



The Digital Business Ecosystem Project

Andrea Nicolai
T6
DBE project manager

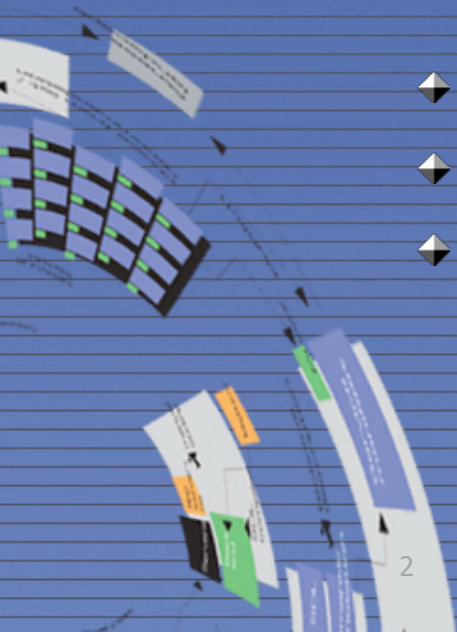
European Grid Technology Days 2004
IST-FP6 Grid projects oncertation
17 September 2004



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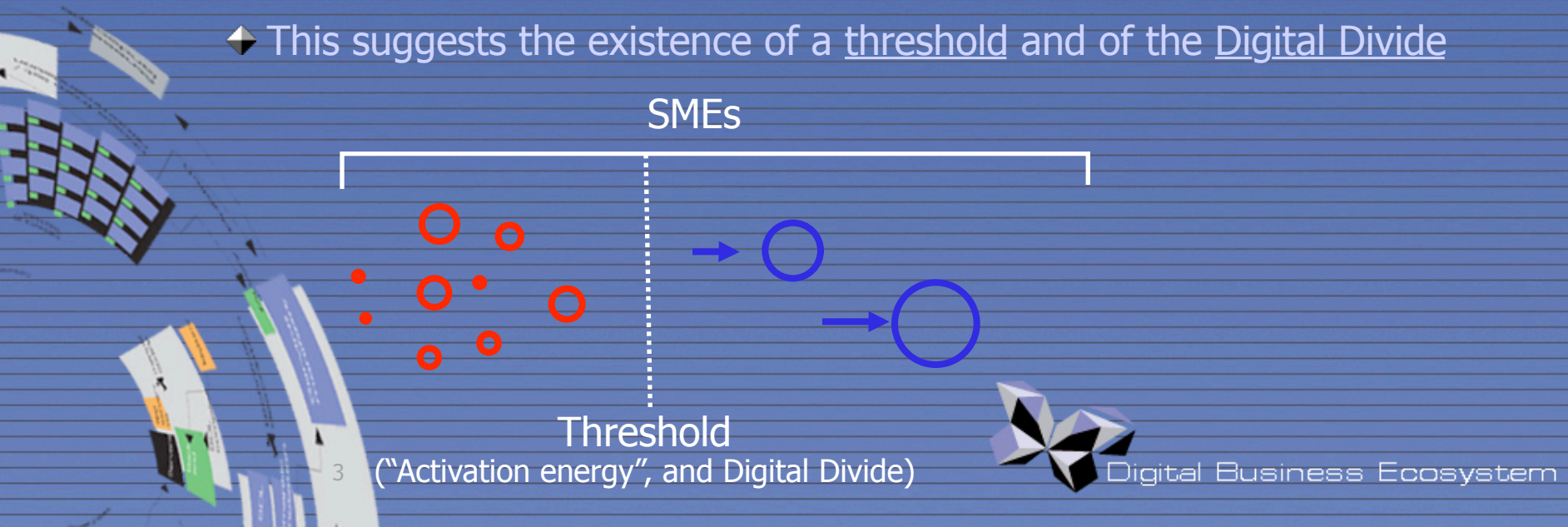
The project

- ◆ 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



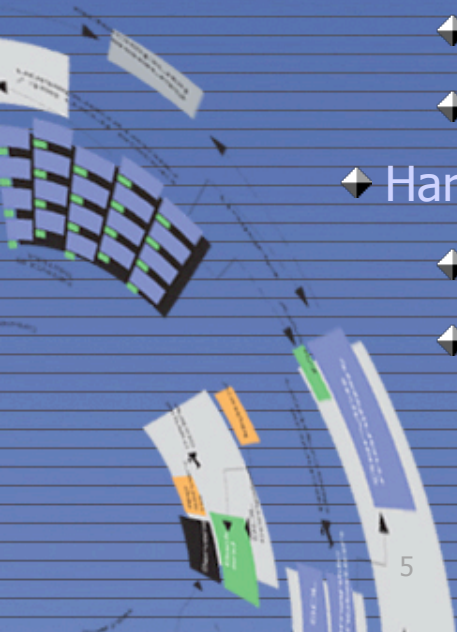
So why do we care?

- ◆ 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?

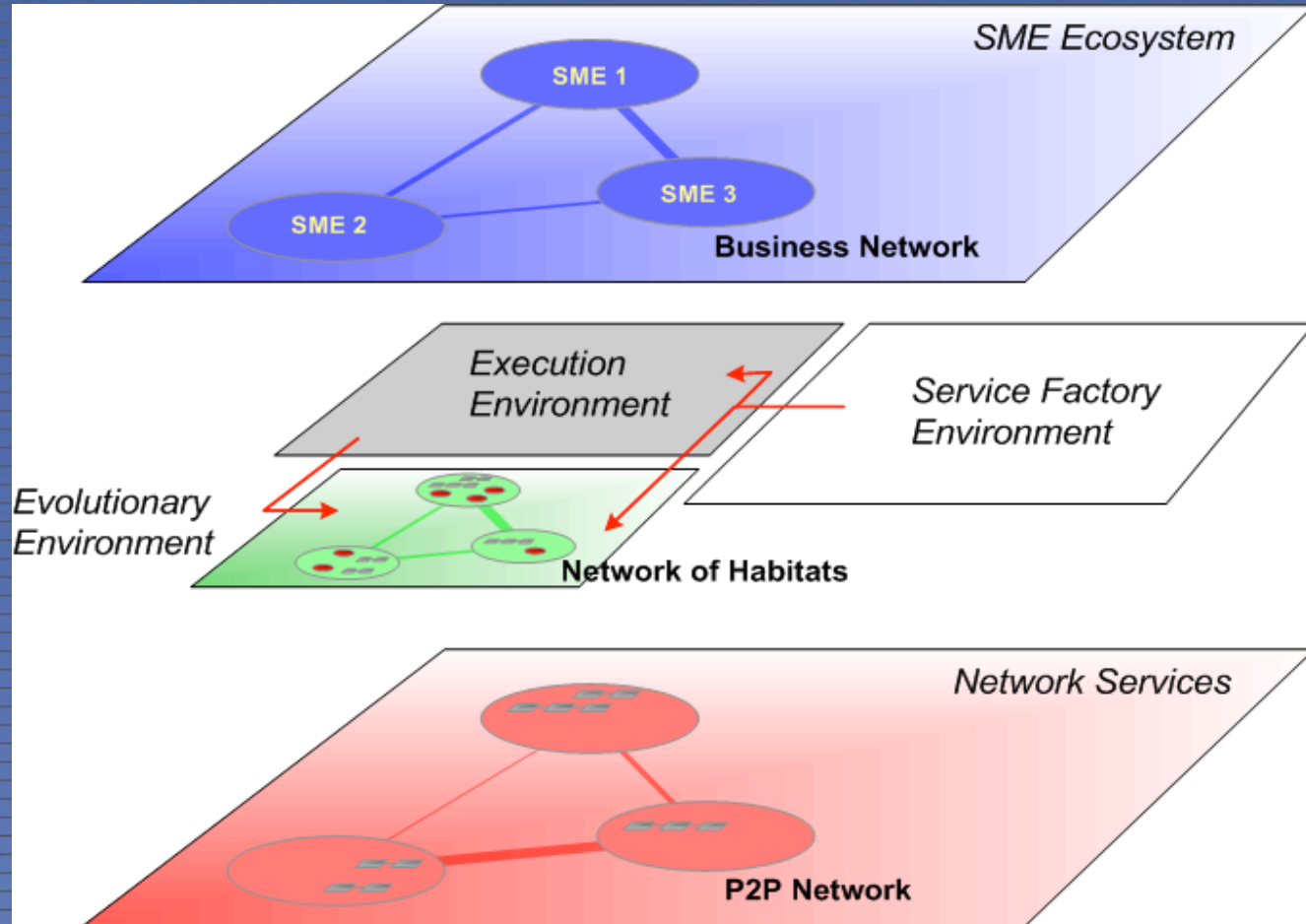
- ◆ is a pervasive “digital environment”
- ◆ which supports the business ecosystems
- ◆ which is populated by “digital components”
- ◆ which evolves and adapt to local conditions with the evolution of the components
- ◆ where the software layer support infrastructure, offers and transports services (application) 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)

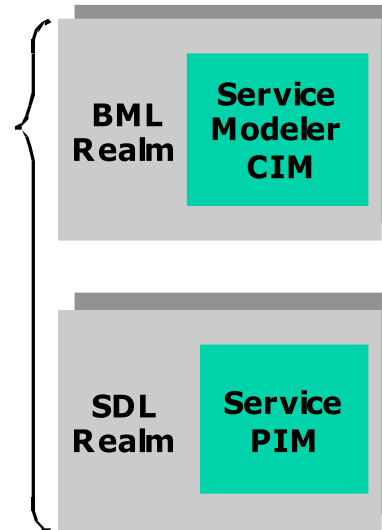


Service Execution Environment



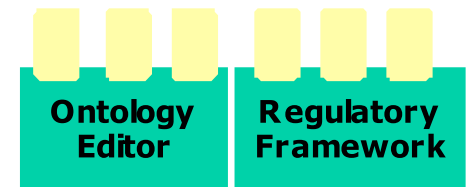
Orchestration Editor

Modelling (Top-down)



Service Factory Environment

Domain Ontologies *Legislations*



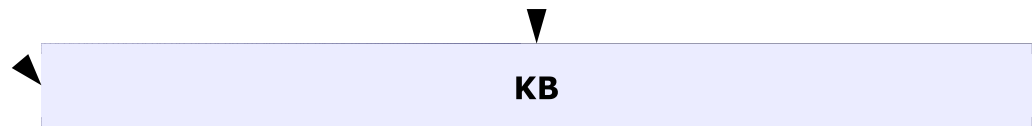
Business Modelling

Interface specification



Backend Services

Coding



Created: Monday, 08 December 2003

Modified: Tuesday, 21 July 2004

DBE System

Sept 04

Service Factory

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

(bridge)

Contracts
Certification Authority
Service Manifest

Execution Environment

Servent
DBE Services
TWFM
Accounting
Billing
Security
DOP

Evolutionary Environment

Habitat
Population
Fitness Function

DSS - Distributed Storage System

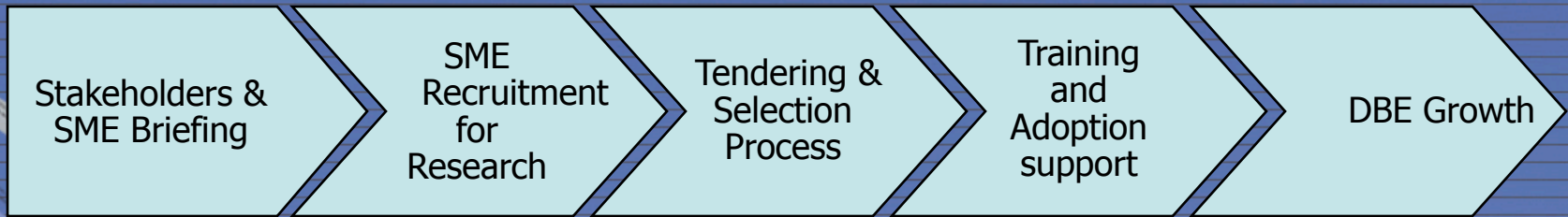
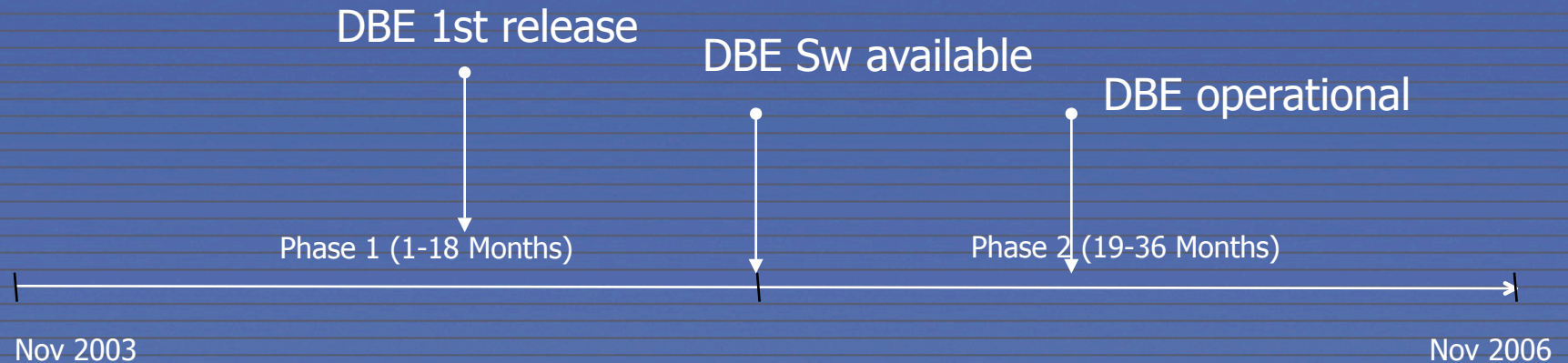
FADA - with Event Management

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



15-30 SMEs

100-150 SMEs



Estimated Timeline for DBE Components

Nov 03

KB
Servent
Demo DBE Services
Accounting
DBE Desktop
DSS
FADA

BML Editor
SDL Editor
Service Manifest
Portal
Authoring Tool
Recommender
Manual Composer
TWFM
Billing
Certification Authority
Habitat
Population
Fitness Function
Testing Harness

Nov 06

Wizard
Automatic Composer
Intelligent System
Contracts

Nov 04

Apr 05

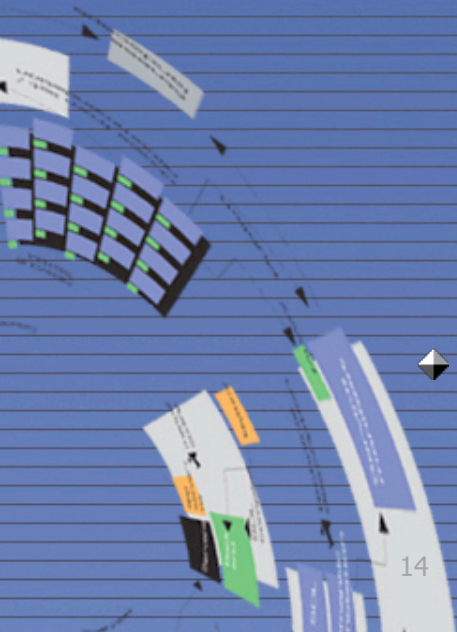
Nov 05

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

