

Towards Business Cases and User-Oriented Services in Digital Business Ecosystems

**FP7 Workshop on Needs and Requirements of Regions
Bruxelles, 18 April 2005
CONCLUSIONS**

Context

In 2002, the "e-Business" Unit of the DG INFSO, launched the concept of "Digital Ecosystems" within the FP6. The Digital Ecosystem initiative aimed at building an enabling internet-based technology platform to support the economic development and the competitiveness of "Business Ecosystems", with special focus to SMEs. A cycle of workshops with users and regions and with the scientific community took place. This work resulted in an IP called "Digital Business Ecosystem", which started in 2003 and now is part of the cluster of projects "Technologies for Digital Ecosystems" formed in 2004.

Three years later, the first results and findings are emerging. The concept of digital ecosystems is considered of key importance in the framework of the Lisbon strategy and will be likely further developed in the FP7.

Therefore the same Unit, now called "ICT for Enterprise Networking", has organised a second cycle of workshops on Digital Ecosystems. The two workshops aim at:

- assessing the results of the first two years of research and initiatives of activity on the Digital Ecosystems
- re-tuning and re-focusing the needs and the research priorities in view of Call 5 of FP6 and of the activities of FP7 on the topic.

The first workshop focused on the user needs and the second workshop (May 18th) will focus on technology and research.

SME Requirements

During the morning Gerald Santucci (Head of ICT for Business Unit), Francesco Nachira (Head of Digital Ecosystems Sector within the ICT for Business Unit), Petri Räsänen (Regional Catalysts Coordinator, DBE Project) and Andrea Nicolai (Project Manager, DBE Project) presented their views of the challenges and opportunities. Freek Posthumus (UEA-PME¹ and NORMAPME²). presented an overview from the SME business associations' point of view. Erik Josefsson, FFII representative, spoke on behalf of CEA-PME³ comparing copyright ecosystems with patent monocultures and stressing the dangers of software patents for the European Digital Ecosystems projects.⁴

¹ www.ueapme.org

² www.normapme.com

³ www.ceapme.org

⁴ <http://wiki.ffii.org/DbeWorkshop050418En>

In the DBE-project, the participating regions have been working with local SMEs in order to capture the real-life SME needs and requirements for the infrastructure and services in a Digital Ecosystem.

From the SWOT analysis of the DBE Infrastructure Technology, conducted with SMEs in the Tampere Region, Finland; the presentations of the regional Catalysts; and from the workshop debate, the following **requirements for the infrastructure** have been extracted:

Global solutions with a local input and sector approach

- The operation of SMEs is still strongly related to their local regions. But the solutions to be provided need to be developed on a European scale, with sector-specific implementations that can be adapted and tuned according to local customs. SMEs need a local support infrastructure to implement those solutions in their business operations.

No single point of failure and control

- Digital ecosystems should not be dependent upon any single instance or actor. From the technology point-of-view this refers especially to the utilisation of P2P-technologies and from the organisational perspective to balanced and decentralised governance models.

Commitment to Open Source and Open Standards

- The infrastructure of a digital ecosystem should be based on open source technologies and open standards. Open standards mean open access to the specifications and free usage of the standard.

Long-term credibility and attractive brand

- When aiming at piloting new technology with real business, the sustainability of the technology in use is a central success factor. Long-term credibility is crucial for adoption by SMEs and can be enhanced by several measures, including EC instruments, but especially by having support from large players in the software industry, from large established development communities and/or from standardisation organisations

Utilisation of proven technologies

- The infrastructure should reuse whenever possible standards and technologies and should build on top of previous successful research and development. However, in the areas where new technologies are deemed necessary, they should provide enough competitive advantage against existing integration solutions and emerging proprietary products to justify the cost of switching.

Simple on the surface, performant technology underneath

- The use of the technology should be simple and easily integrated into the daily operating mode of the SMEs; the underlying technology should enable the SMEs to interact efficiently with other, bigger systems (interoperability) and provide the savings the SMEs are looking for.

Sufficient trust and identity management and data security

- The major current unresolved questions seem to be in the area of trust and security. The absence of reliable and robust solutions to be applied within a

distributed P2P architecture could greatly slow down the diffusion and prevent the full realisation of the benefits of the concept of digital business ecosystem.

Proven business cases and benefits for service providers and service users

- The bootstrap of services in a digital business ecosystem is based on the attractive business cases for service providers and consumers. The business benefits should be clearly demonstrated and widely communicated to the SMEs in different regions and opportunity spaces.

Allows open entry to new territorial markets

- The benefits of the infrastructure can be fully realised only when a critical mass of providers and consumers have joined as users. Highly skilled and hi-tech companies may be chosen to lead this implementation, but to reach critical mass the territorial pilots should be widened to cross-European initiatives, involving a much wider array of enterprises.

Respectively, based on the in-depth analysis of the ICT needs of over 400 SMEs in the Tampere Region and the input from the UEAPME small enterprise analysis, the key **software service needs of SMEs** can be summarized as follows:

- Providing cost and time savings in the daily operations, with the recognition of the need to change their way of working to take full advantage of the new management systems.
- Improving customer relationships management: services that make the sales, marketing and customer care processes and interaction with customers more effective
- Improving internal communication: services such as intranet, collaborative team work, remote work and project management
- Exchange of information between companies: services such as electronic invoices, technical and sales documents
- The IT-infrastructure for SMEs must be easy to use and to maintain. There is a growing need for local IT-caretaker services that would provide services such as installation, upgradings and trouble-shooting.
- Seamless cooperation between large and small operators, governments and businesses, allowing full interoperability.

Regional needs

The regional representatives then made their presentations on their regions, highlighting their needs and requirements. Based on the findings of the DBE-project, some variation in regional needs, requirements and opportunities for digital business ecosystems can be expected. Typically, the regional variation reflects the differences in regional innovation capability, in SMEs ICT capability, and in social capital of the region.

In general, the regional interests towards digital ecosystems proved to be quite coherent. Based on the regional presentations and the subsequent roundtable

discussion, the following aspects can be highlighted as common elements in the regional approaches presented:

- Strong focus on the development of the SME sector
- Mechanisms for sharing and open diffusion of knowledge within local clusters of SMEs, helped by the interaction and Europe-wide cooperation between regional networks.
- Interaction of such local networks and local communities with larger ones already in place; stronger interaction between SME associations structures and open source communities
- Linking eGovernment with SMEs
- Need for strong business cases demonstrating the benefits of the concept of Digital Ecosystem
- Need for easy-to-use services with high user value. Current work on Digital Ecosystems has mainly focused on the development of the infrastructure. Without integrated services, however, the ecosystem is empty and the technology practically useless.
- Shared interest and support for Open Source
- Promotion of the knowledge “embedded” within local territories, and the recognised need to share knowledge and best practices through information and education programs (coaching).

Non-functional needs

From the multidisciplinary research activities performed by the projects of the cluster “Technologies for Digital Ecosystems” some elements have emerged:

- The development of models which could be used directly by SMEs, without intermediaries.
- The necessity to approach SMEs differently by category, by sector, by size, and by existing ICT level. Micro-companies need a different approach to medium-sized ones.
- The need of new paradigms that allow the delivery of intermediate results through a gradual and evolutionary approach.