The Digital Business Ecosystem Project

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The project

- Integrated Project funded under the Networked Business and Government strategic objective
- Duration: 36 months
- 150 man/year of work, more than 40 person full time, 110 in total
- 20 partners, 9 Member States, 5 Regions involved directly
- 10.5 M€ funding
- The DBE is one of the largest EC research investment ever in F/OSS in ICT for e-business (100% of results in the public domain)
Why the DBE? A simple minded scientific answer

- All world economies are migrating towards service economies mediated by ICT
- A company's growth is self-reinforcing, and ICTs increase its rate of growth in a service and knowledge economy
- Public companies have a mandate to grow from the shareholders
- Small companies may not wish to grow and if private have no such mandate
- Small companies have limited capability (cash, time, resources) to grow
- This suggests the existence of a threshold and of the Digital Divide

SMEs

Threshold

(“Activation energy”, and Digital Divide)
So why do we care?

- In an infinite market with infinite efficiency there is no fuss
- In a finite and segmented market the SMEs are at a disadvantage
- An SME that does not want to grow may need to reinvent itself to survive
- So why do we want to protect the small players?
  - SMEs are 98% of EU companies by number and 50% of GDP
- Innovation & monopolies
  - Large companies increase efficiency through product standardisation
  - Small companies survive through specialisation
    Thus:
    - Large companies drive toward monopolies and market domination
    - Small companies drive innovation
- Therefore, the strength of the EU economy and its long-term competitiveness depend critically on the growth of SME sector
Digital Business Ecosystem’s objectives

- Proving Europe’s advantage in innovative software application development through its SME industry
- To facilitate ICT adoption on the part of SMEs
- To support local software producers
- Creating an open-source distributed environment to support spontaneous evolution, adaptation, composition of software components which embed business rules
- Services
- Harnessing the complexity of software production through dynamic service provision
- Evolutionary self-organising systems
What is a Digital Ecosystem?

- is a pervasive “digital environment”
- which supports the business ecosystems
- which is populated by “digital components”
- which evolves and adapt to local conditions with the evolution of the components
- where the software layer support infrastructure, offers and transports services (application) and information (knowledge) empowering the network
What is Digital Component in the DBE

* could be: software components, applications, services, knowledge, business processes and models, training modules, contractual frameworks, laws ...  
* .... and hopefully a mixture of that  
* The virtualisation of an application or a business model, expressed by the language (formal or natural), launched on the net, which can be processed (by computers and/or humans)
No central control on the network => evolutionary approach
Focusing not on managing nodes but on dynamic service composition (run time)
DBE System

Service Factory
- DBE Wizard
- BML Editor
- SDL Editor
- Authoring Tool
- DBE Portal
- DBE Desktop
- Knowledge Base
- Recommender
- Composer
- Intelligent System
- Testing Harness

Evolutionary Environment
- Habitat
- Population
- Fitness Function

Execution Environment
- Servent
- DBE Services
- TWFM
- Accounting
- Billing
- Security
- DOP

Contracts
Certification Authority
Service Manifest

DSS - Distributed Storage System
FADA - with Event Management
Business Modeling Language (BML) and Service description Language (SDL) in the DBE

- DBE project requires a business modelling language to represent the business organisation, its products and services, contractual basis and basic IT infrastructure and to model business service descriptions.

- BML model contains information expressed in Business Modeling Language that describes the main business characteristics of a SME and the business transaction they can support. The BML contains information as: service offered and requested, resources, processes, business model and motivation, policies and agreement, location and event related to business and so on.

- The SDL describes the technical specification of a DBE service.

- The SDL is able to describe the DBE service in a double-faceted fashion. One facet refers to the Semantic Description of DBE Services and the other refers to the description of the DBE Service Interaction Specification.

- SDL is a semantically rich abstraction of the WSDL...
Project timescale

- **DBE 1st release**
- **DBE Sw available**
- **DBE operational**

**Phase 1 (1-18 Months)**
- Stakeholders & SME Briefing
- SME Recruitment for Research
- Tendering & Selection Process

**Phase 2 (19-36 Months)**
- Training and Adoption support

**DBE Growth**

- 15-30 SMEs
- 100-150 SMEs

Nov 2003 - Nov 2006
Estimated Timeline for DBE Components

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DBE will be populated by service coming from SME that will grow continuously from mid 2005.
From Research to Exploitation => DBE Innovation

- Open Source model
  - Reduced barrier to entry and easy adoption
  - Customizability (local languages, customs, laws, ...).
  - Development of local software industry
  - Technological and provider independence
- 5 Regions involved in the project
  - Tampere, Aragon, Midlands (funded)
  - Piemonte, Extremadura
- 10% of the project budget is reserved to directly fund and support adoption and deployment in industry by SME in the regions.
- Local nodes will be established to support DBE operation for local providers
- More than 10% of the budget dedicated to local training initiatives
- 200 SME connected before the end of the project
- Support and stimulation of Local government policies addressing ICT adoption and DE model support
Critical factors for DBE

- Open access => "Commons"
- Open standards => Royalty free
- Friendly Regulatory and legal framework
- Business requirements driven
- Common shared semantics
- Need of mutual trust