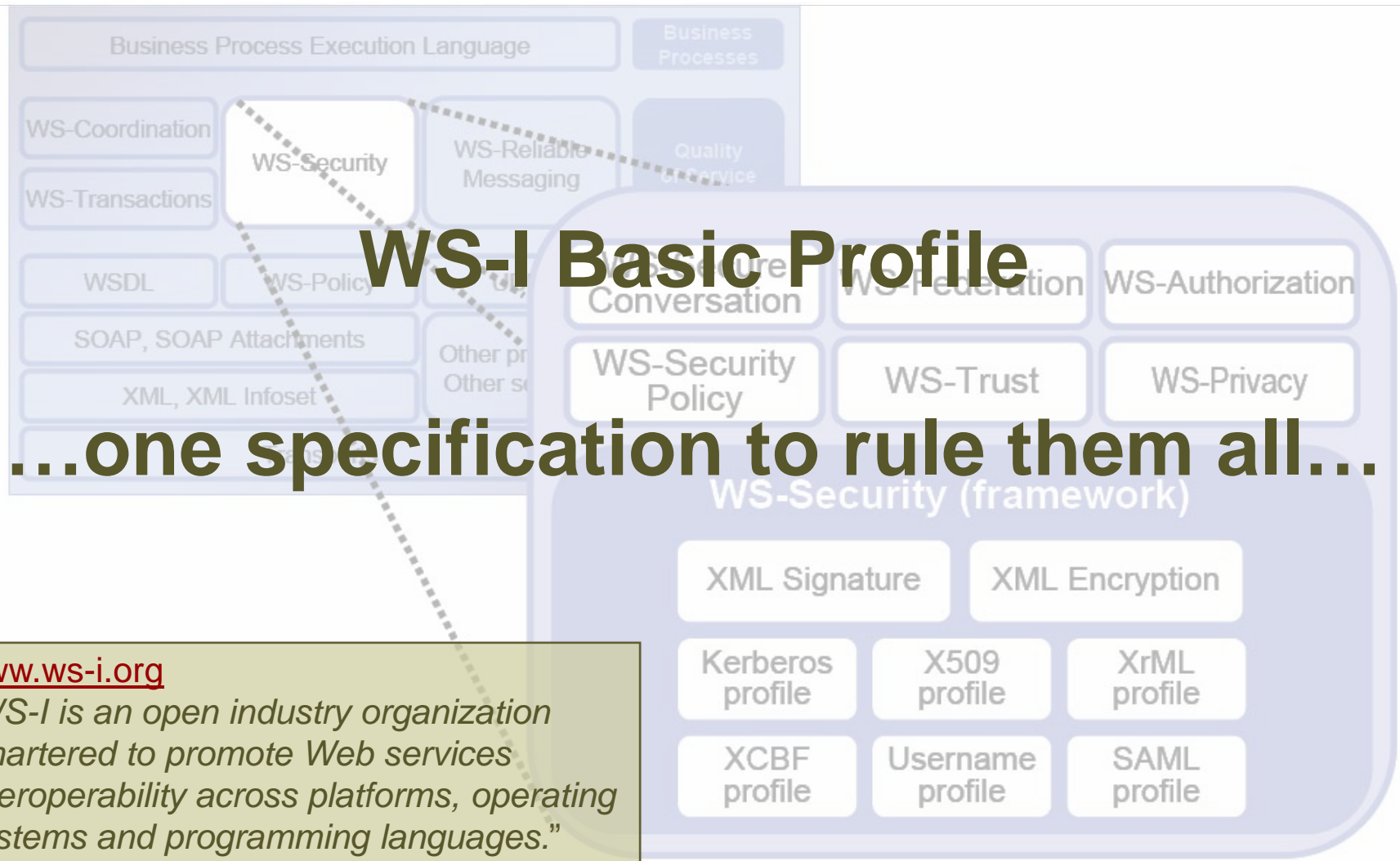
COTS

SAP, Siebel, JD Edwards...

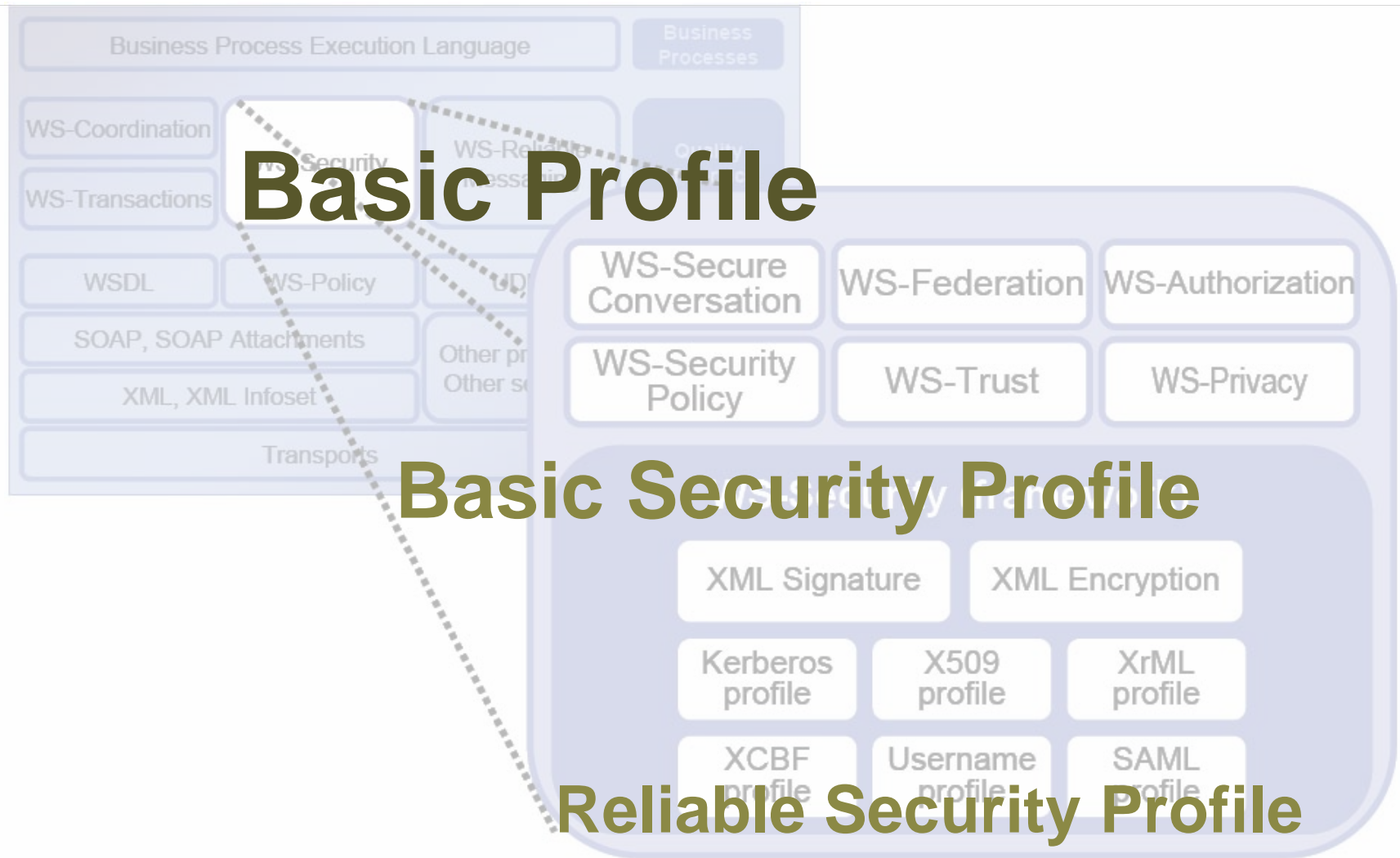
1. WS – Death Star...



1. WS – Death Star...



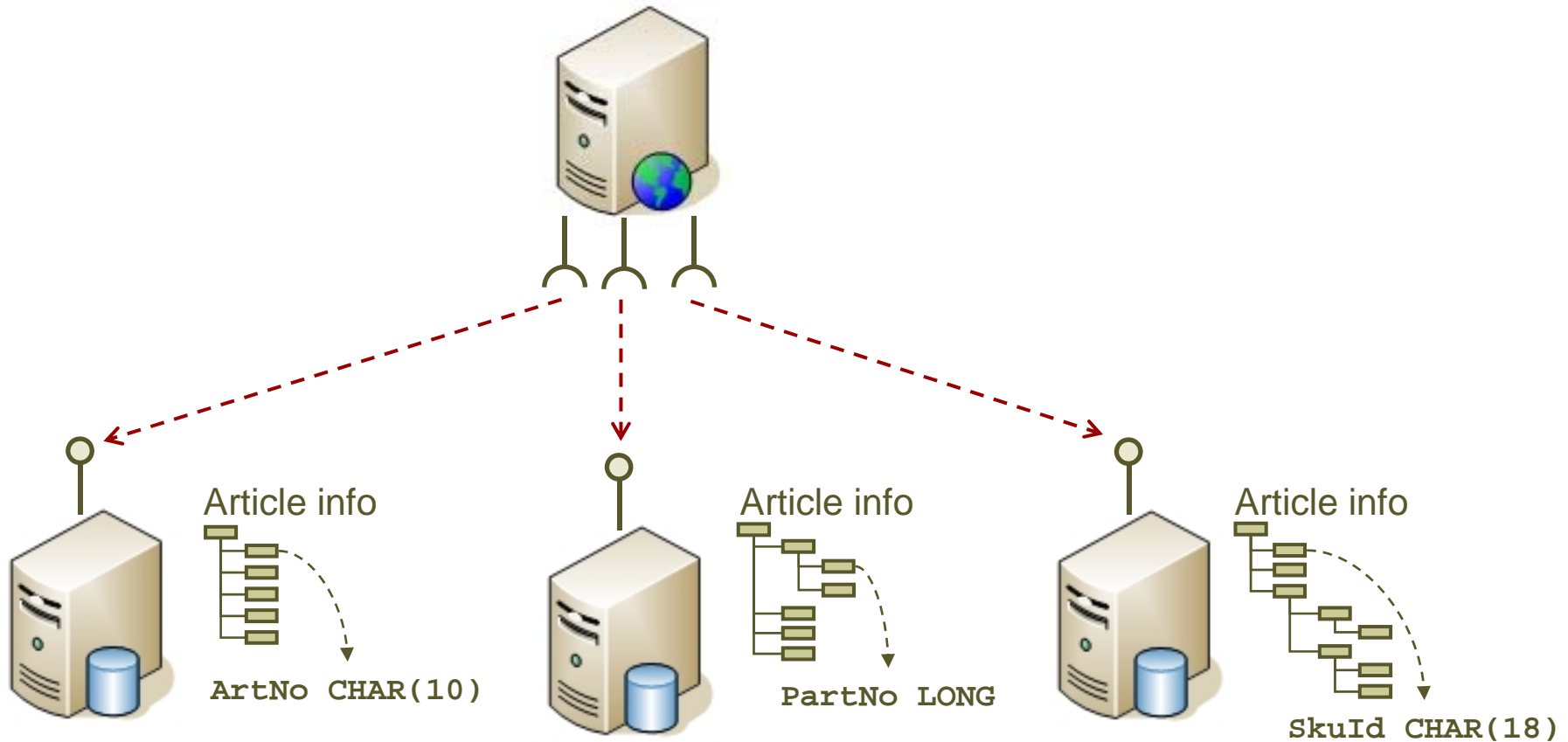
1. WS – I profiles



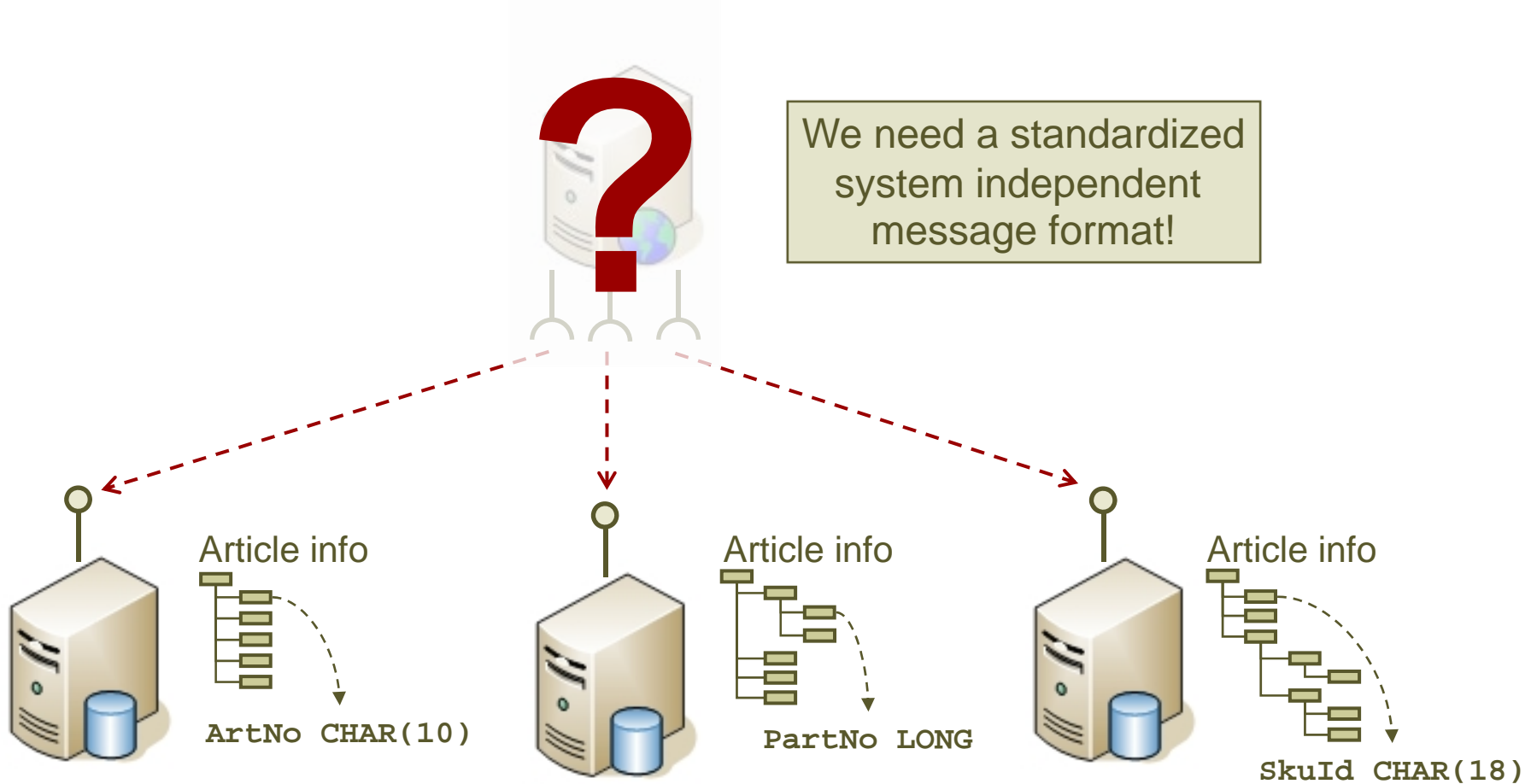
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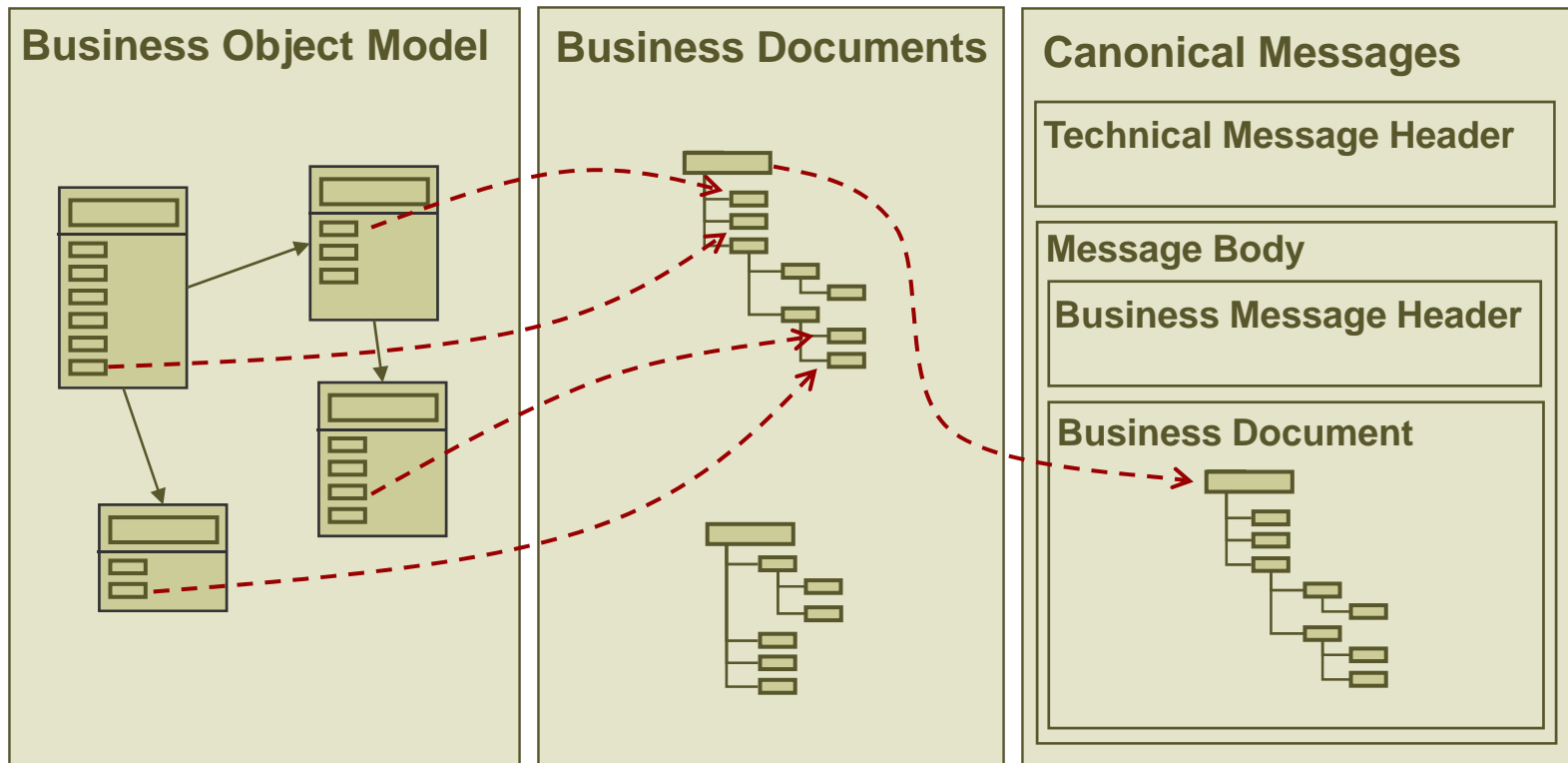
2. Service message structures



2. Service message structures



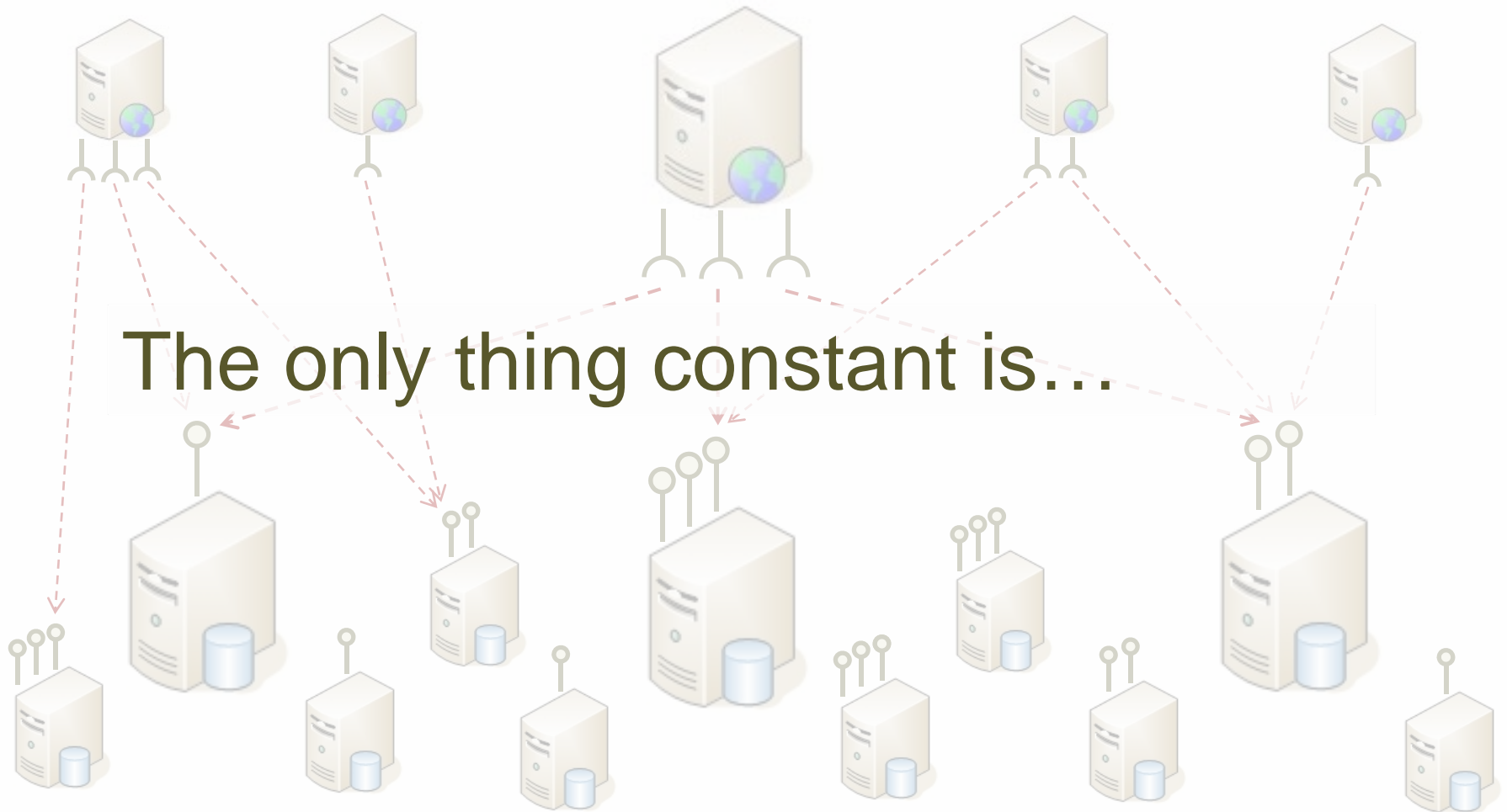
2. Canonical Message Formats



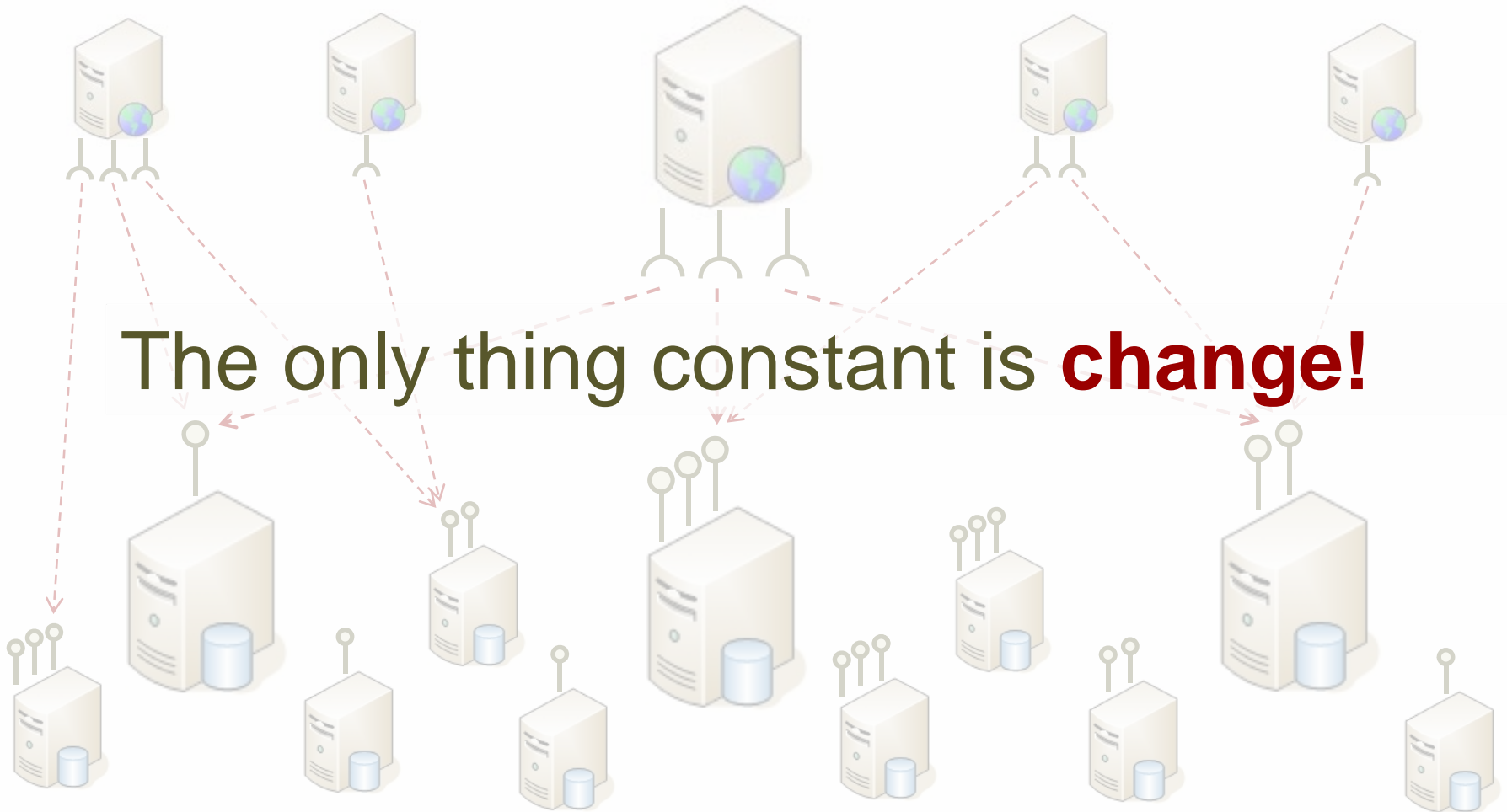
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3. Service life cycles



3. Service life cycles



3. Service life cycles

- Services needs to evolve and change over time
 - Requires new versions of services
 - Both backward compatible and non-compatible versions
- Important to establish a common version policy for services
 - Canonical Message Formats can provide a common solution

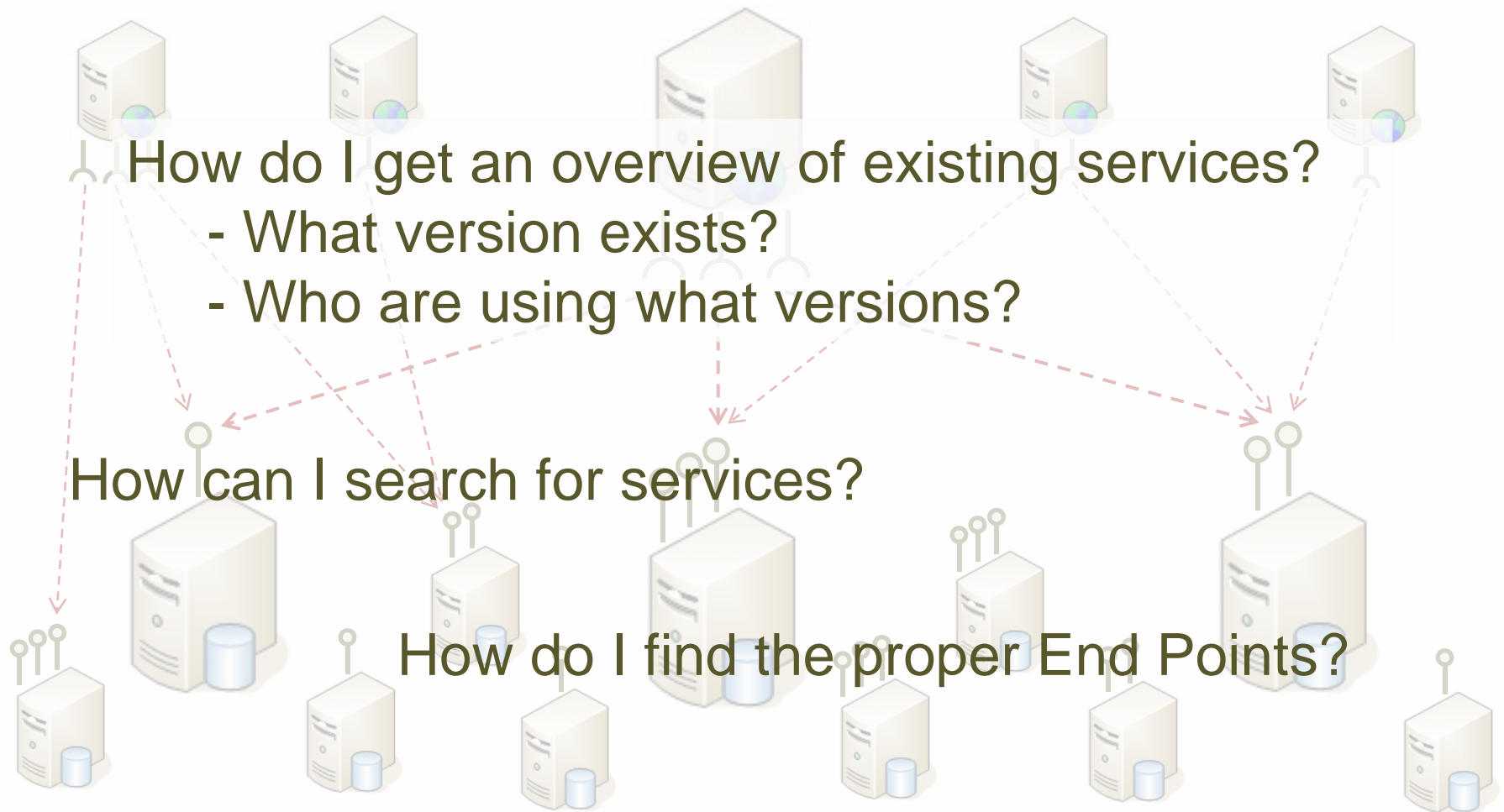
NOTE: Sample XML mechanisms to use in WSDL

- XML Schema Any - elements to define “extension points”
- Version number in XML namespaces

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4. Where are my services?

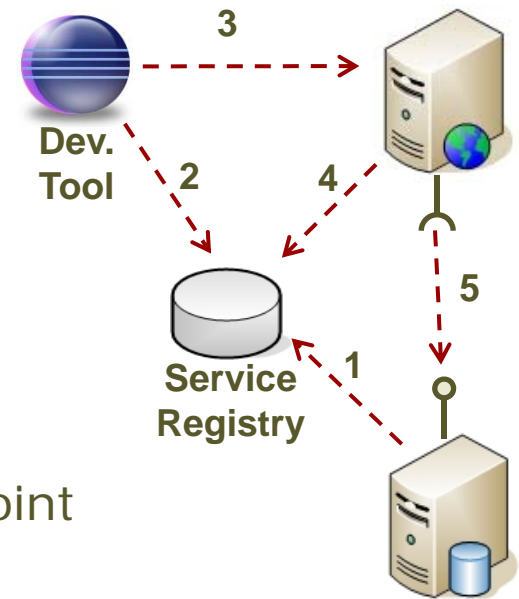


4. Service Registry

- A central repository for discovery and governance of services

- Development – Service Consumption
 - Development tool typically integrate with Service Registry to create client proxies

- Run Time – Deployment Information
 - Client proxies uses the Service Registry in runtime to lookup the actual service End Point



- Standards: UDDI and WSIL

- **DEMO:** Create a Web Service proxy using the Service Registry!

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5. Holistic guidelines

- SOA Governance
 - Central organization that guide and support the usage of SOA
 - Context given by existing Enterprise Architecture
- Promotes
 - Business value of SOA benefits
 - Proper use/re-use of services
 - Safeguard SOA projects
 - Accelerate learning curve

“Governance refers to the processes an enterprise puts in place to make sure things are done right — that is, in accordance with best practices, architectural principles, legal and industry regulations and other factors.”

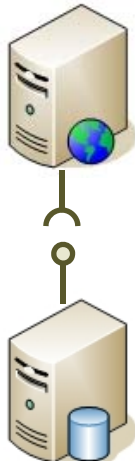
“SOA Governance refers to the process used to govern adoption and implementation of SOA”

- Anne Thomas Mannes, Burton Group

Agenda

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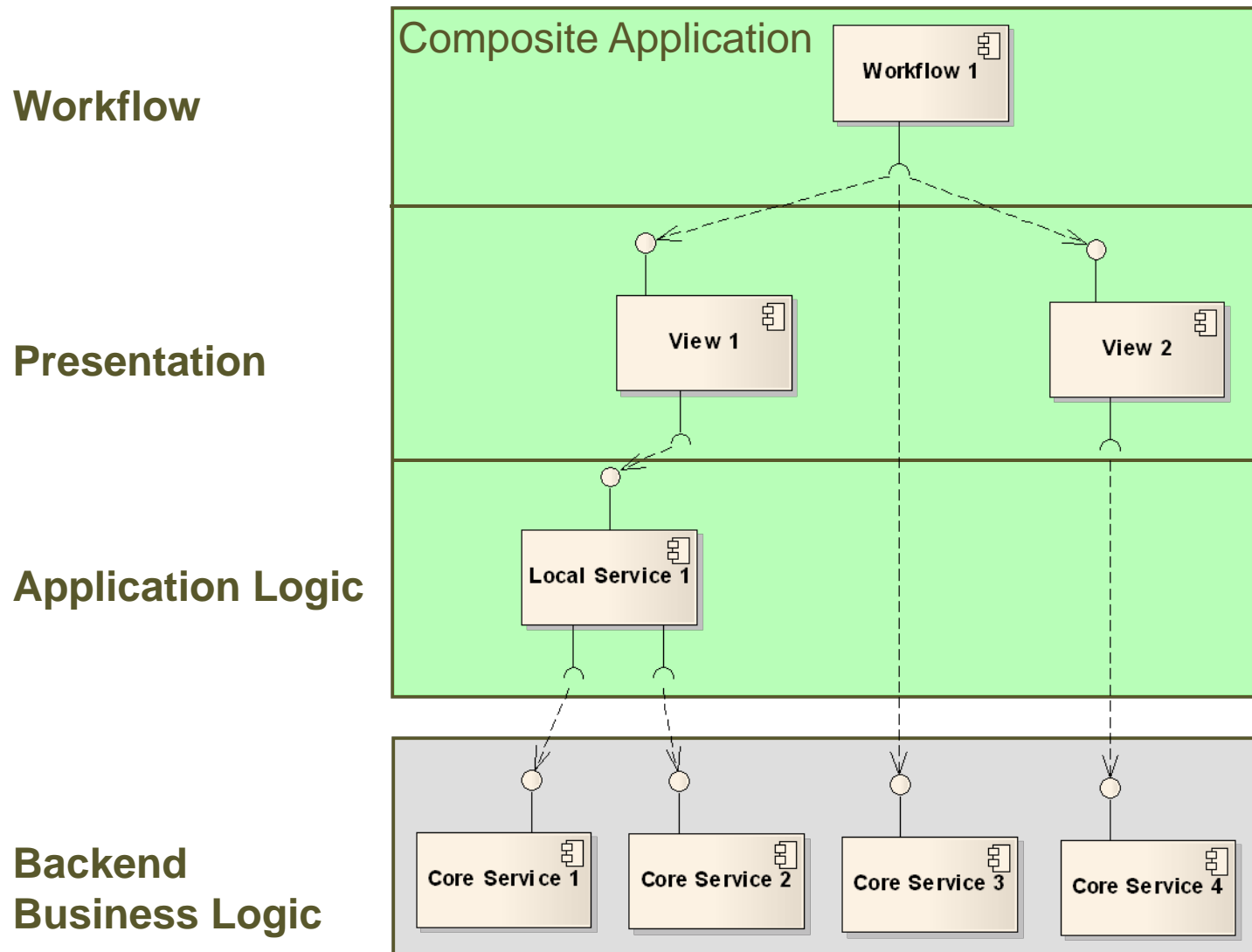
How to bring the values of SOA to the End Users?



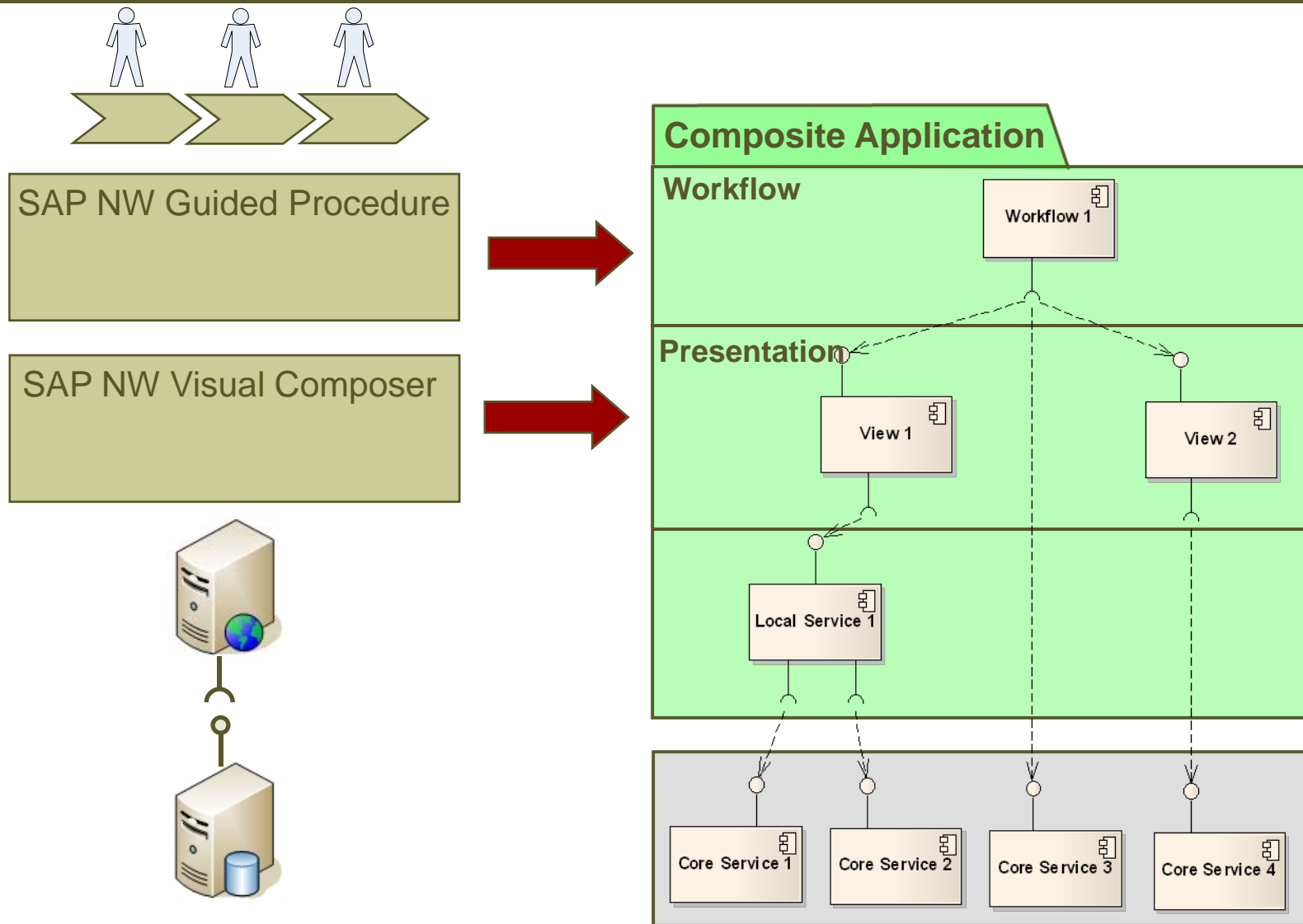
Agile development of Composite Applications

1. Web Services aware GUI tools
2. Tool support for defining workflows

What is a Composite Application?



Sample application - SOA Technology



Web Services aware Web GUI tool - overview

- SAP NetWeaver Visual Composer



- Creates GUI fragments based on Web Services

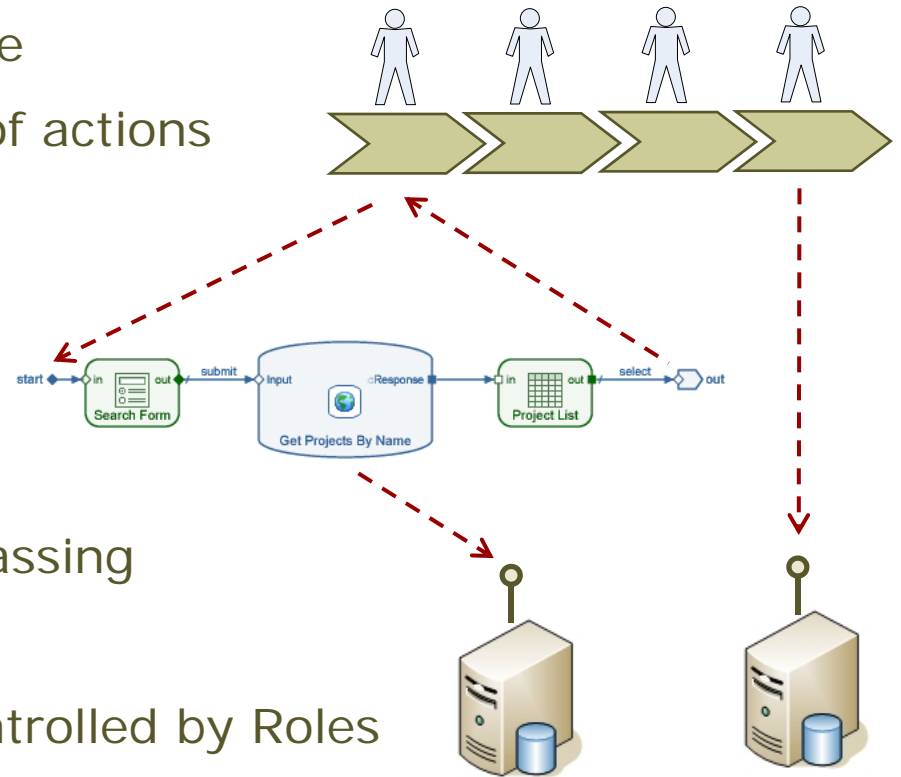
- Creates default GUI from WS Req. and Resp. messages
- Fully customizable using WYSIWYG - editor

- Parameter passing

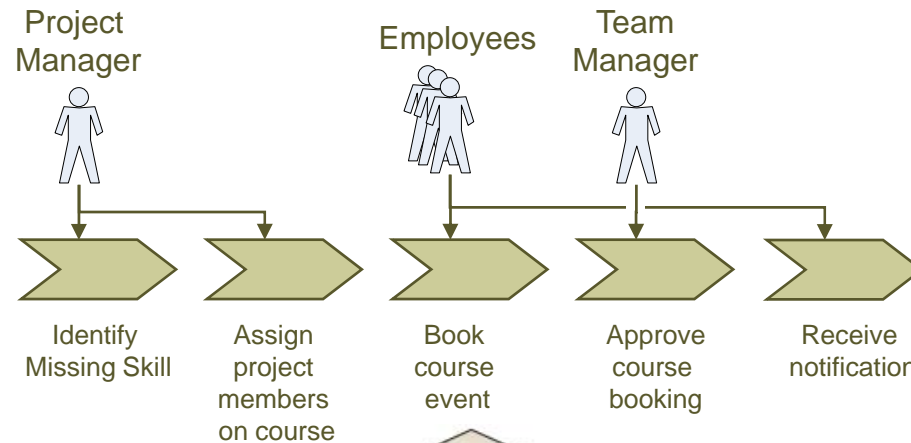
- Input and output to the GUI fragment - component
- Also inside the component, e.g. between WS calls and UI elements

Web Services aware Workflow tool - overview

- SAP NetWeaver Guided Procedure
 - Defines workflows as blocks of actions
 - Actions calls
 - GUI fragment
 - Web Service
 - Well defined parameter passing
 - Access to GUI actions are controlled by Roles
 - Workflow engine coordinate user activities



Sample application



identifyMissingSkillList()
getCourseBySkill()

getAllProjects()
getProjectsByNameDesc()
getEmployeesByProject()



ProjectMgmService



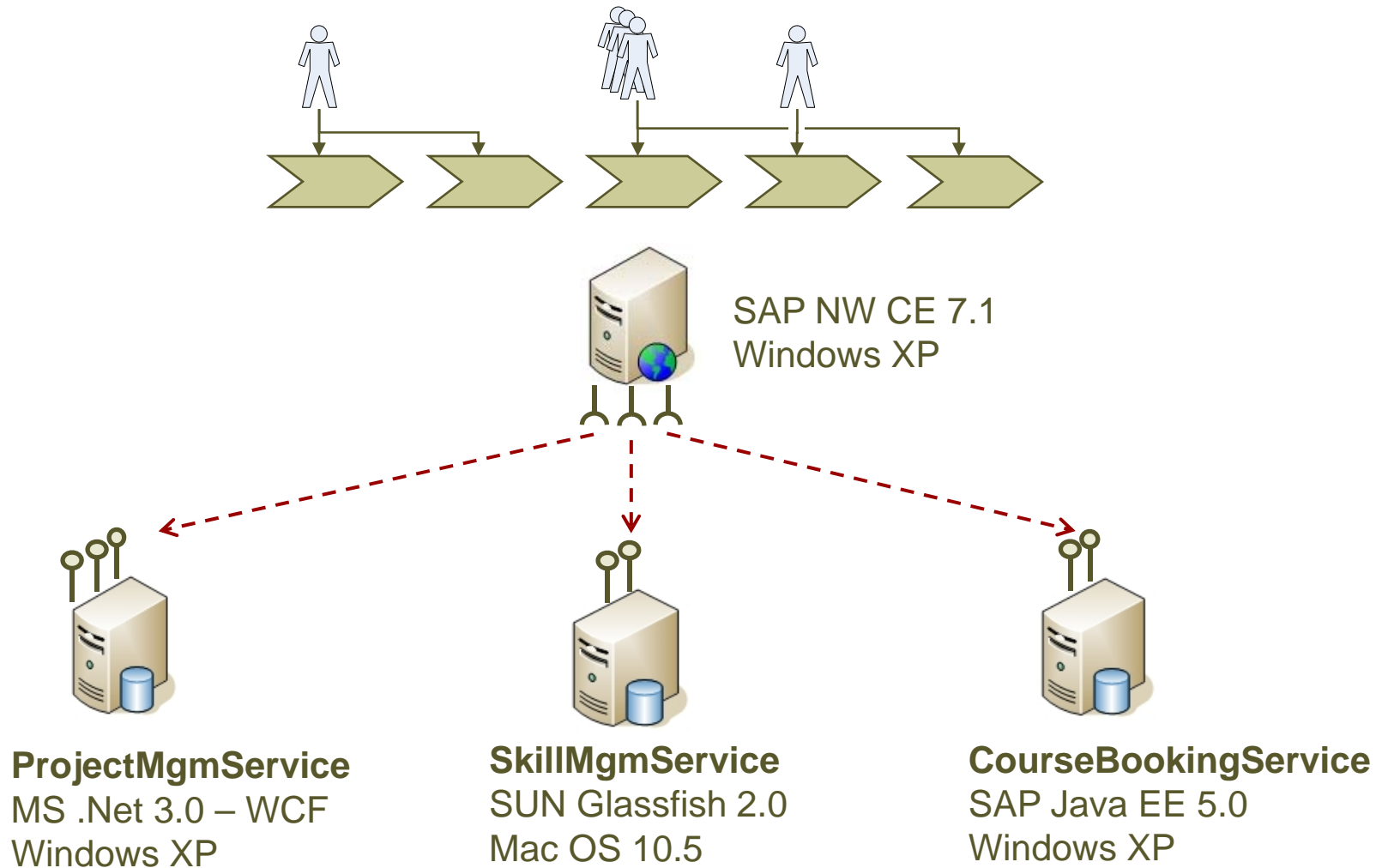
SkillMgmService

getEventsForCourse()
registerForEvent()

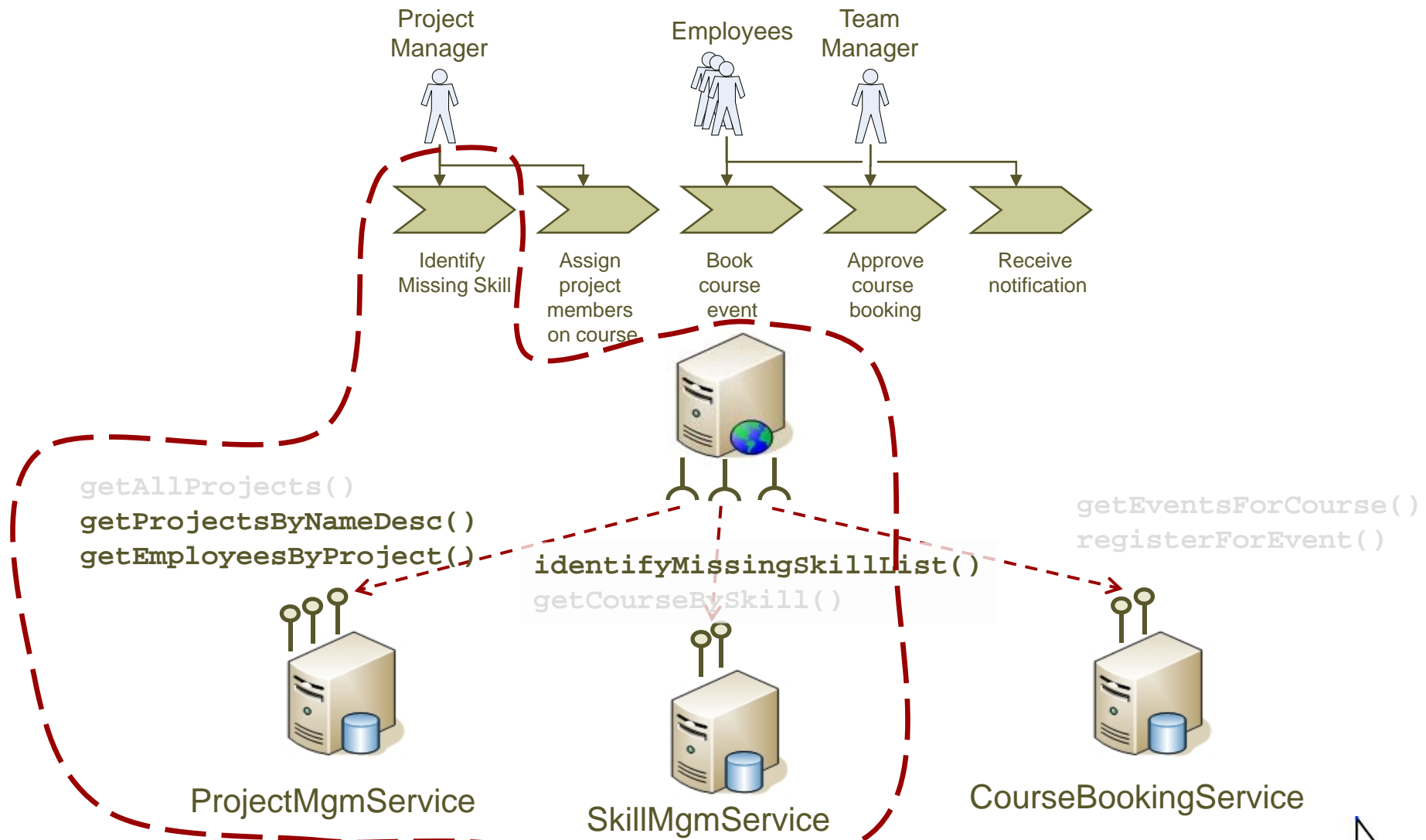


CourseBookingService

Sample application - SOA Technology



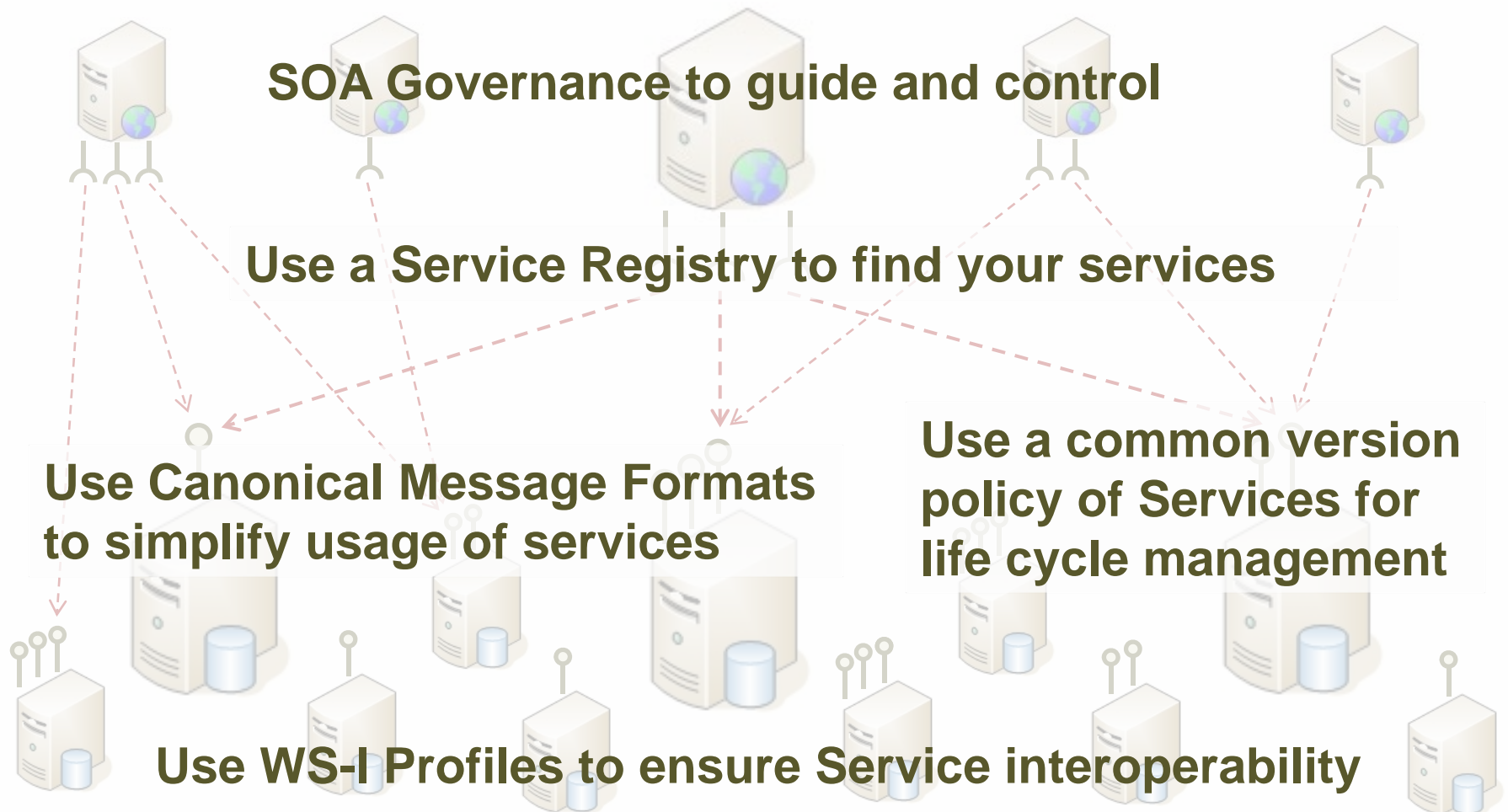
Demo Web Services aware Web GUI tool



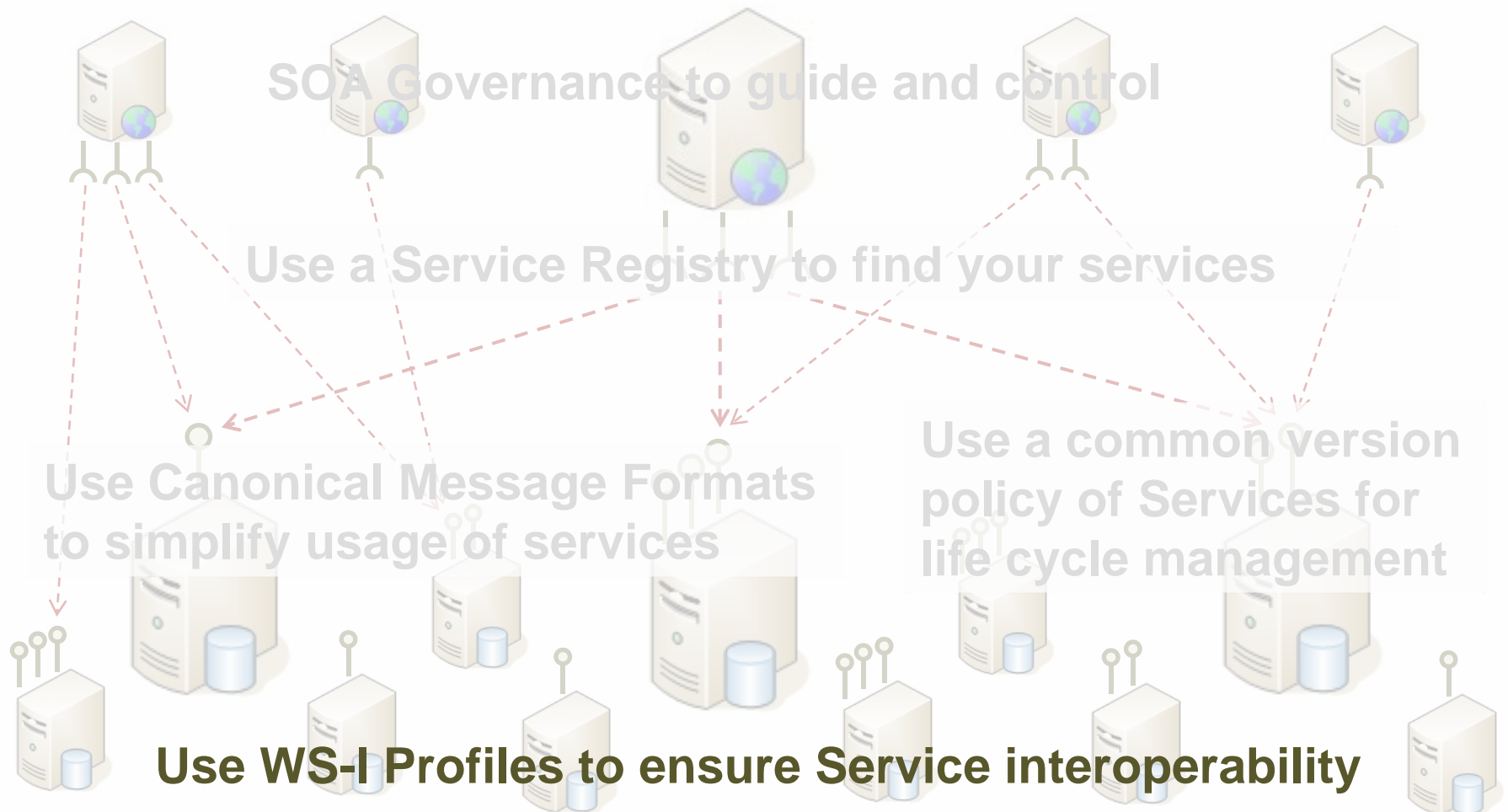
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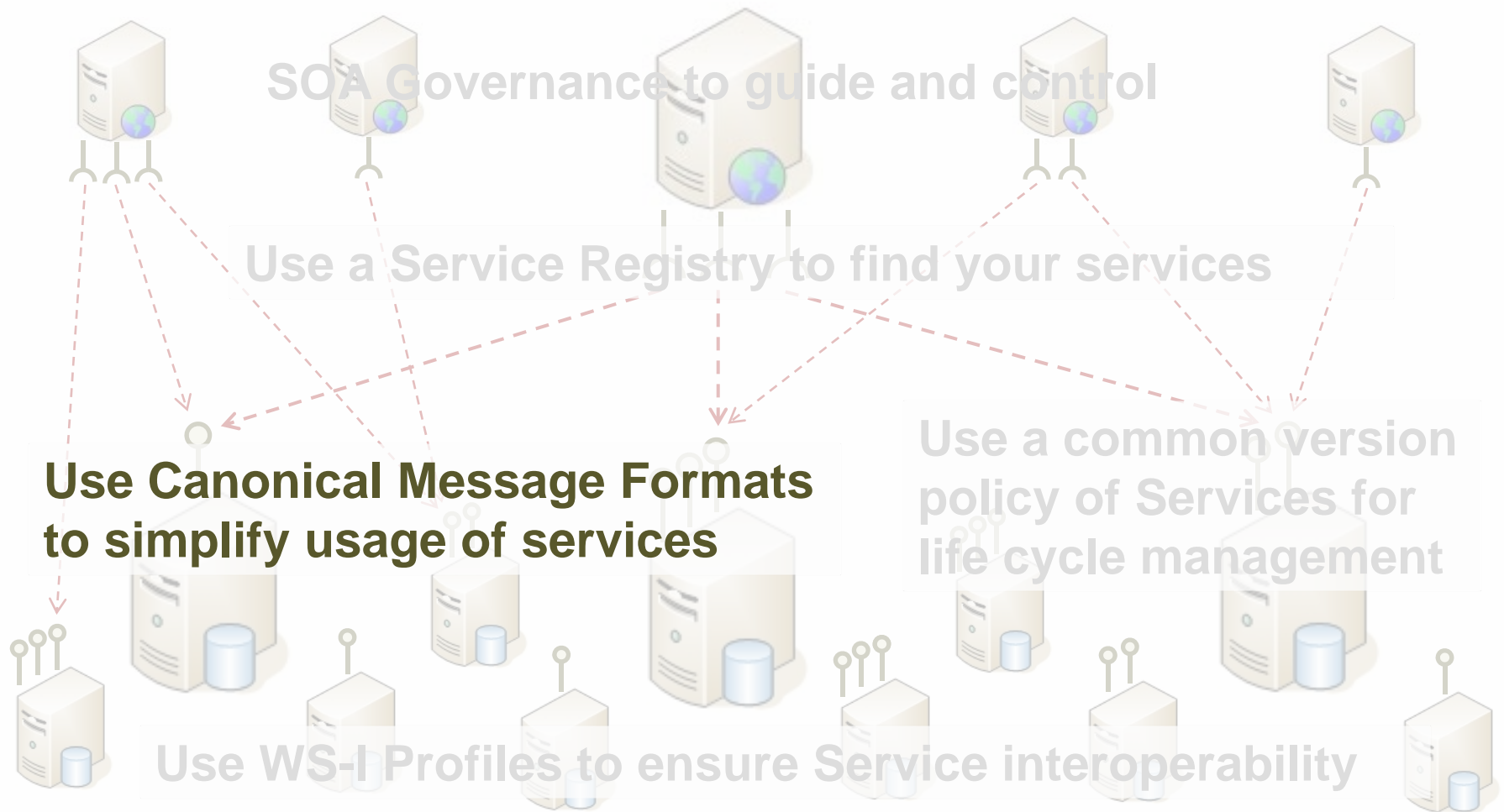
Summary - Provisioning of stable core services



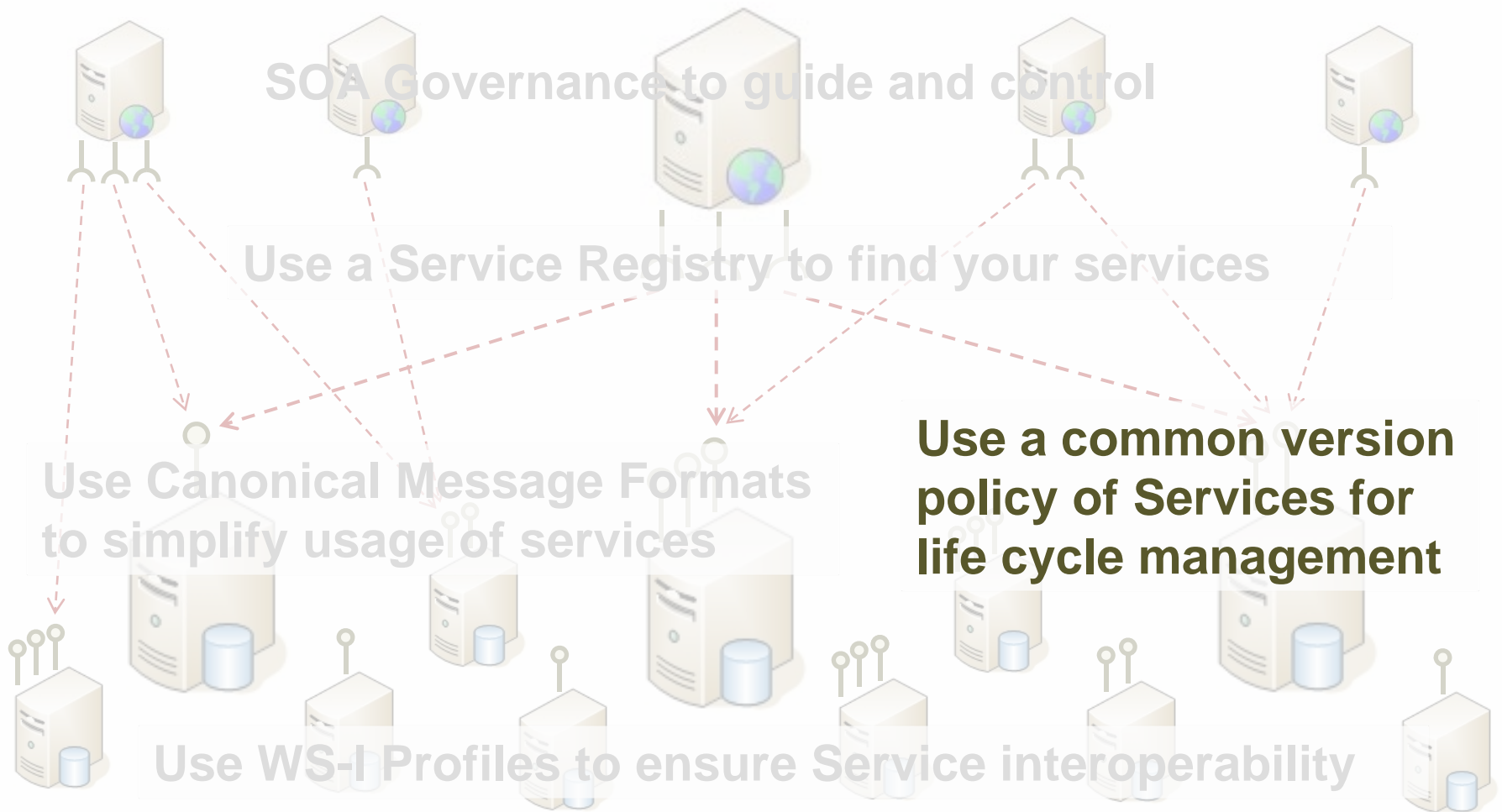
Summary - Provisioning of stable core services



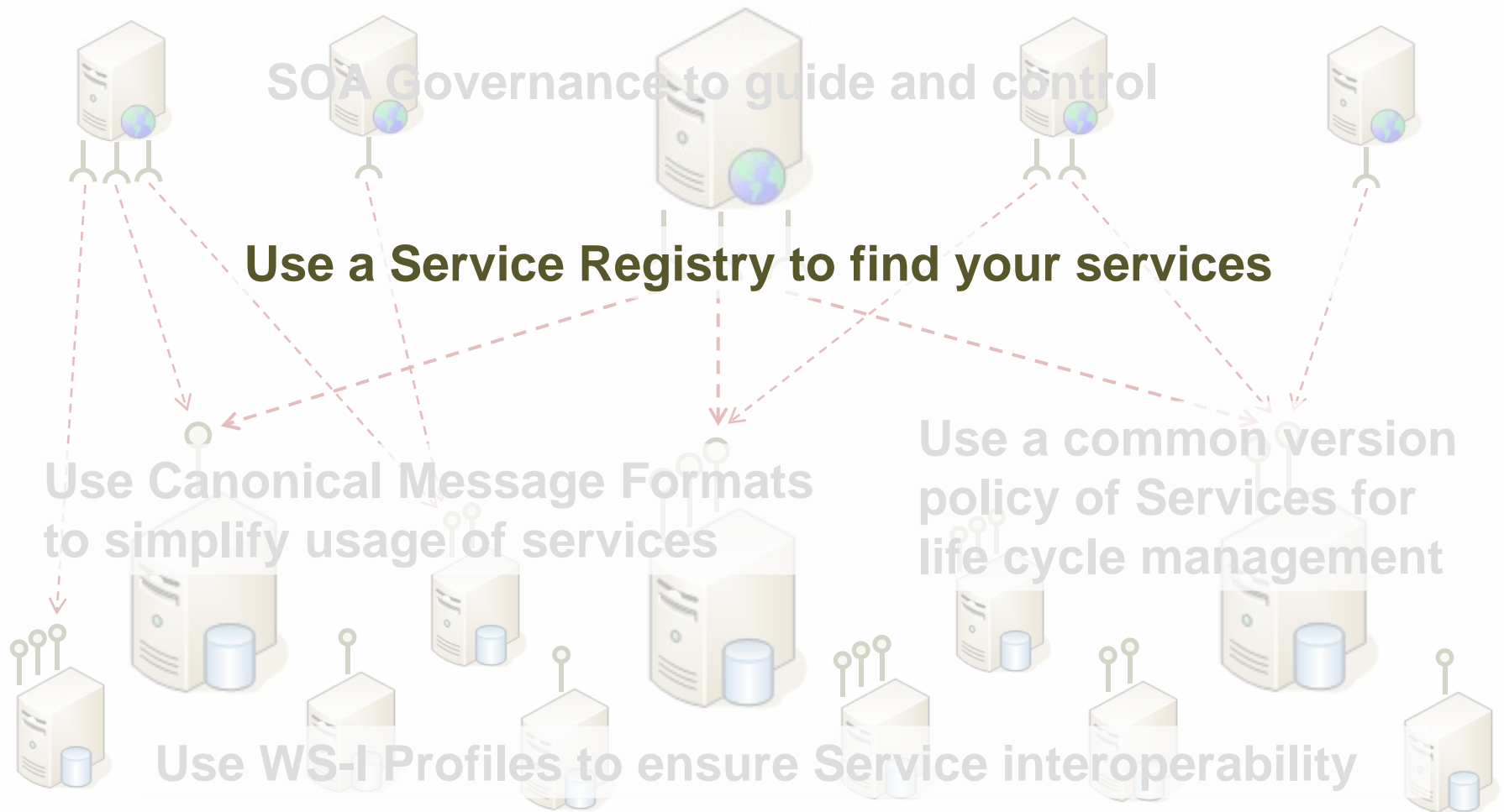
Summary - Provisioning of stable core services



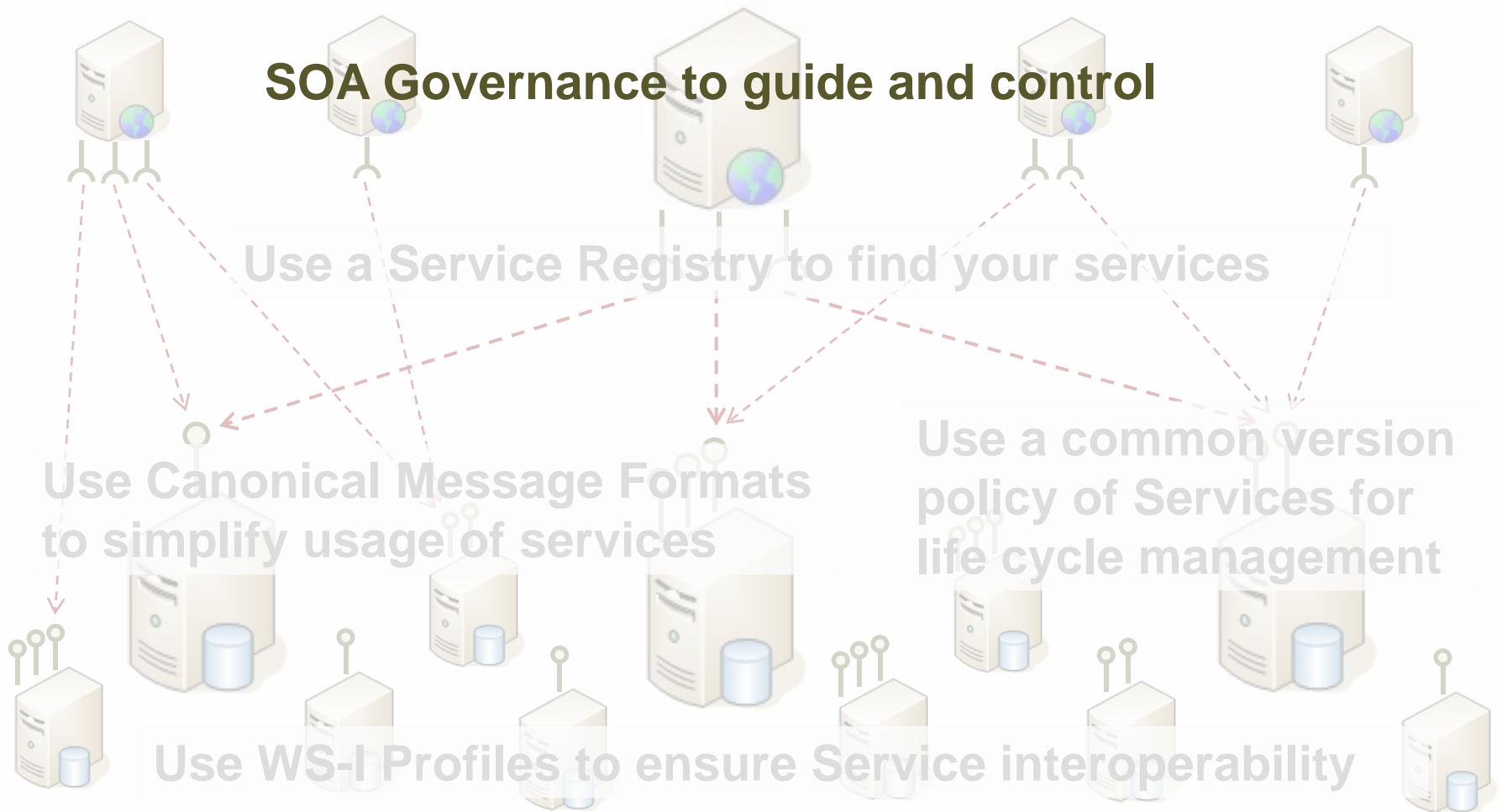
Summary - Provisioning of stable core services



Summary - Provisioning of stable core services



Summary - Provisioning of stable core services

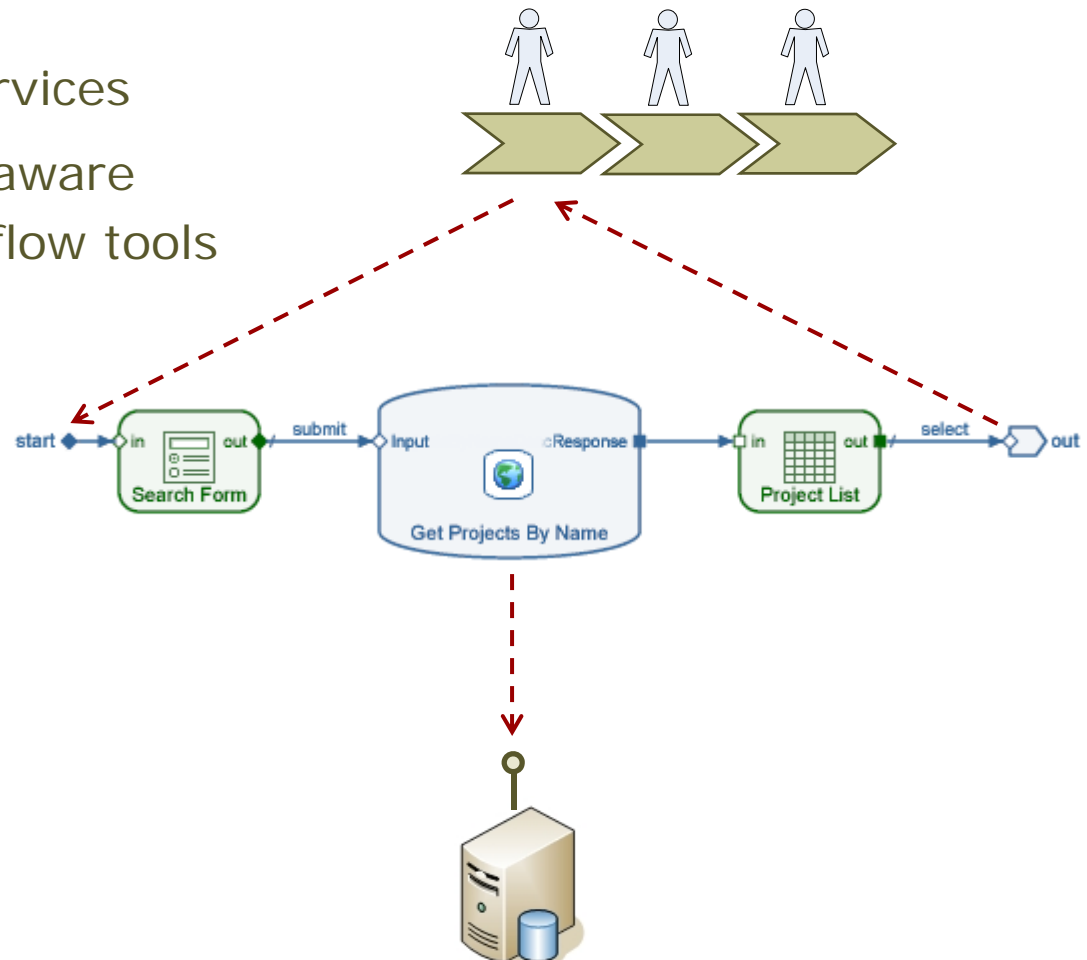


Summary – SOA reaching out to the End Users

- Agile development of Composite Applications

- Requires

- Stable core services
- Web Services aware GUI and Workflow tools



Questions?

