



2009 Presentation

4^{as} jornadas de **inovação**
18-20 JUN. 09 FIL | PARQUE DAS NAÇÕES | LISBOA



Profile

- Shortcut was a IT startup in 2001
- Now is a SME with 34 collaborators
- Our premises are located in [Matosinhos](#), near Porto
- Shortcut's [mission](#) is to contribute with its information and communication technologies' know-how in order to help companies in its innovation and optimization business processes, so that they can better serve and understand its clients, without disregarding their core business
- Our most important value is the ability to [listen](#) (to our internal and external clients) and develop in a [proactive](#) way, innovative solutions for today and future [challenges](#)
- Our second place on European Final of Dicon2001 (Digital Contents Competition) with Hermes (an embrionary idea of what Plaxo stands for today) is a good example of the materialization of our values

What we do

Customized Software
Development

**Web services
Knowledge
management**

Internet Applications

- e-Business
- e-Commerce
- e-Marketing

Voice Services

- TTS Notification Systems
- IVR Services
- Vocal Authentication

**INTEGRATION
CONVERGENCE
MULTIMODAL**

Mobile Computing

- SMS Services
- Wap Services
- Applications in J2EE

Information Systems

- Tailored CRMs
- Billing & Taxing
- Systems Integration
- Process Workflow

OUTSOURCING



K-Engine
K-Now's Driving Force



Com o apoio:



UNIÃO EUROPEIA
Fundos estruturais

prime
Programa de Incentivos à
Modernização da Economia

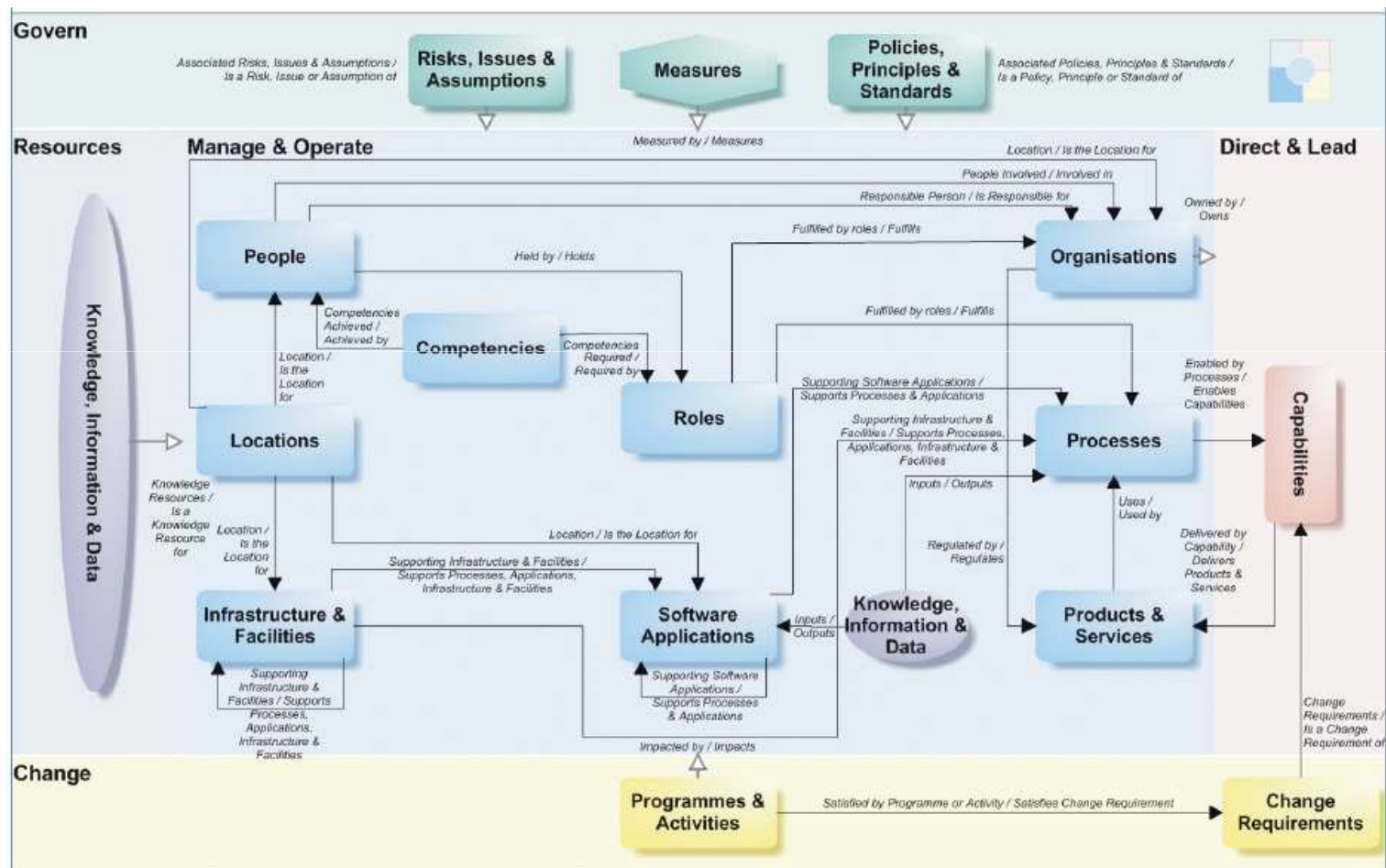
Objectives

- Make Competency-based Knowledge Management a reality in decision support activities in large knowledge intensive organizations;
- Provide a innovative solution for competency domain modeling and representation;
- Empower Competence Assessment and Performance Management with an flexible system able to adapt to the ever changing conditions;
- Tackle Career Development and Succession Planning;
- Ease Learning and Compensation Management;
- Knowledge Gap Analysis

Benefits

- Allows answers to important questions such as:
 - Who in our organization knows about ...? And how much does he know about?
 - Who is the must fit person for this tasks?
 - What competencies are being sought by our clients?
 - Is our organizational knowledge evolving or being left behind?
- Those answers can be critical for activities such as:
 - Human resource identification and classification
 - Project task allocation and team-building
 - Training planning

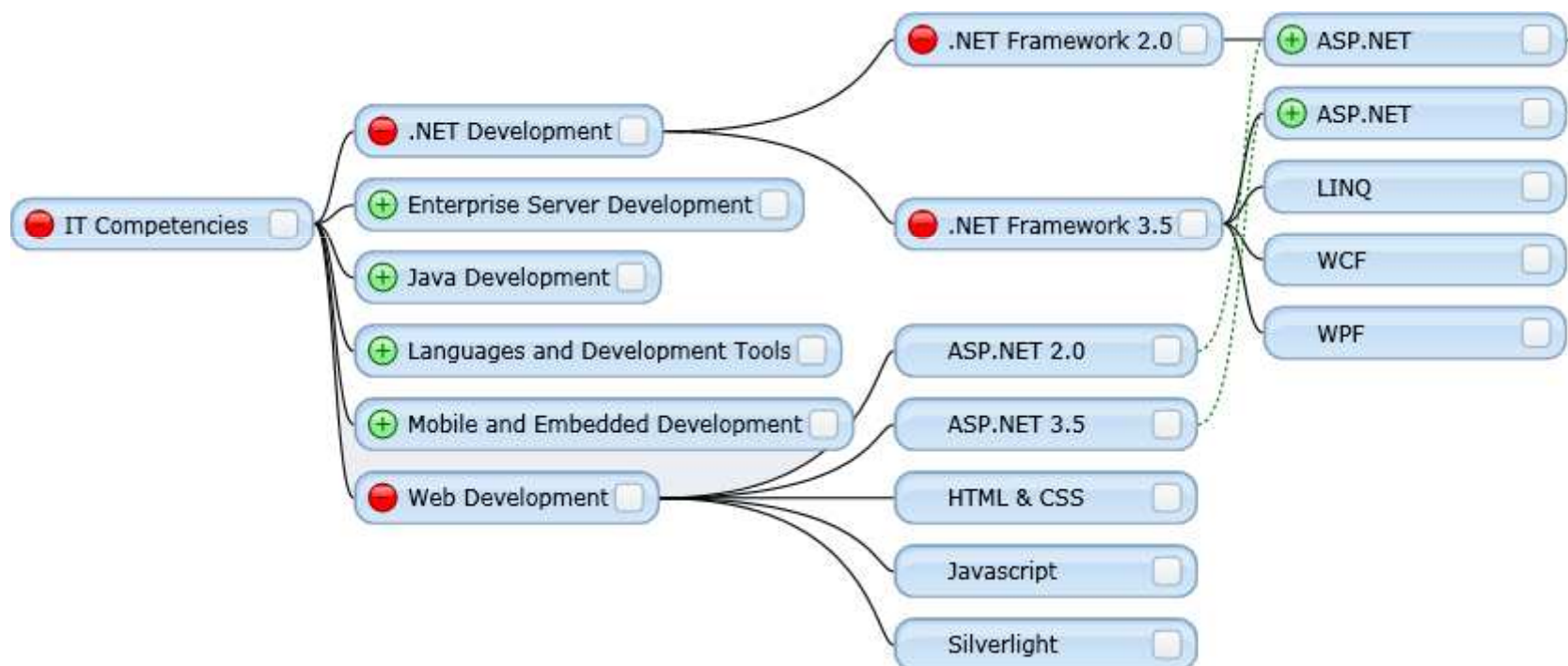
Knowledge Management – Enterprise Ontology



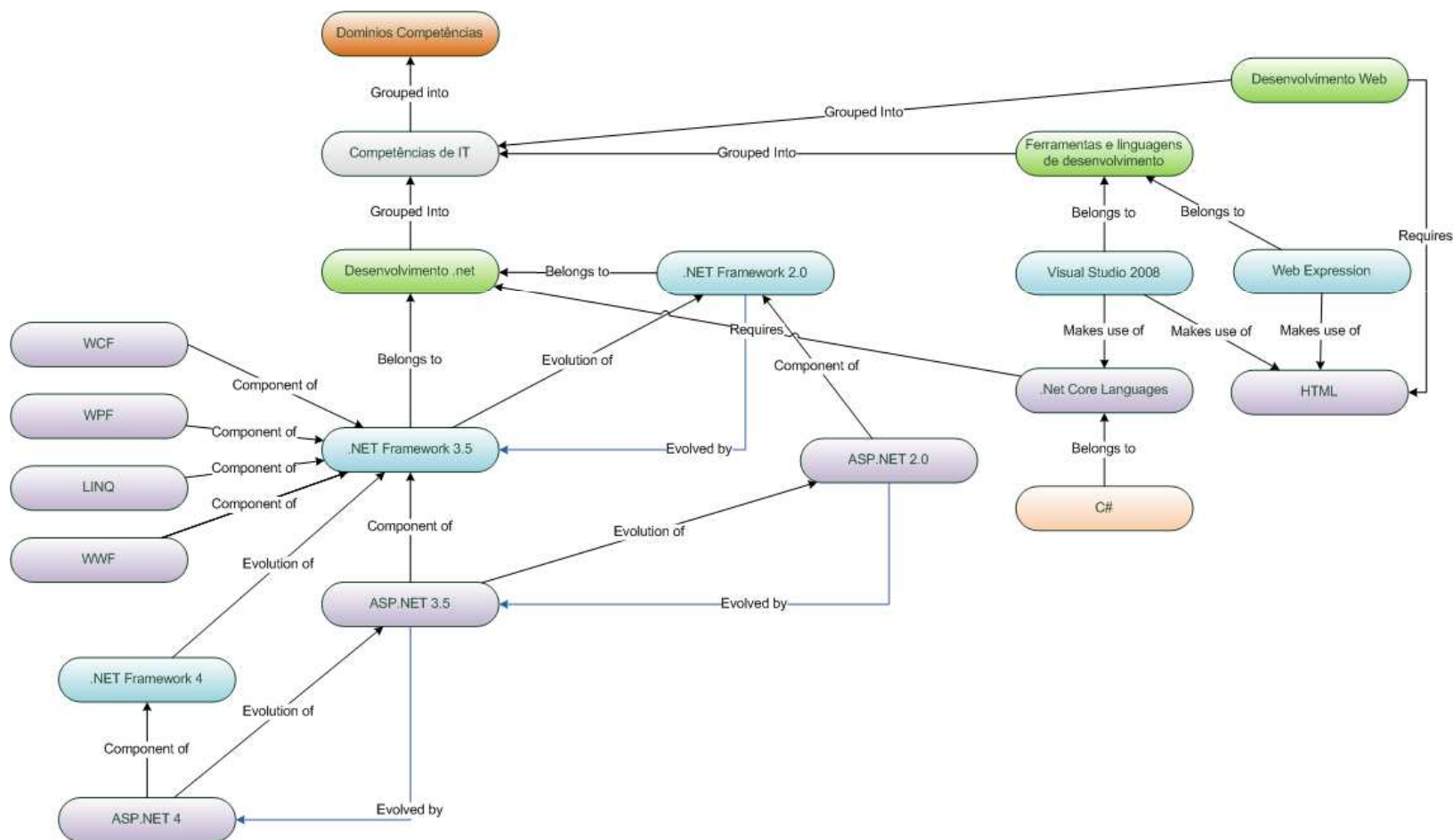
Knowledge Management and Engineering Approach – Competencies & Skills

- Competencies, Skills, what are they?
- In our approach a Competency is an atomic ability or capability contextualized in a given domain;
- “Creativity” and “Design” are competencies inherently human, we consider them all to be in a domain called primitive;
- “Web Development” and “Mobile and Embedded Development” are part of IT domain.

Knowledge Management and Engineering Approach – Competency Domain



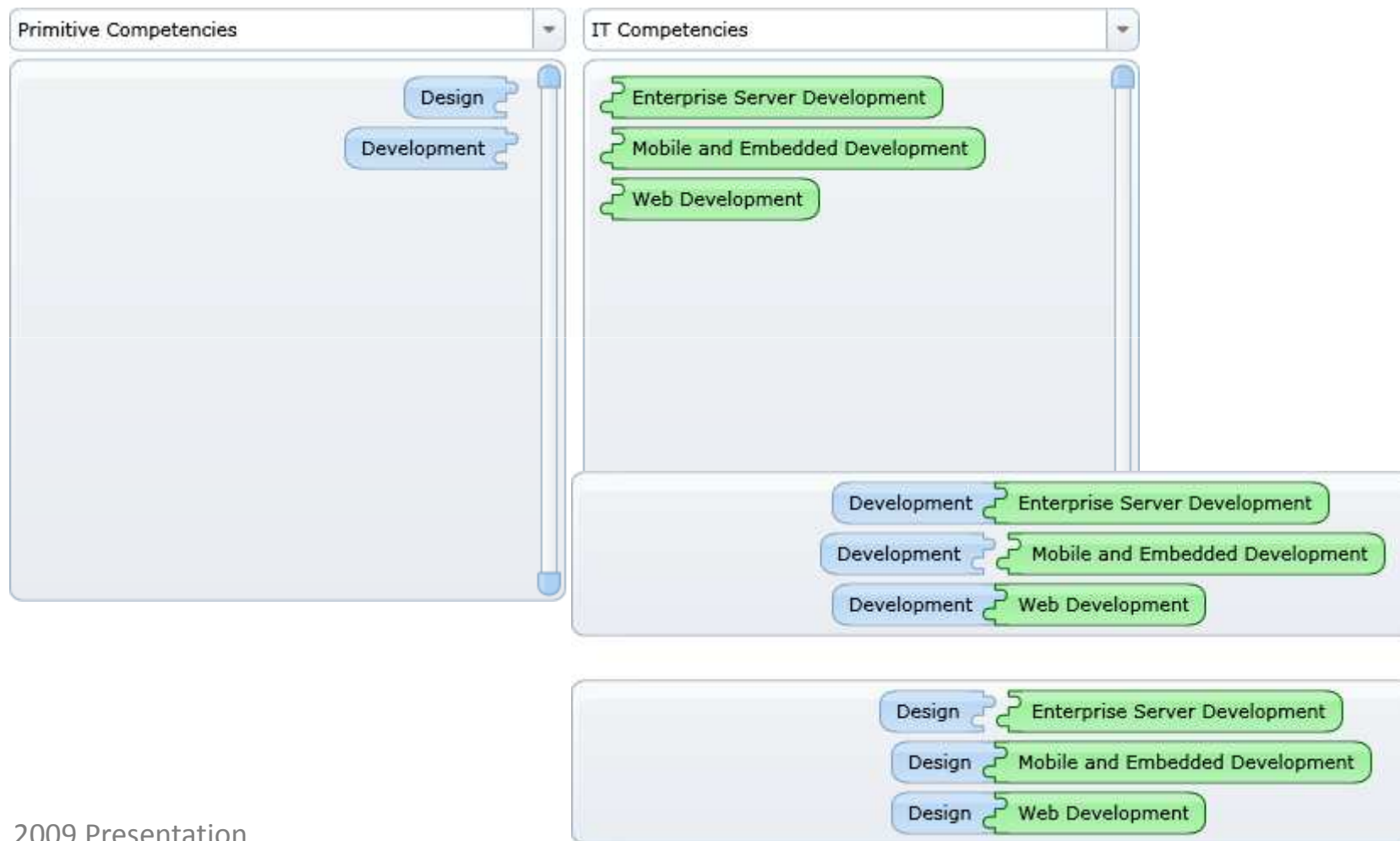
Knowledge Management and Engineering Approach – new Version



Knowledge Management and Engineering Approach – Competencies & Skills

- A common mistake is to think that competencies from different domains are unrelated.
- We think the opposite. We think the best knowledge representation is the relation between competencies from different domains;
- For example, one can be very “creative” at “abstract art” but be totally uncreative at “Web Development”
- We call the relationship between two competencies from different domains, a Skill, or a composite competency.

Knowledge Management and Engineering Approach – Skill Representation



Knowledge Management and Engineering Approach – Quantification

- Knowledge quantification is a tricky subject that revolves around three basic questions:
 - How much does someone know about...?
 - How sure are we that he knows that...?
 - How do you measure knowledge...?
- The answer lies in “evidences”, a driver’s license is an evidence of qualification to “drive” a “four wheel car”;
- Evidences bring a certain level of reliability to the amount of expertise testified by them.

Knowledge Management and Engineering Approach – Quantification

- Different evidences have different degrees of reliability and types of metrics used to express the expertise.
- Thus, the quantification of knowledge comes not in one but in two values:
 - The quantification value (how much is known)
 - The reliability value (how sure we are about it)
- But how do we turn an evidence into a meaningful number?
 - We apply a mathematical function to a given type of evidence which makes use of the evidence's metrics.

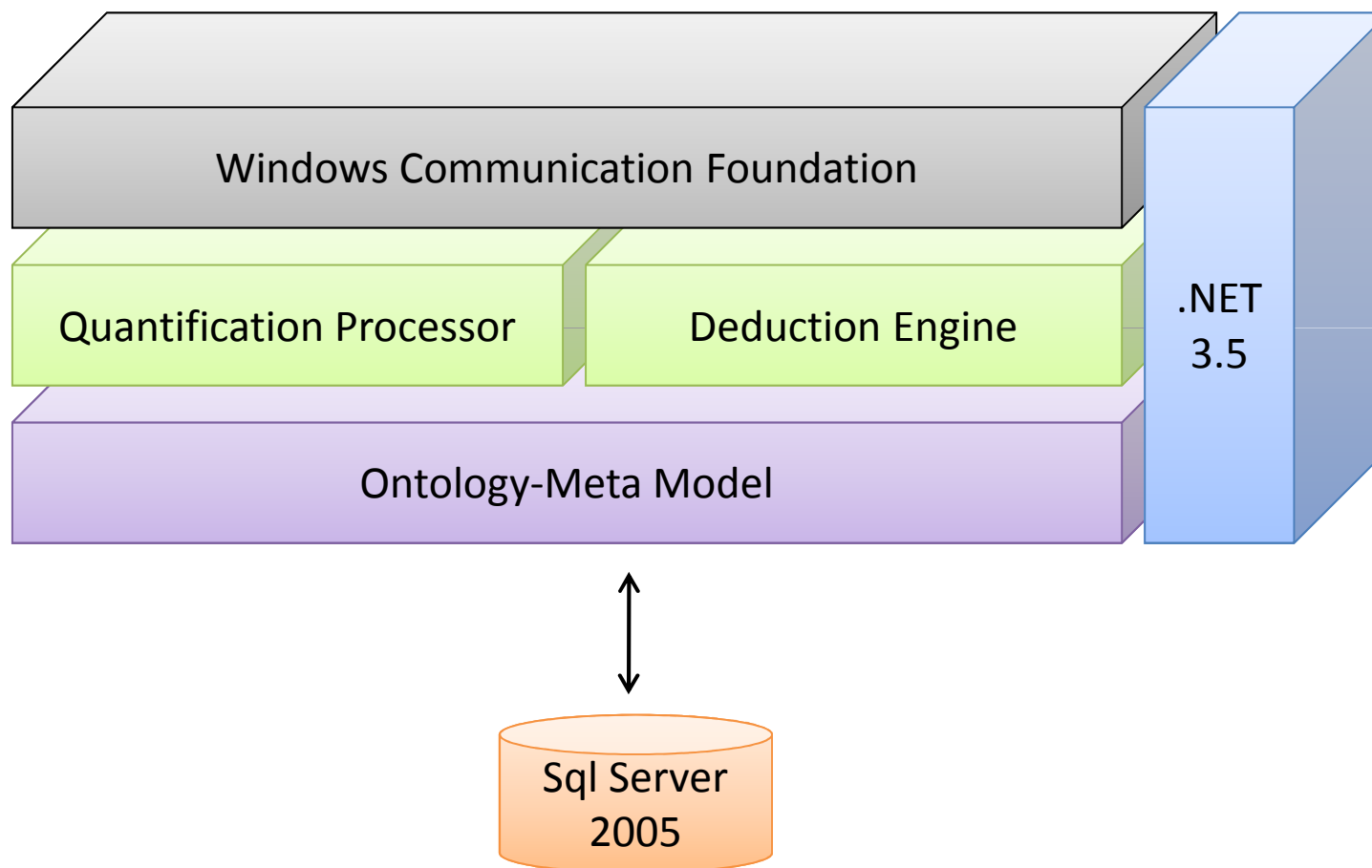
Knowledge Management and Engineering Approach – Quantification

- Taking a “Task Completed Evaluation” as an example, we might have the following metrics:
 - Complexity
 - Duration variance
 - Outcome
- A possible mathematical function could be:
 - $\text{Complexity} * 0.3 + \text{Outcome} * 0.2 + \text{Duration variation} * 0.5$
- In the above formula, a greater emphasis is given to the duration variation metric, ideal when we want someone that can get the job done in time.
- We call this function a “quantification rule”, there are also “reliability rules”;

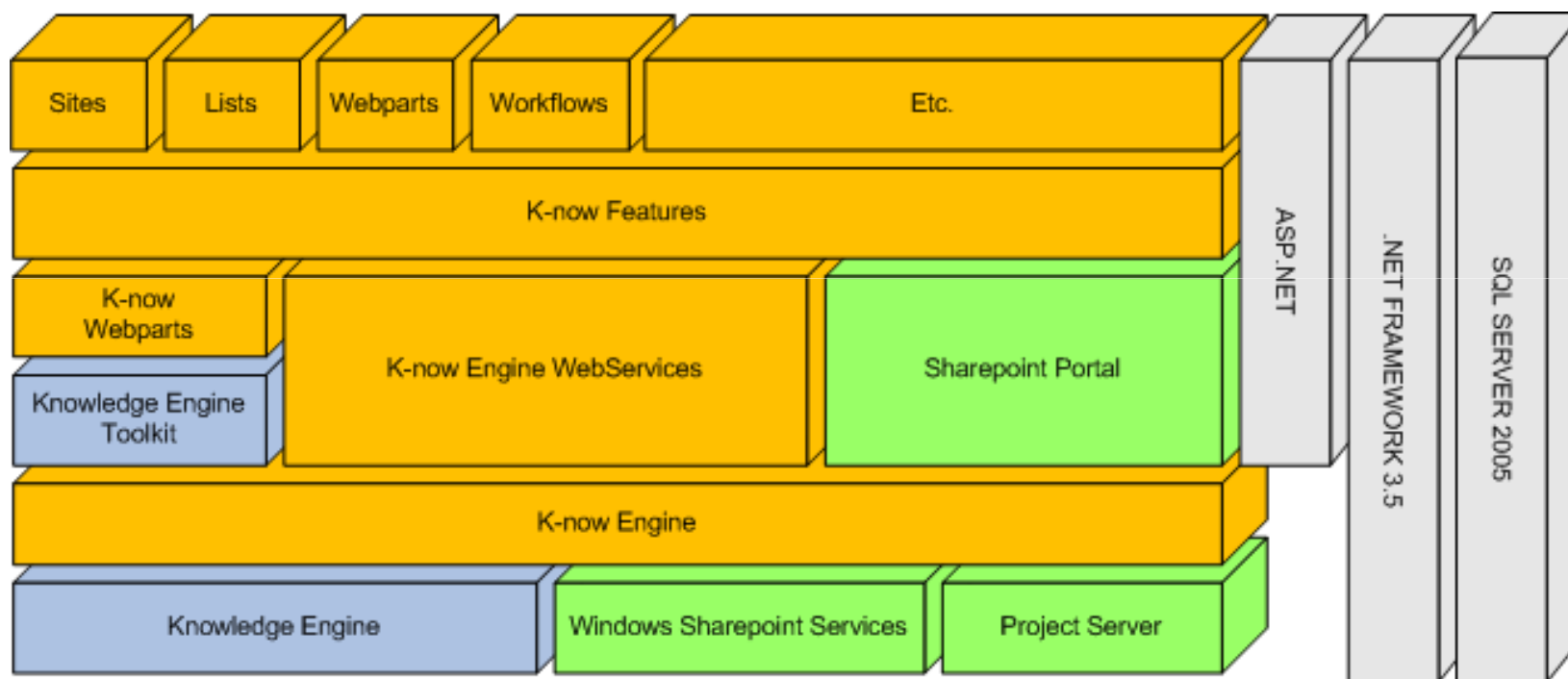
Knowledge Management and Engineering Approach – Quantification

- Competency Domains are semantically rich networks of competencies characteristic of a certain domain;
- A competency is an ability or capability;
- Skills or Composite Competencies is the relation between competencies of different domains. This allows for unprecedented AI deduction in decision support tools;
- Evidences allow us to determine the amount of expertise and how reliable that amount is;
- Rules are a powerful tool that allows the retrieval of meaningful information from evidences in a way that better fits our purposes;
- The quantity and reliability of knowledge is not a static value, it depends on how we interpret it, and most particularly, on which rules we define and apply.

K-Engine Architecture



K-Now Architecture





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