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1 Executive Summary

This document assesses the phase II training activities of the DBE project with regard to Driver SMEs and new users.

The goal of the phase II training activities was to create a sustainable community around the DBE.

Training was delivered by different DBE actors via multiple training channels as there was no single training authority in the DBE.

The document will try to establish

- which factors were useful in
 - (a) DBE's decentralized training delivery
 - (b) growing a DBE community.
- what still needs to be done to create a sustainable DBE community

The DBE technology introduced during the project phase was not too complex and focussed on things that work now. This conservative approach made training easier and helped convince new users to join the DBE.

The regions, their high-quality SMEs and their distinct, conservative approaches to DBE implementation more or less stuck to the recommendations listed in this document but more needs to be done (also in terms of training) in order to ensure sustainable community growth during the post-project phase.

2 Introduction

This deliverable analyses the impact the regional training activities had on DBE community building as successful community building is key to the survival of the DBE during the post-project phase.

The first part of the deliverable (Chapter 3 and 4) is a summary of the training activities and assesses their execution.

These chapters logically flow into Chapter 5 Training Impact and there is a strong linkage between Sub-Chapters 3.2 SME Engagement and 5.1 Community Building.

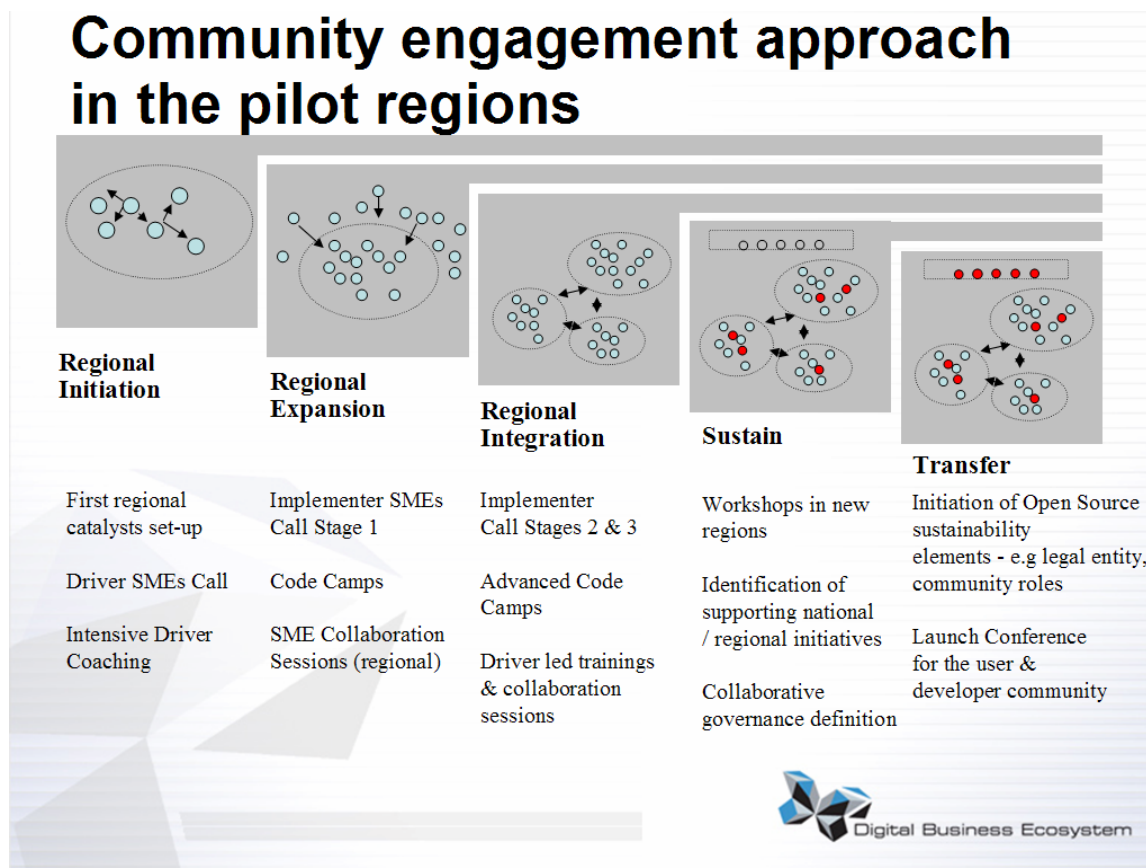
The results from this analysis are two-fold:

First, we come up with recommendations for improved collaboration and community building in the DBE context (Chapter 5). Then, in Chapters 6 to 8, we look at how

existing training content can be improved to support community growth and collaboration.

3 Training strategy versus actual execution

3.1 The original engagement model



During the project phase the DBE project partners stuck to the original engagement model which describes how to kick start the DBE with a few Driver SMEs working on a number of smaller applications which – over time – become bigger and more complex as the number of SMEs grows.

In our DBE case, growth was led by the three pilot regions (Tampere, Aragon, West Midlands) which not only initiated the DBE in their regions but which also drove the regional expansion.

As part of the regional expansion phase additional regions (Trento, Baden-Württemberg, Extremadura, Ireland) have been introduced to the DBE.

Having successfully created a small but high-quality DBE community we are now facing the challenge how to sustain the growth momentum in light of the end of the funded project time.

3.2 SME Engagement

The main objectives of the Phase 1¹ training were (a) to initiate local DBE communities in all three pilot regions (Tampere, Aragon, West Midlands) and (b) to select SMEs to become Driver SMEs.

Then, during the Phase 2 training, the Driver SMEs took a larger role in the expansion process as they assisted in attracting new users.

The training supported the growth in each of the pilot regions and concentrated on new user SMEs with the help of the driver SMEs and other collaborative partners.

The goal of the training was to build up local DBE competence (in terms of technology and implementation) in each of the regional catalyst organizations.

In all three pilot regions, the following training approaches were used to support new user SMEs:

- Workshops /meetings
- Coaching & personal one-to-one support by Regional Catalyst
- Demonstrations / Tutorials / Service Examples
- Blogs

Furthermore SME engagement was enhanced by specific regional features:

Aragon's SMEs

- had a very dedicated ITA Relationship Management Team who were able to build a very trusting relationship that set the tone for a continuing collaboration with the SMEs.
- were bound together by a common goal, namely the effective delivery of a work plan drawn up by ITA and the SMEs.
- were also engaged via regional DBE-related public tenders

Tampere's SMEs

¹ For a more detailed description see Deliverable D28.7 « Cross-regional phase 1 training evaluation report »

- were part of an existing open-source community who approached the DBE as an opportunity to extend their professional network and know-how
- were probably the most tech-savvy SMEs in the DBE as they easily managed to cope with a delayed delivery of the DBE technology.
- were well connected with the Free Software Foundation which was a community-enhancing factor.

All in all, the three regions had some common denominators for successful SME collaboration:

Working with the DBE became easier for the SMEs

the more

- marketable and hands-on the solution was presented
- professional networks for the support of the DBE already existed

the less

- visionary & abstract the DBE solution was presented to the SMEs.

Quality before quantity -- in that sense, all three regions with their approaches to SME collaboration were successful in qualitative terms as all three regions attracted tech-savvy and highly ambitious SMEs whose unparalleled commitment to the DBE have laid the foundations for a DBE Community (for recommendations on community building also see chapter 5.1 Community Building).

3.3 Engagement of other stakeholders (policy, local, developers)

Separate regional information sessions and DBE introduction workshops were held for policy makers and other stakeholders.

Attendance of these workshops was excellent with regional policy makers taking a genuine interest in the concerns and goals of local SMEs.

Policy makers and SMEs have understood that the DBE is an excellent blueprint to promote growth and innovation in their local economies.

In Aragon for example, ITA succeeded in convincing the regional government to integrate the DBE into their 2005-2008 strategy.

This way ITA was able to win 20 – 25 SMEs via public tenders which derived from this regional government programme. More concretely, 12 SW Implementers Phase II SMEs,

and 2 User SMEs per Implementer at least, were engaged through that regional call tender with a budget of 155.000 euros. Additionally, the Government of Aragon has launched a new call tender for 2007 with a budget of 153.700 euros.

4 Training Sessions & Methods

4.1 Initial Driver Workshops

All initial Driver Workshops were led by the DBE Consortium and Regional Policy Makers and covered three main topics:

- DBE conceptual introduction
- Policy and research vision
- Technical architecture and development roadmap

The initial Driver Workshops were successful as Driver SMEs

- actively extended the DBE community by building on their own preferred communication forms (e.g. web logs) and adapting the DBE communication infrastructure (knowledge platform, web-site) to it.
- recruited more than 200 SMEs (more than 200 drivers, implementers and users)
- Built joint cases with users that address a concrete business need
- Created joint work plans for the delivery of the DBE Tools

The initial Driver Workshops were complemented by additional workshops held with other DE (Digital Ecosystem) projects, such as, SEAMLESS, ENVISION, PEARDROP and enhanced collaboration with them. These projects are now using the DBE technology.

4.2 Code Camp Series

In 2005 and 2006 a series of code camps, led by the computing team, were held in various locations where new users were able to experience the DBE in a very practical and hands-on environment.

The drivers' and new users' comments on the DBE technology had a strategic impact on the project.

Drivers and new users communicated their findings openly via the DBE weblogs which – in turn – become a learning source for other SMEs, regions and project partners.

To sum up, the work of Drivers and new users sharpened the DBE business vision and made it more realistic in terms of the challenges SMEs face in their ongoing business operations.

4.3 Roadshow or new regions

In 2006 the DBE hosted four one-day roadshows. The aim of the roadshows was to identify Regional Catalysts for small-to-medium sized enterprises (SMEs) in the following regions: Trentino Italy, Baden-Württemberg Germany, Meath & Kildare County Ireland and in Extremadura Spain.

The roadshows were a great success with nearly 120 attendees in all and were attended by local Development and Enterprise representatives as well as DBE partners and other key representatives from the European Commission etc.

The networking opportunities created by this unique mix of attendees were greatly appreciated by all attendees.

During the roadshows the DBE Partners identified some hands-on benefits of the DBE, such as

- service visibility in the DBE network
- connectivity possibilities to multiple unknown business partners and technical solution providers
- decrease in DBE solution deployment time through pre-existing application interfaces
- DBE compliant applications and solutions developed by others
- gateways to other platforms such as Google search integration

A series of follow up actions were agreed to undertake the next practical steps.

4.4 Training Content

The DBE Training Content was organized in blocks each of which had a very specific training delivery methodology at its' core:

- DBE Induction
- SME Engagement
- Business Potentials and Practices

- DBE Service Development
- DBE Regional Policy impact & potential
- DBE Community tools, processes & development

DBE Induction

The learning goal of the DBE Induction training content block was to explain the benefits of the DBE to SMEs and Regional Catalyst and thereby creating new regional DBE communities.

Due to the complexity and abstractness of the DBE, the DBE Induction content had to be delivered and explained in workshops and roadshows. The DBE Induction flash movies (see chapter 4.5 Web-Based Training and Collaboration) were an excellent starting point for those unable to attend the workshops.

SME Engagement

The SME Engagement Training Block basically consists of one-to-one meetings workshops where Regional Catalysts learn how to

- motivate SMEs to become part of the DBE Network
- enable the SMEs to understand the DBE technology

The approach to involve Regional Catalysts worked fine during the project phase but it has some weaknesses when it comes to the post-project phase (see chapter 8.2 How to Connect to the DBE?).

Business Potentials and Practices

The Business Potentials and Practices learning block intends to generate interest among SMEs

- with practical, existing web-based business solutions for their business (User SMEs)
- with creating new web-based business solutions for their customers (Developer SMEs)

Newcomers to the DBE who move from the DBE Induction block to the DBE Business Potentials and Practices will probably need additional training content in the post-project phase. This additional training content is discussed in Chapter 8.3 Hands-on Applications.

DBE Service Development

In a nutshell, this training content block is focused on the Driver SMEs, who learn how to handle the DBE core technology, namely

- creation of the first service on the DBE,
- adaptation of a web service to the DBE
- search for a service which is not on the ServENT
- integration of other legacy systems

Workshops and code camps were the prime training delivery method but knowledge transfer was greatly enhanced by web-based trainings and collaboration tools (see chapter 4.5 Web-based Training and Collaboration).

DBE Regional Policy impact & potential

The purpose of the **Regional Policy Impact & Potential Learning Block** is twofold:

- to explain the benefits of regional participation in the DBE and
- to provide a detailed blueprint for influencers as they seek to grow their regional economies via the DBE Network

The training content (mainly PowerPoint Presentations) for this training block can be found under the DBE Roadshow sections. In this context the Maynooth Roadshow has some very good training content examples.

DBE Community tools, processes & development

The DBE Community Tools, Processes & Development training block has a support function and its' goal is to make the training content of the other training blocks more effective and enhance collaboration between SMEs by providing a website and various collaborative tools.

Mixed Picture Emerges

At the end of the DBE project phase a mixed picture emerges with respect to training content.

On the one hand quite a number of excellent training contents were developed that helped the DBE community to grow throughout the project phase. On the other, the DBE training content has some weak spots when it come to growing the DBE Community in the non-funded post-project phase.

In Chapter 8 (Recommendations per DBE Training Block) we suggest to streamline the existing training content blocks so newcomers to the DBE can draw more quickly a picture of the benefits coming with the DBE Network.

4.5 Web-based Training & Collaboration

Web-based Trainings and DBE Community Tools were used in the project to make the training content more effective and to kick-start collaboration between SMEs.

The **DBE Induction** learning block provides four flash movies for the first engagement with different groups of agents, namely software developers, software users and influencers.

In addition to the one-to-one meetings and workshops the knowledge transfer of the **SME Engagement & Business Potential and Practices** learning blocks was supported through the DBE Community Tools, esp. by Wikis, Blogs and Moodle.

DBE Service Development:

The most excellent web-based training for the DBE Service Development was developed by ITA and it is a good case in point for future WBT development in the DBE.

Not only does this WBT explain the DBE technology but it also explains how this piece of technology becomes an innovative application in the context of a specific business community, namely the tourist industry.

Due to this approach “combination of technology & business community” the ITA WBT has become enormously popular at external DBE meetings.

The beauty of this approach is that the DBE technology becomes embedded in an instructional design which has a story to tell and which focuses on the business community and business benefits.

5 Training Impact

As already hinted in chapter 4.5 Training Content a mixed picture emerges with respect to the impact training content had on

- Community Building
- Knowledge Transfer
- Support of first DBE Application Cases
- Feedback loop Into the Project

5.1 Community building

During the DBE project phase, the DBE consortium tried to tackle a most difficult task, namely the creation of a community around the DBE project.

As mentioned in Chapter 3.2 SME Engagement, it became clear in the course of the project that SMEs were more interested in solutions than in visions and that the first DBE communities were created around hands-on solutions.

So community building in the DBE was a slow uphill climb during which SMEs constantly questioned the marketability of the DBE.

This feedback from SMEs was good for the project and – at the same time - it also proved that the DBE was successful in attracting high-quality SMEs (“Quality before quantity” as mentioned in Chapter 3.2 SME Engagement).

These high-quality SMEs have created the foundations of a future, larger DBE Network and more has to be done during and after the project phase in order to avoid

- o disappointment among these SMEs and
- o implosion of the DBE resulting from this disappointment

In organizations, people are likely to endorse new technologies and create virtual communities around new technologies if at least the following points are taken into account:

The new technology

- has to support core processes
- has to be promoted actively
- has to be compatible to the job roles of users
- can be less complex when introduced and can become more complex as users get used to the new technology
- should also be promoted by End User SMEs and not only by Developer SMEs
- should continuously be used by a core group of SMEs so practical knowledge about the technology won't get lost

New Users

- quickly understand the relative advantage of the new tool
- can test the tool in a sandbox environment
- have easy access to the tool
- can read about the success stories they or others had with the new technology
- can make changes to the technology and improve it
- should be welcomed by peers and get some sort of a reliable peer support.

The DBE technology introduced during the project phase was not too complex and focussed on things that work now. This conservative approach probably contributed to convincing new users to join the DBE.

The regions, their high-quality SMEs and their distinct, conservative approaches to DBE implementation more or less stuck to the recommendations listed above but it is doubtful whether

- the prototypal work results and
- their existing or non-existing community-building initiatives

will ensure sustainable community growth in the future.

5.2 Knowledge transfer

Knowledge transfer in the DBE training context, i.e. in workshops, code camps, one-to-one meetings was clearly successful as the vast majority of developers understood the DBE and were able to handle the DBE technology.

Knowledge transfer from the classroom into the business context of the developer is another matter though and at the end of the DBE project phase

- community-building measures (as described in Chapter 5.1 Community Building) and

- knowledge transfer into the business context should be combined to help developers to offer DBE applications with a clear business benefit (also see Chapter 5.3 Support for first DBE Application Cases).

5.3 Support of first DBE application cases

Aragon's unparalleled training efforts immensely contributed to the successful development of the Aragon DBE Tourism Application which incorporates a network of Driver SMEs and new users and offers a clear business benefit for all.



ITA Aragon systematically used a Blended Learning approach (information, interactive, collaborative, face-to-face) to provide training and support to User & Developer SMEs. The Aragon approach is a good DBE example where a combination of learning methods was stringently used in conjunction with a network of users of an industry-specific (=Tourism) business application.

5.4 Feedback loop into the project

During the project phase, feedback from SMEs into the project was not only ensured by the workshops, roadshows and one-to-one meeting but also by involving SMEs in different fora and blogs.



The DBE partners have managed to create an engaged community and quality management with lively blogs and active discussion fora.

In Aragon, the feedback provided by SMEs was seriously taken into account by the DBE Computing Team, and the feedback had an impact on the future planning of the DBE.

However, in the post-project phase these feedback mechanisms will only survive if they are embedded in the community-building measures described in Chapter 5.1 Community Building.

6 Elements of a DBE Training Workplan to Support DBE Community Building in the Sustainability phase

The DBE has to go through a process of making the central elements of its concept easily accessible as well as of lowering the technical entrance hurdle to install and use our technology.

So far the DBE has refrained – for good purpose – from giving the DBE an Open Source “product” character. Instead participating SMEs have been confronted with a permanently emerging environment. The DBE certainly is more than a single product but a more complex toolkit – however even for a toolkit.

Training has adapted to that emergence – however we now need to enter a phase of consolidation.

In light of the limited project time available not all recommendations of the following chapters 7 and 8 can be implemented and we suggest to focus on (a) the creation of three video tutorials where SMEs can quickly draw a picture of the benefits coming with the DBE Network (b) a cross-regional DBE workshop which is to enhance collaboration among SMEs.

DBE Training Workplan	Assigned to	Due
Production of 3 videos on the installation and use of the DBE technology components	ITA	End of Jan 07
The documentation of 3 selected DBE application cases also in videos - with real people from the SME community explaining their DBE solution	Intel	End of Jan 07
The integration of both work parts into the DBE website Cross-Regional DBE Workshop	Intel Hermia	End of Jan 07 17 – 19 Jan 07

As it has been the process with SME engagement – training can only support but not achieve sustainability alone. Other actions are described in:

- > sustainability plan
- > governance
- > final business domain strategy

7 Comparative evaluation of central website and web training material

During the DBE project phase the DBE Website was an excellent tool to

- (a) disseminate the DBE knowledge across SME communities
- (b) support the development of the DBE technology

In the post-project phase some of the DBE material posted on the DBE website may no longer be needed.

Ridding the DBE website of older DBE material will turn the DBE website into a “no-fuss”, “no-frills” website that

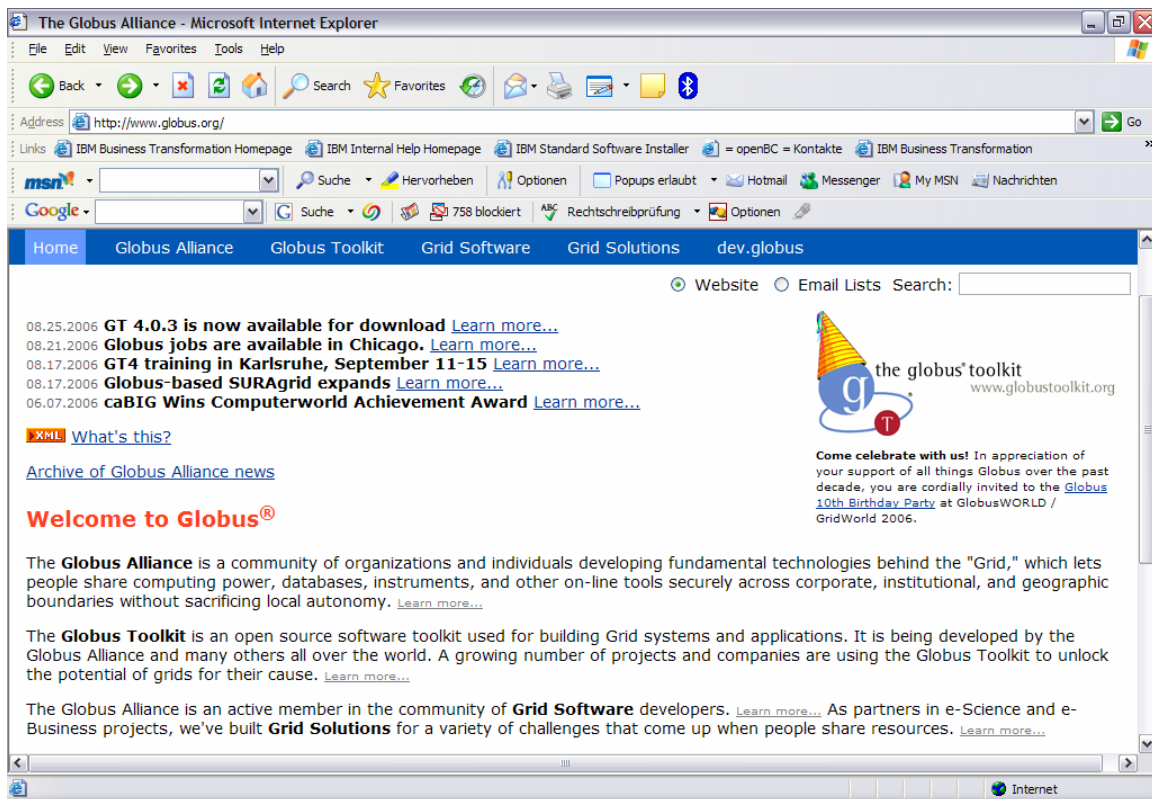
- quickly gets their messages across.
- reinforces the internal and external knowledge networks
- enables and sustains the spontaneous creation of distributed communities of knowledge practices
- guarantees to developers a collaborative working environment

A post-project DBE website will then probably look like some of the very successful open-source websites (Apache, Openbsd, Openoffice, Xxamp etc.) which have rapidly grown over the years.

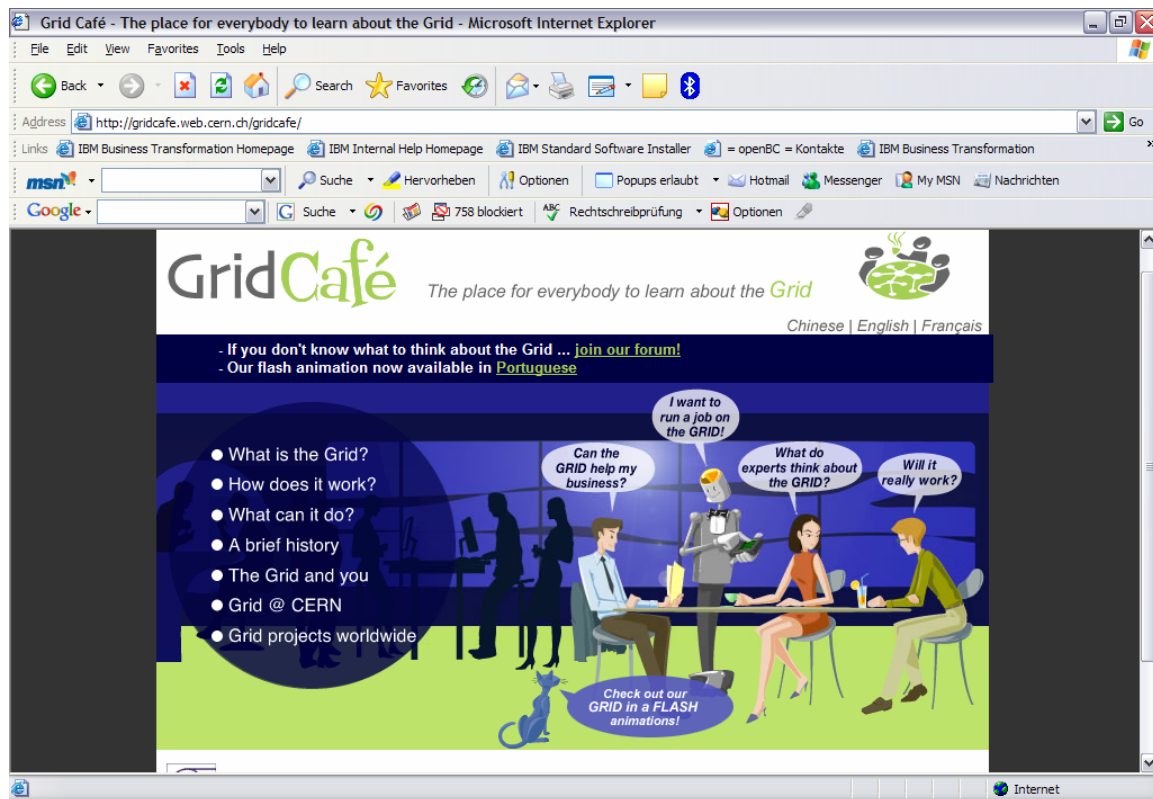


Perhaps the DBE Website - with less legacy content - will evolve into something which looks like the Globus website or the Grid Café.

The Globus website is organized by blocks of key topics and contains a short body text which leads to the desired solution.



The Grid Café's look and feel goes a step further as it uses cartoons to emphasize key points and issue.



8 Recommendations per DBE Training Block

If we rid the DBE website of older DBE material (as discussed in the previous chapter), then , the existing DBE Training Blocks can be rearranged , optimized and assigned to three key clusters that are of interest to Developer SMEs, Users and Influencers.

- What is the DBE?
- How to connect to the DBE?
- Hands-on applications

8.1 What is the DBE?

The **DBE Induction Learning Block** which falls into two categories

- DBE Introductory Flash Movies and
- Dissemination material for conferences and one-to-one meetings

is the starting point to the project where newcomers learn all about the basics of DBE.

The content of the DBE Induction Learning Block was successful in defining a DBE terminology which is spreading fast.

We suggest that the DBE Induction material should be streamlined to include only hands-on and forward-looking topics so SMEs can quickly decide if it's worth their time to read the following links to draw a picture of the benefits coming with the DBE Network.

In particular the DBE Induction material should focus on

- enlargement of the DBE Network
- integration of new regions
- expanding and strengthening the collaboration and community building of new users
- the business needs of developers and users
- limiting the amount of “historical” material

8.2 How to connect to the DBE?

Next, and ideally,

- the influencer should jump into the **Regional Policy Impact & Potential Learning Block** and
- the SMEs should jump into the **Business Potentials and Practices Learning Block**

Let's start with the influencers first.

The purpose of the **Regional Policy Impact & Potential Learning Block** would be twofold:

- to explain the benefits of regional participation in the DBE and
- to provide a detailed blueprint for influencers as they seek to grow their regional economies via the DBE Network

The latter point (“blueprint”) would lead the influencer to the **SME Engagement Training Block** where the influencer would learn how to

- motivate SMEs to become part of the DBE Network
- enable SMEs to understand the DBE technology.

In this context, so far, the Regional Catalysts have undertaken an enormous task.

Not only did they provide (mostly face-to-face) training but they also had to

- manage SME expectations and
- assess and improve the skill set of the SMEs so they were able to
 - o implement in Java
 - o understand the complex DBE architecture
 - o understand open source
 - o etc.

Assuming that in the post-project phase there will be no central EU funding for the DBE Network the current SME Engagement Learning Block should focus

- on applications, tools and activities that really work **now** and
- on making training content more reusable

in order to avoid a collapse of the SME Engagement training activities.

The reusability of the small bite-size learning blocks can be achieved via transforming existing face-to-face content into simulations, weblogs, readings, online tutorials, recordings of online tutorials, collaborative environments etc.

Reusability requires a common content development workflow based on

- process standards for instructional design workflow
- standards for the look and feel (material templates) for learning products.
- feedback processes which will influence how content is developed.
- standards for content portfolio management or content life cycle management for content .
- standards which ensure that the DBE Network obtains quality learning materials that are more valuable given the investment, reduce duplication of effort, and drive learning content that is interoperable.

But the mere reusability of learning content will not be enough. In fact, the SME Engagement Training Block will probably only survive if the current Regional Catalysts can train a significant number of **Driver** SMEs to trigger a new and innovative form of SME Collaboration and community building after the project phase.

These **Driver** SMEs will have to

- observe and facilitate the ongoing activities and processes of the participating SMEs as they use the DBE tools
- be proactive and oversee all professional dissemination activity within the DBE Network
- act as a catalyst for communication
- facilitate 'User/Customer Group workshops'
- record and draw evidence based conclusions about effective dissemination activity, codifying successful models and communicating them to project stakeholders

Driver SMEs should also participate in new R&D or business projects using the DBE Technology.

8.3 Hands-on Applications

As mentioned earlier the DBE Induction leads SMES to the **Business Potentials and Practices Learning Block**.

This learning block should generate interest among those concerned

- with practical, existing web-based business solutions for their business
- with creating new web-based business solutions for their customers

New users that move from the DBE Induction Learning Block to the Business Potentials and Practices Learning Block will need additional training content so they know

- how to detect business potentials practices and
- what to do once you find them

This learning block should also provide a range of hands-on applications from various industries, such as

- Tourism
- Project Management
- PSA Project Collaboration
- Customer Care
- Etc.

which serve to show how easy and cost-efficient it is to create new services within the DBE Network:

Ideally, User SMEs would install a special „User DBE Installer“ which would enable them to download and try out one of the above-mentioned applications in their companies or within a network of companies.

Of course, some SME would want to go a step further and download the complete Developer Package. Here, the Business Potentials and Practices Learning Block should provide a direct link to the **DBE Service Development Training Block**.

The DBE Service Development Training Block represents the technical core of the project and therefore, we propose the implementation of an action plan ensuring the transformation of existing training content of the *Software Factory and the Execution Environment* into reusable learning modules.

In the DBE Service Development Training Block, additional training content is needed for SMEs who are working on the real-life “Hello World” and who - at the same time - have to understand the complex theory of model-driven semantics.

9 Conclusions

To conclude, it can be said that the DBE was successful in qualitative terms as it put quality before quantity.

This approach has rendered fairly high SME satisfaction and made it easier to introduce the DBE to other open-source communities in the post-project phase.

Annex

a. Creative Commons licence options for Learning²

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