

Building trust to stimulate web services commerce

Ana Belén García Díez

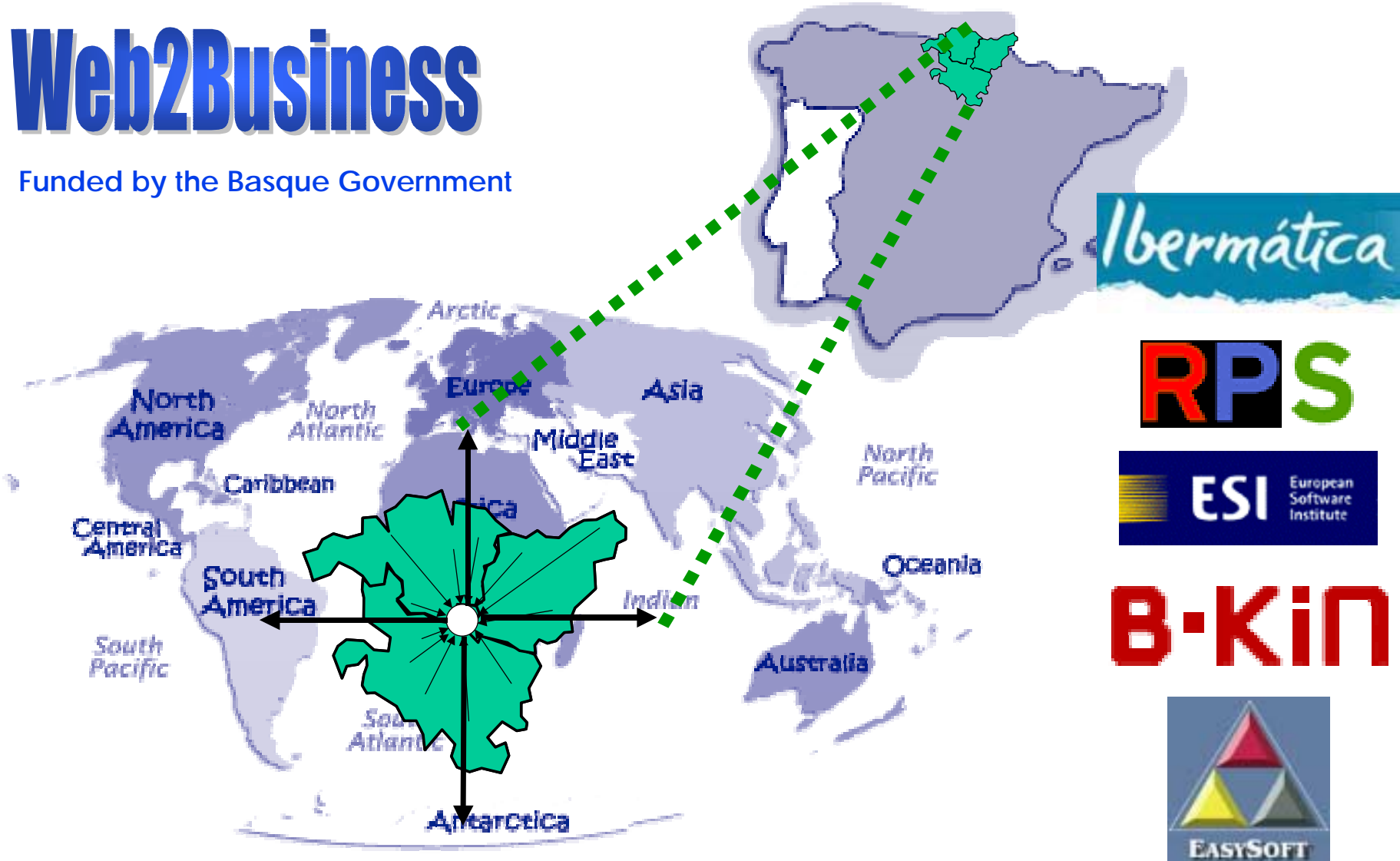
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Web2Business

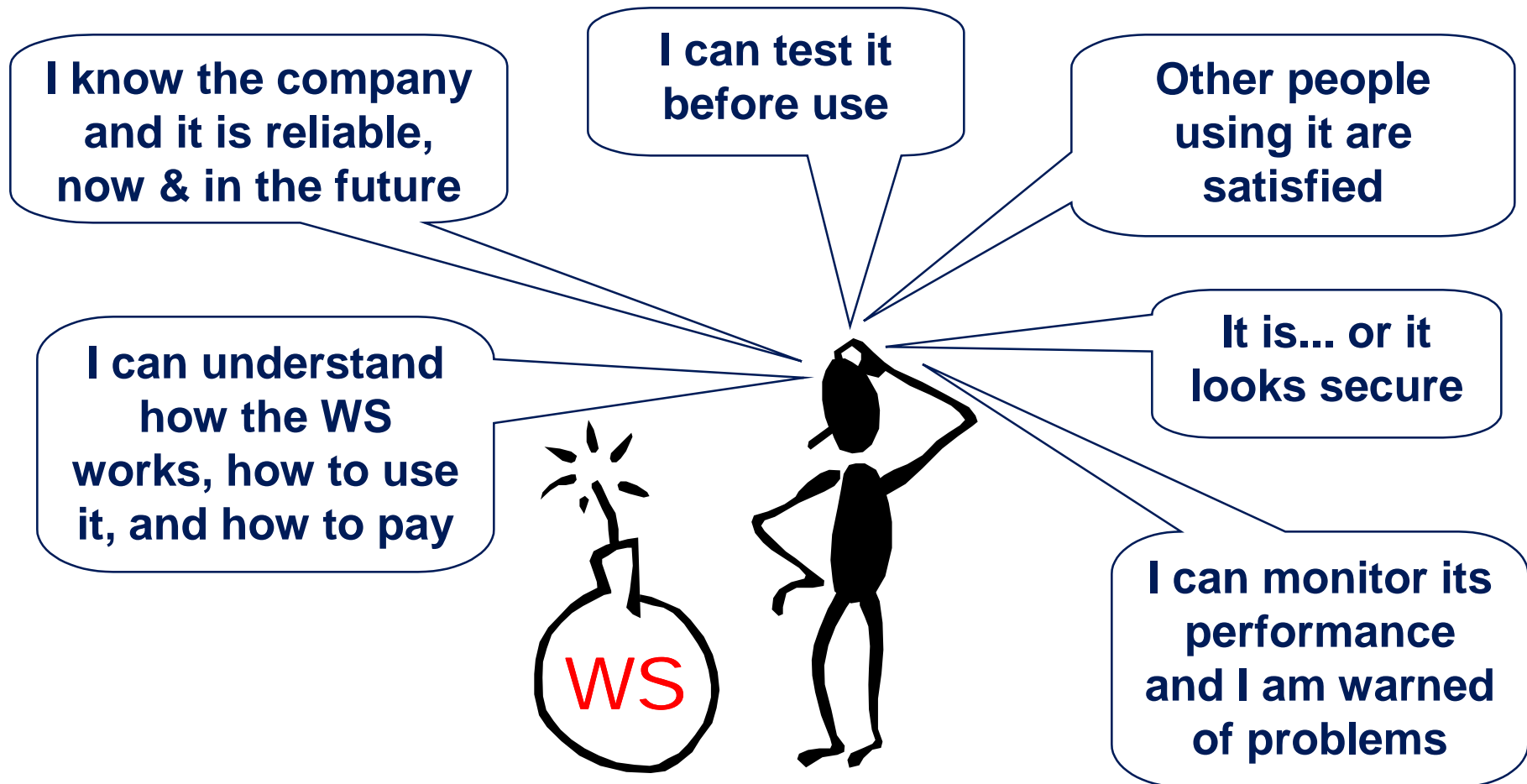
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Why is trust an issue?

- ***Web service provider unknown***
 - Identity
 - Expertise on WS functionality
 - Software development practices
- ***Remoteness of the service***
 - Security
 - Availability
- ***Dependence***
 - Consumed on-line rather than integrated
 - Customer's application dependant on external factors
 - Subject to spontaneous change

Why do consumers trust?



Criteria that impact on consumers (I)

Usability

- **Documentation**
 - Usage
 - Integration
 - Operation
 - Payment
- **Monitoring ability**
 - Quality of service parameters
 - Payment information
- **Test availability**
- **Payment facilities**
- **Customisation possibilities**

Criteria that impact on consumers (II)

Quality of Service

- Availability, Fault tolerance
- Reliability, from functional perspective
- Fast, or satisfying a determined execution time
- Security, privacy
- Warnings: failures, maintenance breaks, changes in WS, etc.

Criteria that impact on consumers (III)

Web Service Provider

- Identity
- Company size
- Clients
- Company reputation
- Software development practices
- Infrastructure (hosting, security, network, etc.)
- Customer support mechanisms

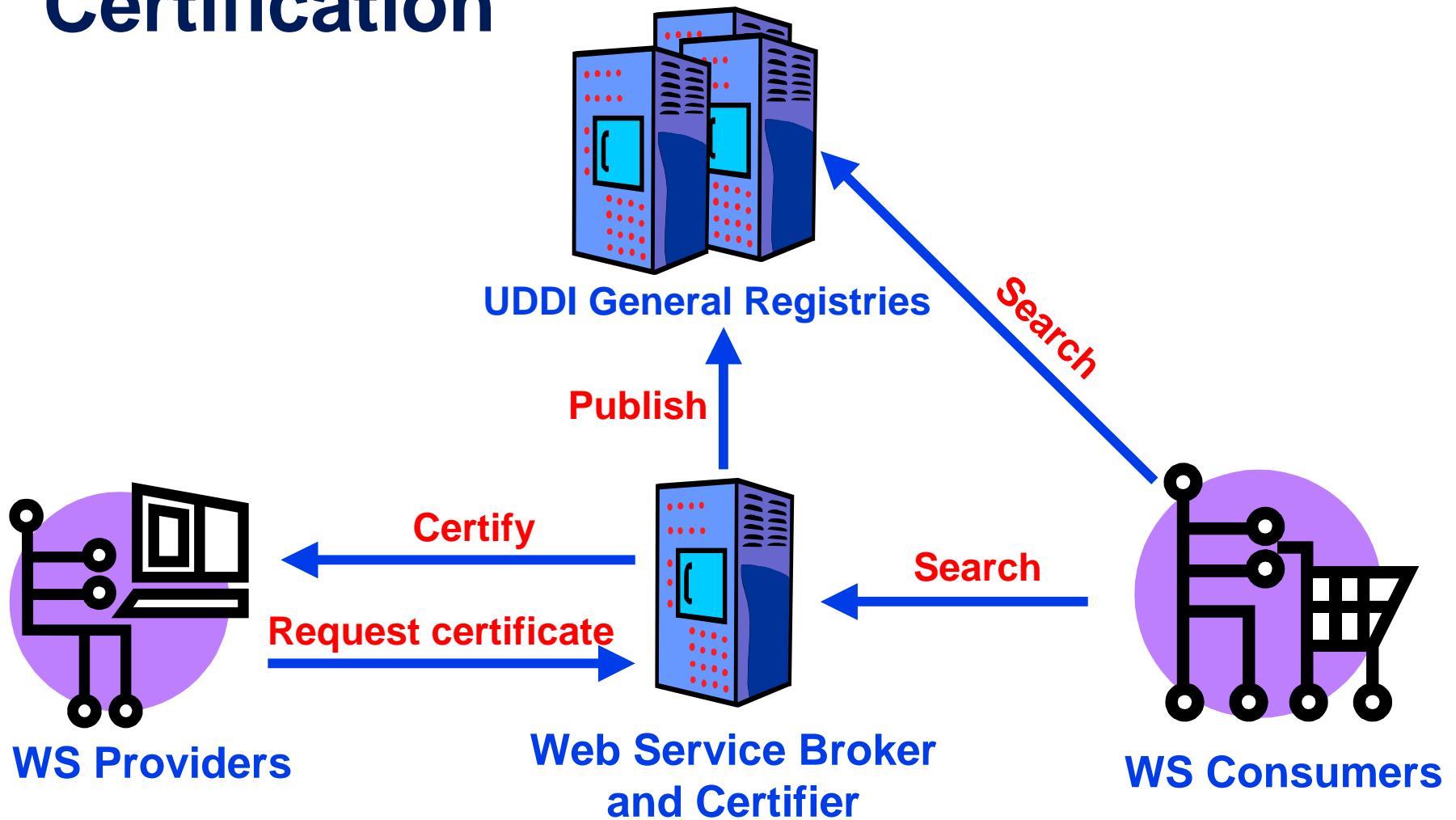
Building trust

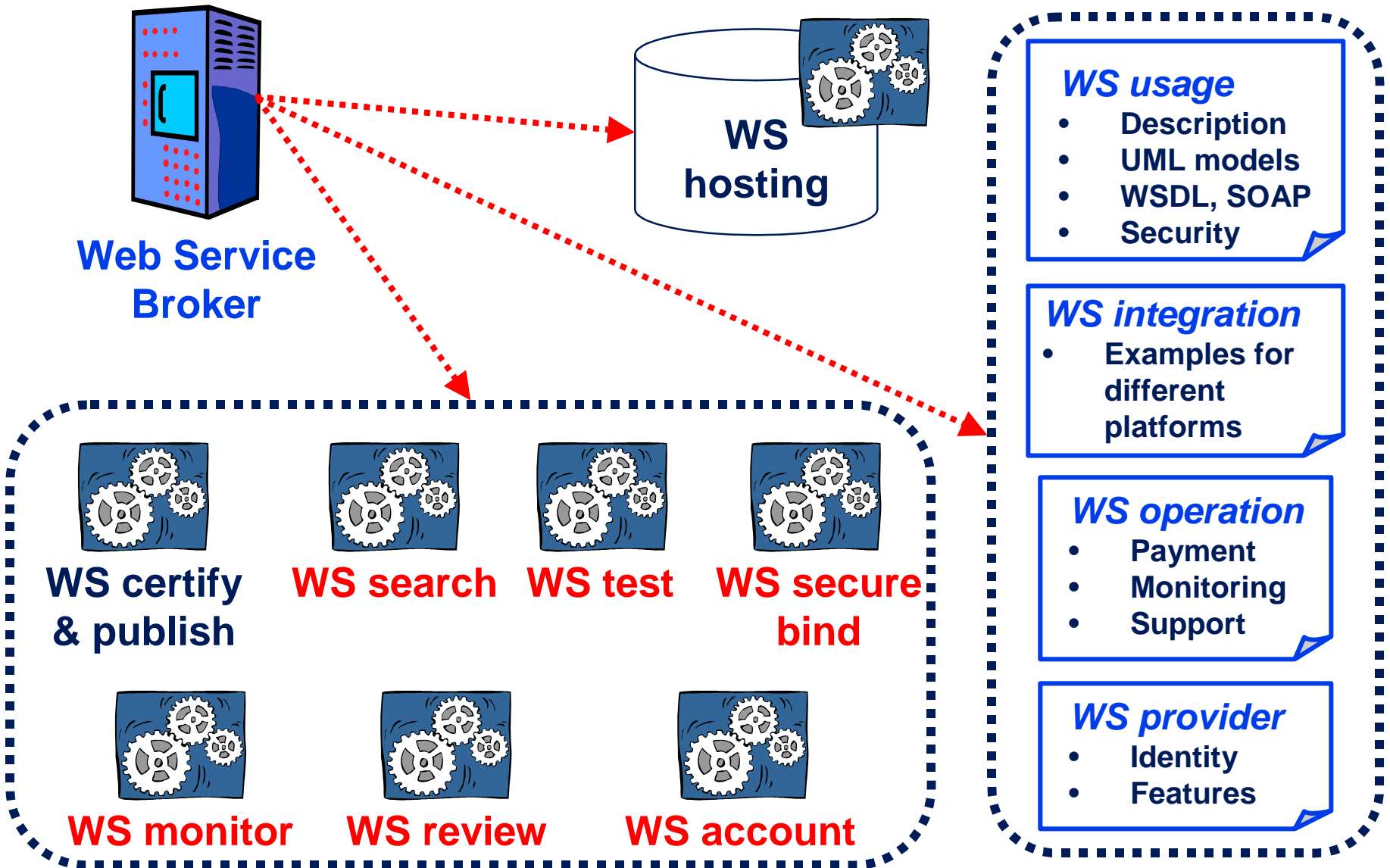
***The objective is to build a trusted environment
between consumers and providers***

And the mechanisms are:

- **Certification**
- **Trusted web service broker**
- **Good practices for web service development**
- **Complementary means**

Certification





Web service development

- Web services need to fulfil specific methodological constraints to be certified
- Web services need to provide interfaces for:
 - Self-description (usage, integration, operation, provider, and search)
 - Testing
 - Binding
 - Monitoring
 - Reviewing
 - Accounting

**Methodology
and
guidance**

**Broker
services (WS) for
WS providers**

Complementary approaches to reduce risk

- **Escrow**
 - The web service provider assumes the commitment of providing WS source code to a third party if it goes out of business
- **Dynamic composition**
 - At least two web services are identified for a single functionality
 - When one of them fails on performance parameters, the other is invoked
 - User needs to build a wrapper
 - User needs to specify traceability

**Broker acts
as escrow
holder**

**Dynamic binding
based on monitored
parameters**

Conclusions

- Trust is based on **commercial issues** rather than on technological issues
- Even if WS consumers are software developers, **WSDL is not enough** to understand a WS
- **WS brokers** can assume the satisfaction of many of the criteria for trusting. However:
 - **WS providers** still have to commit to apply good web service development practices
 - **WS consumers** still need to establish their own mechanisms to reduce risk

Contact me!



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