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Table of Contents

EXECUTIVE SUMMARY	4
1 INTRODUCTION.....	5
1.1 FOCUS AND RELATION TO OTHER DELIVERABLES	5
1.2 STRUCTURE OF THE DELIVERABLE	6
1.3 CONCEPTS	6
<i>Business Idea</i>	8
<i>Business Plan</i>	8
<i>Sustainability Plan</i>	8
<i>Governance Model</i>	8
2 MARKET	9
2.1 MARKET SITUATION	9
2.2 BUSINESS OPPORTUNITIES OF THE DBE	10
2.3 MARKET SEGMENTS AND COMPETITION.....	11
3 TOWARDS A SUSTAINABLE COMMUNITY GOVERNANCE MODEL	16
3.1 BACKGROUND FOR PUTTING UP A FOUNDATION.....	16
<i>Ubuntu</i>	17
<i>Mozilla</i>	18
<i>Apache</i>	19
<i>Lessons from existing OS governance organisations</i>	20
3.2 OPEN PROCESS OF CREATING A FOUNDATION.....	20
3.3 REQUIREMENTS FOR THE DBE GOVERNANCE.....	22
<i>Requirements from the Integrated Business Vision of DBE</i>	22
<i>Requirement extracted from the SME needs and requirements for DBE</i>	24
3.4 RECOMMENDED PROCESS OF CREATING THE DBE FOUNDATION	26
<i>Proposal for the creation process of DBE Foundation</i>	26
3.5 FURTHER DEVELOPMENT AND DYNAMICS OF THE FOUNDATION	29
4 FINANCING	30
4.1 FINANCING NEEDS	30
4.2 POTENTIAL FINANCERS	30
5 DEVELOPMENT PROCESS OF THE SUSTAINABILITY PLAN	31
APPENDIX I – LEGAL ENTITY CHARACTERISTICS	32
<i>Foundation or trust</i>	32
<i>Corporations and companies</i>	32
<i>Association</i>	33
<i>Some characteristics of legal entities</i>	33
<i>No acting legal entity</i>	33

Executive Summary

One of the main challenges for the last project year of DBE is to ensure the sustainability of the DBE after the project comes to its end in the end of October 2006. It is very important for the present EC project consortium to ensure that the work done in the project will have a future. Sustainability is, however, equally important for SMEs that have joined in the DBE community through the regional catalyst engagement process as they will be the key members of the community that is expected to populate the DBE in the future.

The Sustainability Plan creation process includes all together four stages. The preliminary work was done in the DBE Business Plan Scenario released in August 2005. This deliverable then, is the first of the two drafts of the DBE Sustainability Plan. The final Sustainability Plan will be released in September 2006.

The market environment and business idea of the DBE will be studied with more detail in the next Sustainability Plan draft. DBE does have a unique value proposition in the market and that can be utilised to obtain the desired position in the market. All business activities of the DBE itself aim at fostering the business of the SMEs using the DBE, however.

The future governance of the DBE is the main issue of this deliverable. There has been a gradual change from EU project governance to community driven open source governance. That progress must be supported in a way that in October 2006 a fully functional community governance model for DBE is up and running. The proposition presented in this deliverable suggests an open standards -based process in which the Foundation Agreement is created and accepted by the DBE Community and participating stakeholders. There has been a parallel discussion ongoing in the PMEB which may lead to some modifications to the process presented here but the final results are not yet clear. The next Sustainability Plan deliverable will conclude the process of creating the governance model for DBE.

Financial issues are highly dependent on the governance model. The future financing of the DBE after project time will concentrate in financing the Foundation that will take the applicable responsibilities from the project organisation. The potential financiers of the foundation include the members of the Foundation, European Union and local, regional and national authorities in Europe.

1 Introduction

1.1 Focus and relation to other deliverables

This deliverable is the first of the three *Sustainability Plans* to be delivered during the last project year of the DBE project. As such, this is the first draft of the final Sustainability Plan that will be submitted as Deliverable 34.5.3 in September 2006. This and the forthcoming Sustainability Plan deliverables are based on the deliverable 34.1 *First Version of the Business scenario for the DBE Organisation*. The market vision presented in this report is based on the deliverable 5.1.1 *First Assessment of Business Domain and Integration into Unique Vision*. Task B7 to which the creation of Sustainability Plans belong, has close connections to the task *B16 Exploitation Strategies* that will be active during the final two quarters of the project. WP33 and specifically task B43 will support that process from the viewpoint of related communication and dissemination actions. This needs to be planned in D33.12 – *DBE constituency plan* and will be released in February 2006.

The aim of the WP 34 is to gain the market acceptance of DBE among software providing SMEs, the main users of the DBE at the present stage of development. The evolving sustainability plan is the key tool in this process. The emerging community of SMEs using the DBE environment in their business needs to be confident that the DBE is not going to be abandoned after the project funding ends at October 2006. The governance, financing and operational activities need to be addressed, planned, communicated and put into action well before the project comes to an end.

The purpose of the two drafts of the Sustainability Plan is to provide the information needed in this process and prompt the activities required while the project is still in operation. The final Sustainability Plan is going to be the “Business Plan” of the new DBE organisation and community in the new market situation after the period of project funding.

In addition to current project partners and engaged SMEs the DBE project has other stakeholders that have interests on the DBE-related matters during and after the project time. For example there are already several associated regions and project initiatives pending to continue the work that has been started within DBE. Sustainability planning serves also the information needs of these stakeholders and the emerging new initiatives in the field are taken into account in the development of the plan as they become reality.

The main subject of this deliverable is the future of DBE governance. When designing the future of any organised endeavour, the targeted governance model is among the most important issues to be solved. Currently DBE operates mainly under project governance model, specifically designed for EU funded R&D projects. During the course of the project, however, there has been remarkable effort to gradually shift from traditional EC project governance towards Open source community governance. By the end of the project period the project part of the current hybrid model will disappear and new governance is expected to take over. This deliverable aims to help the consortium to be successful in this transition by providing a suggestion of a decision making process that would be both effective and inclusive for the DBE Community. However, at the same time when this deliverable has been written, an active debate within the DBE PMEB has emerged regarding the future governance

issues. As a result, the first version of the DBE Foundation Consultation Paper has been released and an open discussion forum at <http://www.digital-ecosystem.org/Forums/dbefoundation> has been opened. This public discussion may lead to some modifications to the process presented here. However, as these steps were taken at the very end of December 2005 they have not been included in this deliverable. The results of the debate around the DBE Foundation creation process will be concluded in the next Sustainability Plan deliverable.

1.2 Structure of the deliverable

The overall structure of the Sustainability Plan follows the business plan structure presented in D34.1. However, as the focus of this deliverable is in governance and the bulk of new content is in this area, other areas of the business plan are taken only slightly further from the point they were presented in D34.1. The forthcoming deliverables will, in turn, concentrate on the detailed DBE business idea, market situation and financing.

This first chapter explains the focus of this deliverable and defines relations to other tasks and deliverables and the construction methods used in creating the final Sustainability Plan. Also the key concepts are defined and research objectives assigned.

The second chapter presents a summary of our current understanding of the DBE market situation as presented in the deliverable 5.1.1 DBE Business Vision. Benchmarking DBE in with other relevant technologies will be based on the recently refocused Market Watch deliverables in the forthcoming versions of the Sustainability Plan.

The third chapter focuses on the governance issues. After briefly discussing the background of the governance issue, three examples of different kind of Open source organisations are described. Then, based on the DBE Business Vision and the feedback received from the evolving DBE community during the first engagement period, a set of requirements for the future governance of DBE is presented. As a conclusion, recommendations for the process of building up the new community governance model and creating the DBE Foundation Agreement are suggested.

The fourth chapter concentrates in the different financing options of the DBE after the project time. This chapter will be in close relation with the governance model. The financing needs and opportunities will be studied in more detail in the next draft of the Sustainability Plan when the governing issues have been decided upon.

The fifth chapter defines the process of the sustainability planning and assigns objectives for the future deliverables on the same matter.

1.3 Concepts

The concepts have been presented in more detail in the preceding deliverable 34.1. The definitions of key concepts are repeated here as the Sustainability Plan is a stand-alone deliverable even though it is leaning on several other deliverables. Also some

definitions have been sharpened according to the feedback and experiences accumulated after the release of D34.1.

Business Idea

*The **business idea** of the DBE organisation is a composition of the recognition of its benefit to customers, customer need (markets), and capability to gain enough financing to keep DBE actions and operations alive (revenue model).*

Business Plan

*The **business plan** is a document that describes a business, its strategic and operational objectives, organisation, interest groups and the value network, products and services including the competitive edge, market and competition and the financial plan for different time periods. The business plan should answer the questions: what, why, when, who and how about the organisation.*

Sustainability Plan

***Sustainability Plan** is a roadmap and action plan that targets at keeping the DBE environment available and attractive for SMEs. The aim of the Sustainability Plan is to concentrate in supporting the evolution of the SME interface of the DBE and act as a guide for sustainability for their purposes. It represents the business plan for the group of DBE open source projects. It answers to the same questions as the business plan of a regular organisation, but its goal is to advance sustainability for the DBE and create business opportunities for the users of DBE rather than for the DBE organisation itself.*

Governance Model

Governance model is a fuzzy concept with several meaning and connotations. For the present purposes governance model is given a simple and self-explanatory definition as follows:

***Governance model** describes the processes and systems by which an organization or society operates.*

2 Market

As has been stated in the introduction, in this deliverable the market aspect of the sustainability plan is secondary to the governance issues. A thorough market analysis, utilising the results of the recently refocused market watches, will be included in the next version of the sustainability plan.

2.1 Market situation

The DBE is aimed in fostering the competitiveness of European SME's. The market segments for the actual DBE software environment are thus European software component developers, software service developers, software service providers and software service users.

Open source software model has risen to challenge the traditional software business models. While the traditional, proprietary software business concentrates on the sales of software licenses, open source software business has more versatile business models that have focus in the services rather than products. The same phenomenon, "servicisation" of business, can be seen in other business sectors as well. In software business the eLearning sector is a good example of the ongoing shift towards open source software.

It is not easy to compare proprietary software and open source software, because of the major differences in the business models. Open source is in many ways an alternative way of approaching software business. Proprietary software may be more suitable solution to some cases and open source software more advantageous in some other situations. For this reason it is difficult to create a scenario, where an open source project is directly competing with proprietary solution.

In DBE open source is seen as the prevailing way of creating software in the future. Even though DBE itself is based on open source, it does not require the services used in the DBE environment to be open source. However, in the early engagement of SMEs, open source companies have been more active to participate in the DBE activities whereas companies providing proprietary software or services for those have been more willing to wait for the DBE to be more finished than it will be during the project time.

DBE is generally speaking not based on revolutionarily new technology but on combining existing technologies together in an innovative way and making them available for European SMEs' B2B market as open source. There is architectural innovation rooted in the distributed nature of DBE technology, which makes it especially suitable for SME market that is fragmented by nature. There are solutions that have the same functionalities with the DBE, but they are typically highly tailored proprietary software for large companies and so expensive that they are not available for the needs of SMEs. The SME B2B market is a very potential business opportunity for the DBE. The distribution and integration of business solutions in DBE is made cost-effective and easy when it has previously been available only for companies that have been able to find the right solutions and pay for costly integration. However,

DBE holds a risk of “locking in” in an early niche application area without realising its full potential. The governance issue discussed widely in this deliverable includes the objective of permanently ensuring a balance between individual business interests of the early users community and long term policy vision of the DBE.

In the process of creating the sustainability plan for the DBE it is essential to identify related open source communities and activities as well as relevant standardisation bodies. It is extremely difficult for DBE to succeed if the positioning with existing OS projects, community practices and standardisation initiatives is inadequate. This benchmarking is partly done in Chapter 3 as part of discussion regarding to DBE governance model.

2.2 Business opportunities of the DBE

DBE as business is mainly an unknown terrain as the purpose of the DBE project is not to build a business opportunity for the DBE organisation itself. The main purpose of the DBE is to provide B2B software environment for SMEs and thus enhance their competitiveness in the global market. Naturally the DBE organisation will require some funding after the DBE project has ended to carry out e.g. marketing, hosting, maintenance and customer care services. Creating sustainable business model for these services will be part of the activities of the governing organisation. Being a group of open source projects the DBE will utilise open source business model in relation to activities with DBE. The DBE Foundation itself could have the base of its financing in donations, but it may also use open source business models to obtain additional financing.

The SMEs using DBE in their business will utilise their existing and evolving business models while using the DBE. Thus proprietary software developers can sell licenses to their software even if it includes an interface that allows the usage of the software on DBE environment. They can not sell licences of the DBE integration interfaces, however, as the DBE software is licensed under GPL and EPL which affects also all derivative software. Open source SMEs can also utilise their existing business models and use DBE as an extension to their existing products. For example a stand alone project management system can be changed into a networked system and thus the product is made more attractive and the demand of for example support services increase. Companies are founded to create added value for their owners. Thus it is natural that the software developer SMEs using DBE for a specific business solution are primarily interested in providing services around their solutions. Therefore the support, maintenance etc. of the DBE business solutions will be distributed whereas that of the DBE infrastructure needs to be organised. After the project time the infrastructure support and maintenance activities will be the responsibility of the community rather than DBE project consortium and there must be a strong support from the consortium towards the emerging DBE community to ensure that the support activities are organised for both business solutions and DBE infrastructure. It is also important that other actors than software developers are interested in and have the motivation to join the community.

2.3 Market Segments and competition

DBE is positioned in between the software providers and software users, improving the interaction between software and business. As mentioned before, there are existing solutions that use the same technologies as the DBE in this functional position, but the strong SME focus, open source approach and the unique compilation of technologies provide a basis for a competitive advantage against rivalling initiatives.

The (business) software market has one important feature that makes it different from a traditional free market: competition is not entirely based on product characteristics but also on compatibility – and possible interaction - between products. A company looking for business solution software can not simply pick a best-of-breed collection of software products or even online service – it has to take care about how they integrate among each other and how they fit with the software of its suppliers, customers and other business partners.

Proprietary vendors (figure 1) have extensively exploited this phenomenon. By dominating a platform standard – for example operating system or an ERP package – they have been able to control interfaces and security standards and force smaller partners to adapt to those standards. This allows them not only to charge premium prized royalties for using the proprietary product and the developer tools but also to dominate the technical progress of the platform.

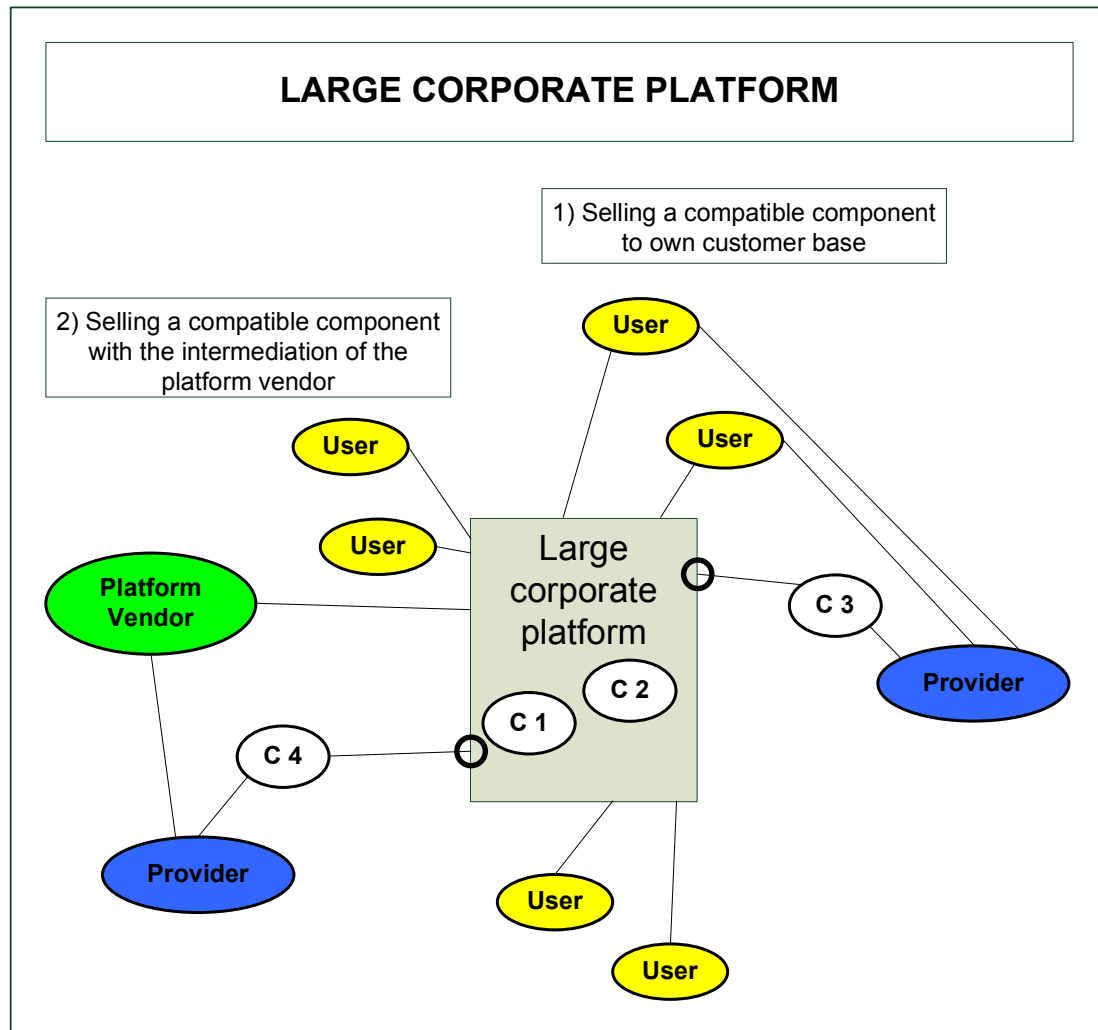


Figure 1 Large corporate platform approach to component integration

In figure 1 the large corporate platforms control the value network. The software components must be compatible with the platform and they are either sold directly by the providers to their own customer base or the platform vendor acts as an intermediary between the providers and the users.

In both cases the full user community of the platform is shielded away from the small providers of additional components. Users have to follow the platform vendor and the market is thus fully dominated by the platform vendor. As component providers have little influence on the platform vendor, the vendor can always force small providers out of business – for example by changing technology standards or by developing a in-house version of the component

In such a situation the software providing SMEs are highly dependent and vulnerable. However, from a user perspective, the situation holds many advantages when it comes to integration, reliability and investment security.

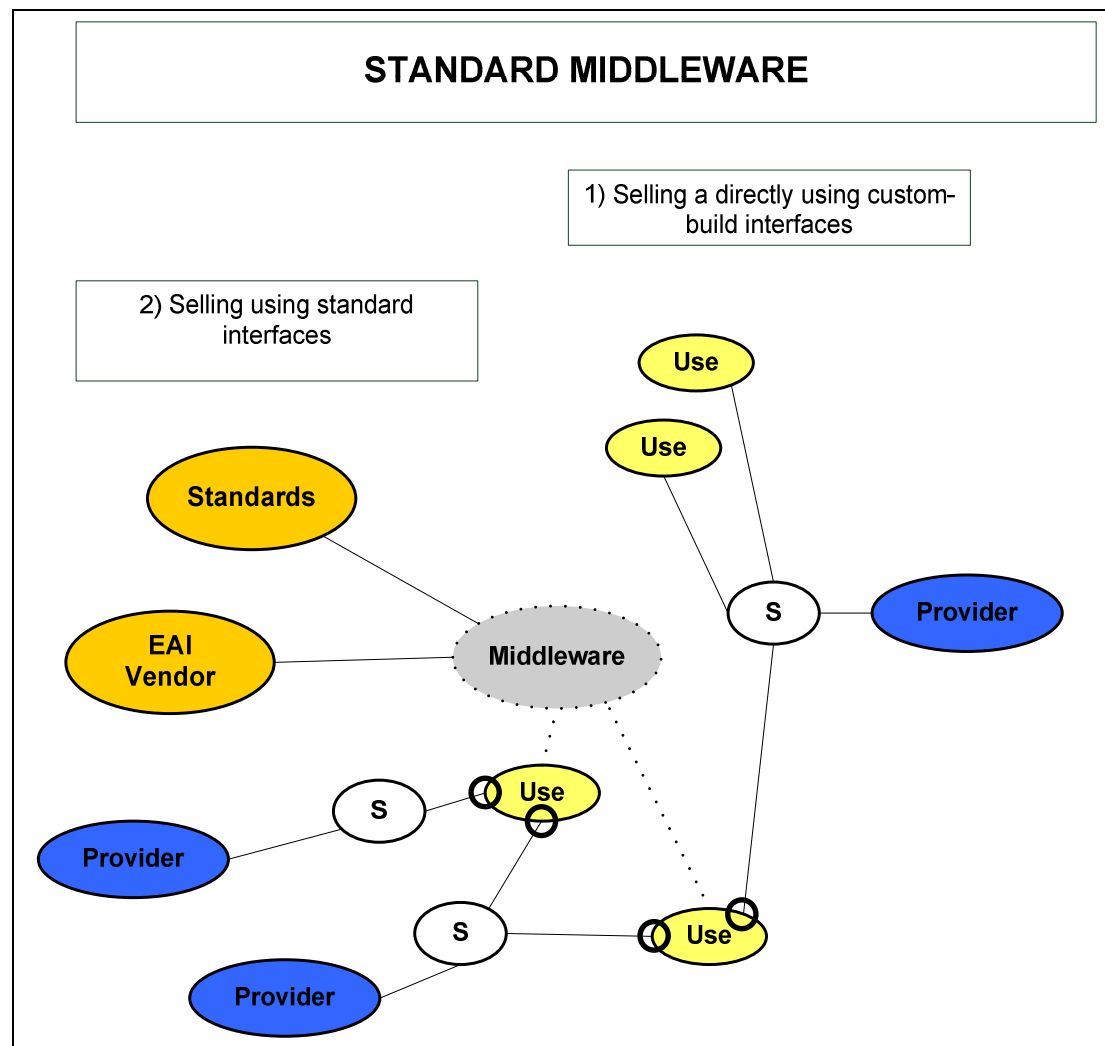


Figure 2 Standard middleware approach to service and component integration

An alternative to proprietary platform domination can be found in communities deploying software based on open standards (figure 2). In fact, the open source deployment often goes in line with open standards and they strengthen the benefits of each other.

However, if we take a closer look at the value networks deploying open standards, the user community is often highly fragmented. Users are partially using custom-build solutions and partially adopting open standards but are not necessarily aware of solutions from other providers that they might be able to integrate with.

Hence, the open standards approach hold advantages for provider SMEs but as the fragmented market is non-transparent and difficult to understand, users have to pay more attention on choosing standards and providers. This may make this approach less attractive for users.

In the open standards world there is also a separation between software and standards development. This leads to a weak position of defined standards without implementations and in return to a stronger position of the emerging standards from implementations. As the emerging route to open standards is rather slow, the open

standards approach makes it difficult for an SME to be on the forefront of innovation without taking the risk of deciding for an open standard candidate that might not turn out to become a true standard.

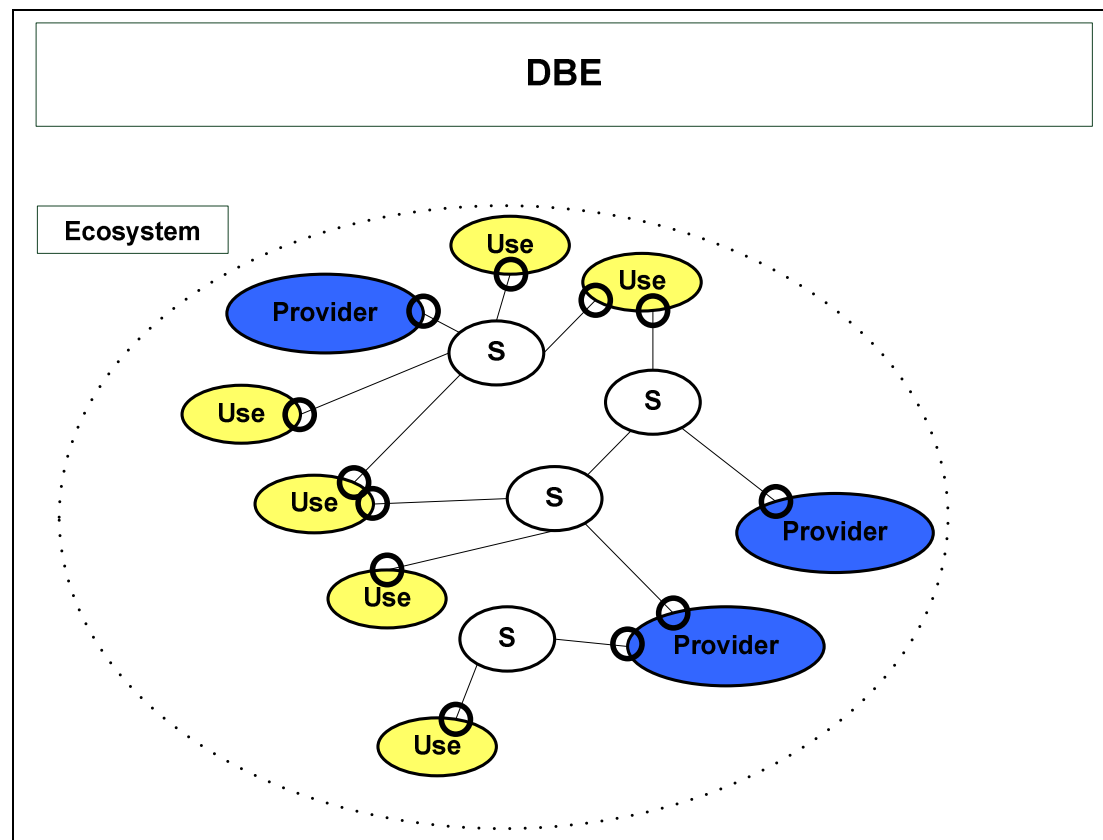


Figure 3 DBE approach to service and component integration

In figure 3 the DBE approach to component and service integration is presented. DBE provides solutions for the integration needs of providers and users of components and services. This allows a very flexible system for the whole value network.

The DBE approach is compatible with the open standards approach but brings in some distinct features of the platform. The DBE also integrates open standards developments with the development of compatible infrastructure software. Thus it seeks to combine strengths of the first two approaches by avoiding the downsides. It becomes itself a non-dominated platform.

By making both providers and users nodes of the DBE network, all users gain access to all components and all providers gain – theoretically – access to the full user community. In addition the distributed semantic layer of the DBE allows for the identification of providers as well as users in the network. The combination of technical integration and service discovery possibilities allows a dynamic formation of instant networks. In that sense, the DBE aims to drive the integration process of the open standards approach.

The dependency between software users and providers and between open source and open standards is very important for the business plan of the DBE. Only by being accepted by open source communities and open standard bodies and by getting

populated by both providers and users, DBE is going to be able to realise its total value proposition.

As mentioned in 2.1, there are other actors at the same market place with DBE, but typically with distinctive goals and focus segments. SMEs that are the primary market segment for the DBE are typically not the most interesting segment for commercial actors with similar offering as the market is incoherent and the profits hard to make due to the lack of advanced ICT infrastructure and required financing.

The purpose of the DBE is to provide growth opportunities for the European software provider- and software user SMEs, not for the DBE organisation. The growth perspectives for DBE are thus indirect. The main challenge of the DBE as a sustainable market opportunity is to grow beyond the critical mass so that it receives growing interests from both software providers and users and get these companies involved in the DBE as users and providers. The individual utility of the DBE technology is not really depended on a critical mass which is a positive aspect of the DBE. It can be seen in early application cases that the DBE infrastructure can already provide value for a single software application and its user group.

However, critical mass applies to the question if the DBE truly develops into a non – dominated platform. It is therefore ultimately connected to the longterm policy vision of the DBE. At a later growth stages this will then also lead to the above given advantages for the SME community. For the governance organization this comes back to the balance mentioned before between individual utility and ensuring the longterm vision.

3 Towards a Sustainable Community Governance Model

The governance issue is the key topic contemplated in this deliverable. Currently DBE, a set of related open source project and research activities related to them, operates mainly under project governance model, specifically designed for EU funded R&D projects. During the course of the project, however, there has been remarkable effort to gradually shift from traditional EC project governance towards open source community governance. By the of the project period the project part of the current hybrid model will disappear and a new community governance is expected to take over.

Making this shift real and putting up a new governance model and governing entity is a time and resource consuming mission. In order to avoid these issues to be left open and the project to loose its momentum in engagement and focus in research, the governance issues have been agreed to be solved well before the end of the project. This chapter summarises the recent work on these topics and provides a basis for the first actual decisions and further operations.

3.1 Background for putting up a Foundation

As part of the DBE sustainability plan one key strategic decision is the choice of the form of legal entity. Legal entity is (an individual or) an organization that is legally permitted to enter into a contract, and be sued if it fails to meet its contractual obligations.¹ There are several possible alternatives in which actors like founders, users, and developers have different roles. Different types of legal entity were discussed in D34.1 *First version of the Business Plan Scenario for the DBE Organisation*. Characteristics of earlier recognized entity types are described in appendix I.

The discussions within DBE PMEB and DBE partners have indicated that foundation is seen as the desired organisational form. The choice of legal entity type has to be made based on wide scale of issues such as characteristics of the entity type, characteristics of business model, domicile, geographic location, and willingness to widen the founder and/or owner group in the future. The need to bind interest groups and stakeholders to DBE business also affects the choice of legal entity type.

Every legal entity has its own minimum organisational structure depending on local legislation. Basically legal entity should have a board or other governing body to make strategic level decisions and a way of taking care of day-to-day business. The board may be a general meeting group or some kind of advisory group.

In order to understand the fundamentals of putting up a Foundation to take care of several open source projects, we consider that it is useful to benchmark with other relevant organisations. For the purposes of this report benchmarking has been done mainly with three existing open source communities; Ubuntu, Mozilla and Apache. Ubuntu is a young but rapidly growing Linux operating system distribution based on

¹ www.investorwords.com/2759/legal_entity.html

Debian; Mozilla develops customer oriented end-user applications like Mozilla Firefox (web browser) and Thunderbird (e-mail and newsgroup client) and provides related software development tools; and Apache is a B2B web server software from which there are numerous spin-off OS projects governed by the Apache Foundation.

Ubuntu

Linux-based operating system Ubuntu was founded by Mark Shuttleworth and his company Canonical Ltd. They have quite recently created also a Foundation to support the sustainability of Ubuntu.

“The [Ubuntu] Foundation was established on July 1st 2005 with an initial funding commitment of US\$10 million, to ensure the continuity of the Ubuntu project and create a legal vehicle that represents the community structures of the project. The Ubuntu Foundation will employ core Ubuntu community members to ensure that Ubuntu (www.ubuntu.com) will remain fully supported for an extended period of time, and continue to produce new releases of the distribution.”²

In most of widely known open source communities a single community leader has a very big role. In some cases leader is called SABDFL³, which stands for "Self-Appointed Benevolent Dictator For Life". E.g. Mark Shuttleworth is the SABDFL of Ubuntu Linux community, because he is the founder and financier of Ubuntu project.

“He [Shuttleworth] also has a casting vote on the Technical Board and Community Council, should it come to a vote. This capacity is not used lightly. The community functions best when it can reach broad consensus about a way forward. However, it is not uncommon in the open source world for there to be multiple good arguments, no clear consensus, and for arguments to divide communities rather than enrich them. The argument absorbs the energy that might otherwise have gone towards the creation of a solution. In many cases, there is no one "right" answer, and what is needed is a decision more than a debate. The SABDFL should act to provide clear leadership on difficult issues, and set the pace for the project.”⁴

Common to many open source initiatives, also the structure of Ubuntu community includes several interlaced structures that allow it to function effectively. Participation in every structure is open to members of the community. The structure of community governance aims to:

1. ensure that a process is defined that allows people to contribute to decisions regarding the Ubuntu community and distribution
2. ensure that decisions regarding the Ubuntu distribution and community are taken in a fair and transparent fashion

² <http://www.canonical.com/UbuntuFoundation> (19/09/2005)

³ <http://en.wikipedia.org/wiki/SABDFL> (19/09/2005)

⁴ <http://www.ubuntu.com/community/processes/governance>

3. ensure that necessary decisions are actually **taken**, even when there is no clear consensus amongst the community.⁵

The Ubuntu governance structure includes

- different key Teams
- Local Community (LoCo) Teams
- Technical Board
- Ubuntu Community Council
- SABDFL.

Teams are organized to specific area of work, e.g. legal issues or software platforms. Technical Board is responsible for the technical direction that Ubuntu takes and Community Council supervises the social structures and community processes. Technical Board and Community Council have meetings every two weeks on IRC and the community members may propose issues to be discussed. It is notable that there are only three members in Technical Board and four members in Community Council.

“The discrepancy between the terms of appointment to the Community Council (two years) and the Technical Board (one year) is deliberate. The Community Council is the more philosophical body, and is intended to take a more measured, deliberate approach to the problems of community organisation than the Technical Board, which must deliver a new set of Technical Policy updates for each release.”⁶

Mozilla

Mozilla Foundation was founded in 2003 with support of America Online's Netscape division to provide organizational, legal, and financial support for the Mozilla open source software project. The Foundation has been incorporated as a Californian not-for-profit corporation to ensure that the Mozilla project continues to exist beyond the participation of individual volunteers, to enable contributions of intellectual property and funds and to provide a vehicle for limiting legal exposure while participating in open source software projects.⁷ Mozilla Foundation has a board of directors with five members. Initial capital of the foundation was 2 million US dollars.

In 2005 Mozilla established Mozilla Corporation, a taxable subsidiary wholly owned by the foundation. The corporation was created to take care of the revenue-creating activities of Mozilla and thus to provide funding for the foundation that remains non-profit. Foundation focuses to project's governance and policy issues and owns trademarks and other IPRs.

Corporation has board of three members, and around 30 to 40 employees, most of who previously worked for the Foundation. The Foundation organisational structure became very light with only three employees. The idea behind establishing a corporation in addition to the Foundation was to separate commercial activities from the OS development activities. The aim of the corporation is not to turn Mozilla products into proprietary.

⁵ <http://www.ubuntu.com/community/processes/governance> (19/09/2005)

⁶ <http://www.ubuntulinux.org/community/processes/council/>

⁷ <http://www.mozilla.org/foundation/> (19/09/2005)

Mozilla foundation does not develop the code. Coding is organised within the Mozilla project that gets resources for development from Mozilla Corporation and other organisations and individuals. Technical direction of the project is determined through the collaborative work of contributors, led by a single person. Development work is organised in modules with numerous module owner in charge of the development.

Apache

DBE is targeted to business-to-business (B2B) market quite similarly to web server software Apache that has spawn a wide community of a number of different open source projects based on Apache

Apache open source community is an example of a project governed by meritocracy. The existing developer group decides from time to time that an individual contributor to the project has “earned” the merit to be part of the developer community and grant the individual direct access to the code repository. This has allowed the Apache community to scale very well to meet the challenges of increasing project size and the newcomers were treated very positively as they were considered as volunteers that have shown their ability and willingness to help rather than people that want to steal someone’s position. The latter can happen easily in OS projects where power is a scarce and conservative resource.

The Apache Software Foundation provides organizational, legal, and financial support for a broad range of open source software projects. The Foundation provides an established framework for intellectual property and financial contributions that simultaneously limits contributors’ potential legal exposure.⁸

The Apache Foundation was created to reduce the friction in between different projects that had spawn from the original Apache web server project. The goal was not to force governance over the projects but to benefit from the united goals of the different Apache projects. The projects have a very large autonomy.

In order to reduce friction and allow for diversity to emerge, rather than forcing a monoculture from the top, the projects are designated the central decision-making organizations of the Apache world. Each project is delegated authority over development of its software, and is given a great deal of latitude in designing its own technical charter and its own governing rules.

Formerly known as the Apache Group, the Apache Foundation has been incorporated as a membership-based, not-for-profit corporation in order to ensure that the Apache projects continue to exist beyond the participation of individual volunteers. Individuals who have demonstrated a commitment to collaborative open source software development, through sustained participation and contributions within the Foundation's projects, are eligible for membership in the Apache Software Foundation. An individual is awarded membership after nomination and approval by a majority of the existing Apache Software Foundation members. Thus, the Apache

⁸

<http://www.apache.org/foundation/> (08/10/2005)

Software Foundation is governed by the community it most directly serves - the people collaborating within its projects.

The ASF members periodically elect a Board of Directors to manage the organizational affairs of the Foundation, as accorded by the ASF Bylaws. Currently there are nine members in the Board. A number of public records are made available to the community including all board meeting minutes publicly available to anyone in the internet⁹. The Board, in turn, appoints a number of officers to oversee the day-to-day operations of the Foundation.

Lessons from existing OS governance organisations

Foundation is a typical organisational form in open source projects that need a legal entity to provide credibility, sustainability and/or different kinds of support services for the participants of the projects. Many open source projects run both a Foundation for social purposes and a corporation for commercial fund-raising purposes.

The organisational and decision making structures and membership models vary from foundation to foundation. Even though open source organisations are very open in communication, the decision making is often limited to a very small group of individuals. There appears to be a general need for balancing between democratic participation and communication and efficient decision making. Recently, as open source is more and more entering the corporate world and is competing with proprietary business software, there seems to be a general trend towards simultaneously effective and transparent communication, planning and decision making mechanisms.

Meritocracy is typical governance in many open source projects like Apache mentioned above – membership in Foundation is gained by a recognised merit by the existing community. As the DBE community will be a very special open source community involving actors that do not usually exist in governing organisation such as regional catalysts or research organisations. Thus the traditional way of earning merit by creating code needs to be extended to include other ways of gaining the merit if meritocracy is utilised in the acceptance of new members in the future DBE governing organisation. At the moment the DBE is organized in a project sense but it is already based on the democratic integration and balance between several aspects of the DBE initiative. That needs to be transferred to the governance organization.

3.2 Open Process of Creating a Foundation

Communities and community governance models do not just emerge, they are created by explicit and implicit agreements between human beings and organisations active in communities. Just like there are several open source communities there are also several ways to create a governance model for a community.

For the purposes of this report, we have benchmarked one well known and respected open community process as an example how socio-technical rules can be created in an open process in a dynamic technology and business environment. The benchmark is

⁹ <http://www.apache.org/foundation/board/calendar.html>

OASIS consortium, a well known open standards setting organisation actively working in the open source domain. The OASIS standards approval process is benchmarked for the Foundation creation process only. The process is not proposed to be the active decision making process of the Foundation to which there are more closely related benchmarks such as Apache Foundation and other Open Source Foundations with large communities.

The main open process of OASIS is standards approval process¹⁰. The process, as described at the OASIS website has four stages:

1. Approval of Committee Draft
The Technical Committee (TC)¹¹ may at any stage during the specification of a specification approve the specification as a Committee Draft. The approval requires a Full Majority Vote¹² of the TC
2. Public Review
A Public Review must be conducted before TC can approve its Committee Draft as a Committee Specification. The Committee Draft becomes a Public Review Draft on a Full Majority Vote of the TC and the draft will not be altered during the review process. Comments from non-TC members are received via a public comment facility. If there are changes required according to the comments, the Review Draft must be withdrawn from the review and resubmitted after the changes have been made. TC may conduct any number of review cycles.
3. Approval of Committee Specification
After the public review of the Public Review Draft the TC may approve the specification as a Committee Specification. The approval of a Committee Specification requires a Special Majority Vote¹³.
4. Approval of OASIS Standard
Simultaneously with the approval of a Committee Specification or at later date, a TC may resolve a Special Majority Vote to submit the approved Committee Specification to the membership of OASIS for consideration as an OASIS Standard. The proposal is submitted to the OASIS membership by the TC Administrator in the beginning of the following month that it was submitted for approval. The members have 15 days to familiarise themselves with the submission and the rest of the month time to vote. Each OASIS organisational member is entitled to cast one vote. If at the end of the voting period at least 15 % of the voting membership has voted to approve the standard and if no votes have been cast to disapprove it, the Standard will be accepted. If there are less than 15 % negative votes cast, the TC has 30 days time to take one of the following actions by resolution of a Special Majority Vote: a) request the TC administrator to approve the specification as submitted

¹⁰ http://www.oasis-open.org/committees/process.php#stand_approv_process

¹¹ "Technical Committee" (or "TC") means a group comprised of at least the Minimum Membership (five Voting Members of a TC representing at least two member organizations) formed and conducted according to the provisions of this OASIS TC Process.

¹² Full Majority Vote is a TC vote in which more than 50% (more than half) of the Voting Members vote "yes"

¹³ Special Majority Vote is a TC vote in which at least 2/3 (two thirds) of the Voting Members vote "yes" and no more than 1/4 (one fourth) of the Voting Members vote "no".

despite of the negative votes; b) withdraw the submission entirely; or c) submit an amended specification, which will be considered as if it were new submission. If there are less than 15 % positive votes cast or more than 15 % negative votes cast, the proposal shall not become an OASIS standard as proposed

As can be seen from the OASIS-process, the decision making process has many stages and is quite formal. The Technical Committee (TC) is in key role and the membership is restricted to reviewing and commenting the standard proposals and approving the final submissions, which requires but 15 % of approving votes. On the other hand only 15 % of negative votes are required to reject the proposal. It should be noted that within OASIS there are several TC's that can be as small as 5 voting members from 2 member organisations, but the final voting is made with all OASIS member organisations.

3.3 Requirements for the DBE Governance

The design of any organisational entity must be based on the identified mission and objectives of that entity. The mission and objectives, on the other hand, can be seen as reflecting the expressed requirements for such entity. In this section our objective is to summarise the existing knowledge about the expressed requirements concerning the governance organisation of DBE. Given the overall framework of the task B7, the summary is mainly focused on the requirements that have been expressed at the operations at the business domain of the DBE project.

This section builds heavily on top of recent summary deliverables at the business domain, especially D 5.1.1 (First Assessment of Business Domain and Integration into a unique Vision) and D 31.4 (User and provider SME requirements description).

Requirements from the Integrated Business Vision of DBE

The deliverable 5.1.1 is the latest summary of the core characteristics and foreseeable roadmaps of the development and deployment of the DBE. It provides a unique integrated view to DBE, highlighting both the technological, scientific, business and policy aspects, visions and challenges.

Based on that deliverable we can summarise the basic characteristics of DBE visions as follows:

- DBE vision is unique and appealing because it provides an evolutionary self-organized **growth path** towards an open, non-dominated digital business ecosystem
- The DBE technology vision is to **provide open source core elements** of the networking infrastructure for the diverse digital species that make up the ecosystem.
- The related business and policy vision is linked to the **activation** of all these elements

- DBE infrastructure is not an end-to-end solution for an electronic business problem. Rather it could be called an interaction-ware and a proper **business solution layer** is required to address any business end-user domain. .
 - the first and most important task of the activation process is the stimulation of **software SMEs** to create real business solutions using the DBE infrastructure
- The research vision takes a broader perspective at the further **evolution** of the DBE and how it might relate to economic growth. As activation relates to a set of initial technologies and activities, DBE evolution also relates to subsequent *co*-evolution of technological as well as social and economic elements.

The key point here is to emphasise that DBE is a multivisionary initiative. The integrated business vision must take into account all the above mentioned subdivisions of DBE. Then, it is quite natural to conclude that also the governance structure of DBE has to be able to reflect this key feature.

In addition to several interconnected visions of DBE, there are other common fundamental principles uniting the different domains of DBE. These fundamental principles include, as has been pointed out in the D 5.1.1,

- Openness
- Interaction between the emerging and the formalisation.

Openness is important not only with respect to software but also relating to broader processes of development, community interaction and business solution layer as well. Openness and the paradigm of open source have to be reflected in the full SME engagement and even in our project management approach and cannot be restricted to pure software licensing and source-code availability.

The partially unresolved interaction between the emerging and formalisation has become visible in several parts of the DBE effort. On the technology side it has been realised that, despite the effort to design DBE metamodels, DBE has to live with a limited degree of capabilities of models. In SME engagement side, on the other hand, we have seen that the both top-down and bottom-up design processes exist and may be successful, but that at least in the first phases the second one has determined more than the first one.

Based on the above mentioned conclusions made in the D 5.1.1 we can conclude at least the following requirements for DBE governance:

1. The governance model should support the development and realisation of the integrated business vision of DBE by addressing the domains of activation, technology and software development and longer-term research agenda
2. The governance model should, in the first place, support the engagement of software producing SMEs by reducing the risks of DBE related investments
3. The development and maintenance process of the governing organisation should follow the principles of openness and non-dominated evolution,
4. The governance structure should be flexible enough and search continuously for the best balance between the formalisation and the emerging.

Requirement extracted from the SME needs and requirements for DBE

As part of SME engagement process a series of technology workshops, intensive code camps and one-to-one interactions have been organised during the second project year. One of pioneering events was the DBE Technology Workshop organised in the Tampere Region in February 2005.

As the final step of the two day work a SWOT –analysis on the DBE Platform Technologies was conducted by the participating SMEs. In this analysis the SMEs identified, working as a group, the main strengths, weaknesses, opportunities and threats of the DBE platform components. As reported in the D 31.4 the following requirements for the platform of Digital Ecosystems were derived:

- No single point of failure and control
- Commitment to open source and open standards
- Long-term credibility and attractive brand
- Utilisation of proven technologies
- Simple on the surface, high-performing technology underneath
- Sufficient trust and identity management and data security
- Proven business cases and benefits for service providers and service users

From the governance point of view these expressed requirements are very interesting. Although most of them are related to the technological features and capabilities of the DBE infrastructure, some of them can be considered as providing guidelines for the DBE governance as well.

As a starting point the 3rd requirement of the list is of special importance. One of the most common critical points when SMEs have been evaluating the profitability of participating DBE has been related to the sustainability issue. DBE is often criticized as a traditional EC funded project that has no longer term perspectives. Even in the very first meetings the interested SMEs have clearly indicated the need for sustainability. This is valid point, because for SMEs any investment of time and money is critical, and only investment with longer term-perspectives can be justified. Even though DBE has initiated a new research area in the EU, which is very important for research institutions and regional catalysts, in the eyes of SMEs DBE is currently just a 3-year project ending in less than a year. This represents a major risk in any DBE related investment, a fact that has been continuously become visible in the later interaction with drivers and a large number of driver candidates. That has also been a common reason for some candidates to withdraw from further engagement at this stage. Funding provided for drivers and implementers has been very helpful in overcoming these fears and risks. In this context a credible governance organisation in place would be a very important supportive factor of the SME of engagement.

Following the comments from Finnish driver SMEs the current credibility of the DBE-project is based mainly on two factors: on the trusted regional catalyst and on the active role of a few key players (IBM, Sun, Intel) of the ICT industry in the project. At its best, the further development of the credibility should further utilize these assets by having both regions and big industrial players in central roles in the governing organisation alongside with the SME community. It is clear that this view should be discussed with the other regional catalysts and DBE SMEs, where it might

not be agreed, and crosschecked with the outcomes of the open community consultation process. There is certainly the challenge to combine that need for stability and credibility and the character of non-domination and openness. That will spring from the fact that SMEs will see themselves equally represented in the DBE governance organization side by side with ICT industry or regional development partners. This approach is not the final decision of the DBE consortium which will be based on consulting the SMEs in the ongoing discussion process presented in the introduction chapter.

The positive approach of SMEs towards the open source nature of DBE and commitment to open standards is also a clear message for the governance planning. Based on the feedback from SMEs we have already seen a partial transition from EC project governance towards open source community governance. This is the direction that clearly fits with the expectations of SMEs and has already been positively responded by them. It is also clear that developing and maintaining close relationships with the standards setting organisations meets with the expectations of SMEs.

For SMEs the identification and promotion of business potentials in DBE is among the key issues. The business models and benefits of DBE have not yet been fully demonstrated and, as has been the case in open source business in general, SMEs will not have a lot of resources for marketing activities. In open source business, where there is no major vendor taking care of the global marketing, this problem is even bigger than in traditional software business. In this situation active business promotion and showcase demonstration supported by the governance organisation would be highly appreciated by SMEs.

Based on these conclusions we can draw at least the following requirements for DBE governance:

1. The timeline of the formation of the community governance should be synchronized with the needs of SME engagement process. The next phases of engagement require immediate and strong signs of continuity of the DBE.
2. Future governance should be based on widely accepted open source community governance models and the process of defining such governance model should reflect the principles of openness as well.
3. Based on the comments from Finnish Driver SMEs the regional catalysts and big industrial players should, at least at the current stage, continue close collaboration and have a central role in the DBE governance alongside with the SME Community in order to ensure the continuity of trustworthiness for software producing SMEs. It is clear that this is a partial view of the foreseen roles and position of project stakeholders. Indeed until now there has not been such a discussion in the other regional catalyst and SMEs insofar. It is also clear that this view of the roles in the foundation governance could be changed following the open community consultation that was launched on the DBE website.
4. Business model development and business promotion should be an important objective and function of the governing organisation.

3.4 Recommended Process of Creating the DBE Foundation

In the process of creating the DBE Foundation there are several requirements to be met. The two main requirements between which there must be found a balance are:

- a) transparency and openness of process
- b) efficiency of the process.

A right balance between prime requirements makes it also possible to meet other requirements that are needed to create a sustainable open source community:

- c) initiate the Foundation creation process from the community involvement
- d) take different points of view from the community into account
- e) obtain the community acceptance for the Foundation
- f) allow dynamics for the further development of the Foundation

Transparency is very important for the decision making process in order to gain the acceptance of the potential members of the Foundation. The openness must be kept separate from the actual decision making process as total democracy leads very easily to total inefficiency – even the simplest of decisions take very long time to make. Many open source projects such as Ubuntu or Apache have a very complicated governing structure in order to give the community as good possibility to take part in the discussions as possible. The final decision making (on important matters) is, however, limited to very few appointed members. For example in Ubuntu there are three members in the Technical Board appointed for one year and Mark Shuttleworth as SABDFL that can turn any decision if he so wishes.

The key thing is that if the decision making entities make decisions that are opposing the opinions of the members either they will be replaced from the board or the members walk away from the community. Members have also abandoned open source projects that have not been able to make decisions – quite many former Debian developers have turned to support Ubuntu for just this reason. Thus the efficiency and transparency walk hand in hand – failure in either will most probably result in an empty community.

The transparency of the foundation creation process can be reached with a process similar to the OASIS process. There must be an initial governing body that prepares the proposals that are distributed for the members to review and comment. It is very important to utilise the review process to provide all members of the community to express their opinions and suggestions that can be used to enhance the proposal. This requires also a balanced representation of the different stakeholder groups.

Proposal for the creation process of DBE Foundation

In order to send a clear message about the plans for sustainability, we suggest that Current DBE partners (Contractors in the FP6 DBE project) and other organisations already interested in DBE create and sign a Memorandum of Understanding (MoU) in which they accept the goals and processes of creating a DBE Foundation. The MoU includes the rules of the Foundation creation process and the parties of the MoU are the initial “Members” of the DBE Foundation. The Foundation Governing Body for the period of Foundation Agreement creation process is suggested to be the PMEB of

the DBE project supplemented with a representative from the Driver SMEs and a representative from the Associate regions.

Other legal entities that are interested in joining DBE and have influence in the creation of DBE foundation but have not signed the initial MoU may participate in the DBE Foundation creation process by applying for membership. New memberships are granted by the Foundation Governing Body as agreed in the MoU.

A proposal for the process of creating the DBE Foundation Agreement is following:

1. Approval of the Foundation Agreement Draft

The Initial Foundation *Governing Body creates and approves a Foundation Draft* by a Full Majority Vote (> 50%) and submits it for the Public Review of the Members to a dedicated sub-site adjacent to the DBE Website.

2. Public Review

Members have the opportunity to comment the Foundation Agreement Draft via an electronic service adjacent to the DBE public website. The proposal must be open and unchanged for commenting for a period of at least 14 days after which the Governing Body can decide either to *withdraw the draft and edit it* according to the review comments after which it is resubmitted to public review or *approve it unchanged* as a Foundation Agreement Proposal. Resubmitted Foundation Agreement Draft is always reviewed in similar way as the initial proposal.

3. Approval of the Foundation Agreement Proposal

There can be any number of review cycles before the Governing Body approves the Foundation Agreement Draft to become a Foundation Agreement Proposal after the review comments without any further changes. *Accepting the Foundation Proposal requires a Special majority Vote (at least 2/3 vote “yes” and less than 1/4 vote “no”) from the Governing Body.* Foundation Agreement proposal is the suggestion of the Governing Body to become the final Foundation agreement. They have no further possibilities to change the agreement proposal after accepting it at this stage. If the Special Majority is not gained, the proposal is returned for editing and resubmitted for Public Review.

4. Approval of the Foundation Agreement

The Foundation Proposal is taken to the Members for approval. The voting must be made possible for at least 21 days in the dedicated subsite adjacent to the DBE public website. *Approval of the Foundation Agreement requires a Special Majority Vote (at least 2/3 vote “yes” and less than 1/4 vote “no”) from the Members.*

The following Flow Chart describes the proposed decision making process:

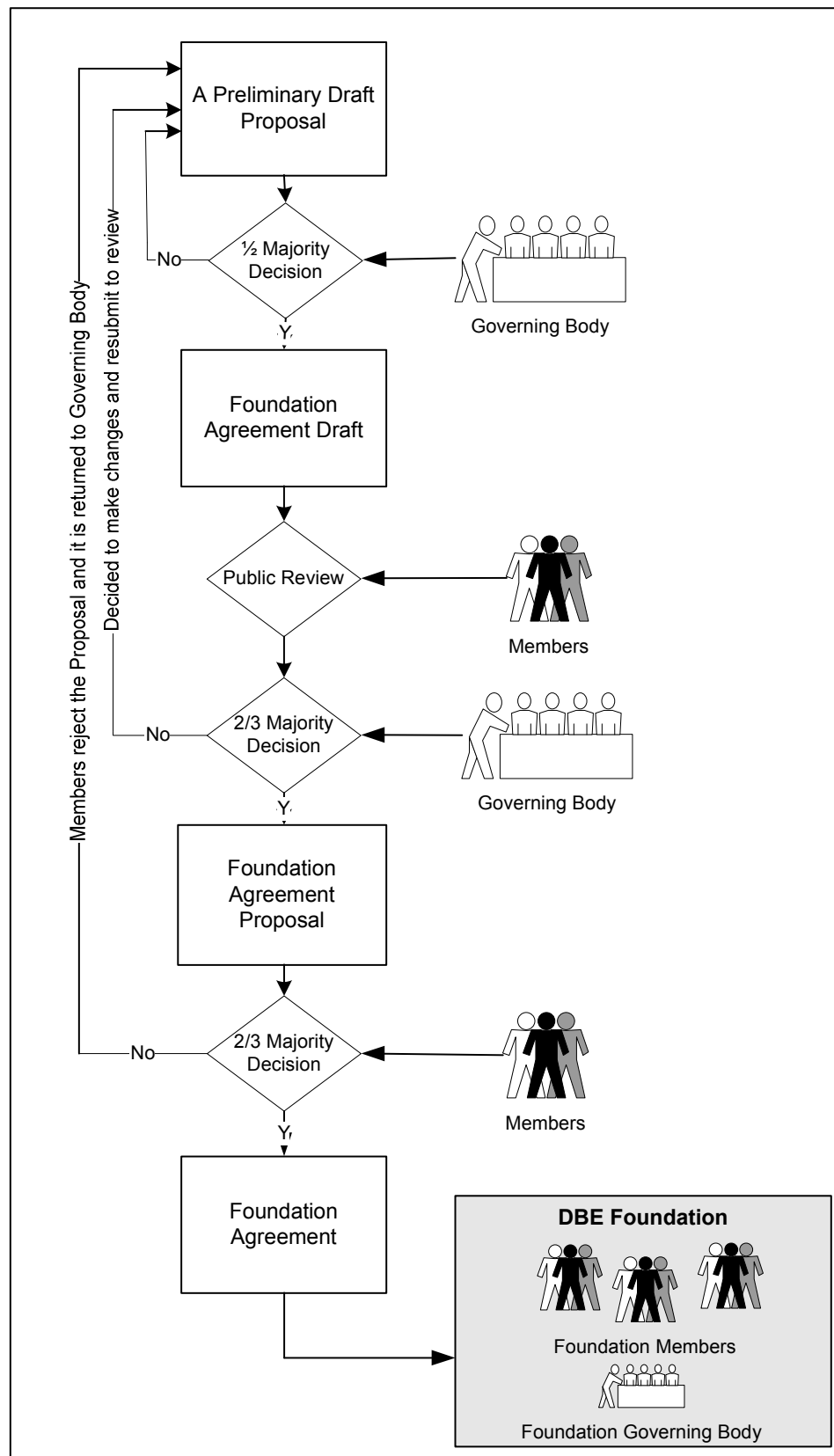


Figure 4 Proposed Decision making process to the creation of the DBE Foundation

The Governing Body is in charge of creating the draft and making the changes requested by the members to it. They also decide when the draft is ready to become a proposal for the members to vote on it. Members have the opportunity to comment the Draft and they make the final decision whether or not the Foundation Agreement will be accepted or not,

The Foundation will be established based on the Foundation Agreement created in the process presented above. The Governing Body of the Foundation and Membership definitions are presented in the Foundation Agreement and are not the same as in the Foundation creation process.

3.5 Further Development and Dynamics of the Foundation

The DBE Foundation is proposed to be created according to the process described in 5.2. The Foundation Agreement that should be accepted in the process will include the rules according to how the members will be accepted to the DBE Foundation. There will be the Founding Members that are active at the time of establishing the Foundation but the joining process of new members should be decided to support the community. Apache Foundation for example rewards distinguished individuals by taking them as members of the Foundation if the majority of existing members approve the candidate. It is not reasonable to speculate the contents of the final Foundation Agreement, but it is essential that the dynamics of the Foundation is taken in to account. The evolution of different OS Foundations should be benchmarked carefully during the DBE Foundation creation process. The most important Foundation Agreement must include the process according to which the Foundation is going to be developed and steered to match the requirement of the changing environment.

As mentioned in the introduction, there is an ongoing discussion going on in the PMEB that has been opened for the DBE consortium. This process will have an effect on the final Foundation creation process and will be concluded in the next Sustainability Plan deliverable.

4 Financing

Financing issues are in close relation to governance as different organisational forms and actors in the governing entity provide different possibilities. The financing issues are taken here a little bit further from the D34.1 but there will be several matters to be solved in the following versions of the sustainability plan.

4.1 Financing needs

The financial needs for the DBE after the project time are primarily focused on running the Foundation and producing the support services required from it. There are needs for initial financing in the initialisation of the Foundation and also for continuous financing to cover the operational costs.

There are also financial needs required to foster and support the creation of other DBE-related projects. The DBE after the project time is still going to be in a development stage and a lot of research, development and implementation work is needed to achieve the visions of the DBE. There are different DBE-related projects pending, as mentioned earlier and they need their own financing. The purpose of this Sustainability Plan is not to contemplate whether the forthcoming projects and the DBE Foundation will have shared financing interests or not. The Foundation creation process will address these questions but in this report the emphasis is in ensuring the sustainability of DBE from the SME point of view as stated in the first Chapter.

The Financing needs of the DBE in this Sustainability Plan equal the financial needs of the Foundation when founded.

To be able to estimate the financing needs, the future project planning has to be on greatly more specific level than it is at the moment. At this stage the financing needs are mentioned on a topic level, identifying the cost areas and possible sources for finance. Operational incomes, financial support, and financing needs will be estimated later.

It can be foreseen that at least the following activities will incur costs:

- Community care and mobilisation
- Technology research and development (depending on the development phase at the end of DBE project)
- Further development of DBE code (keeping it up)
- Personnel (R&D, marketing, management/administration)
- Communication with the DBE network (personnel, systems, marketing and informative material) and maintaining the network

4.2 Potential financiers

The planning and preparations of DBE business will be done as a part of the DBE project. At the end of project the business will most probably not have enough incomes to cover all costs. The Foundation members will be a very potential group of

financers as they must see the DBE as an attractive OS project worth investing, not only joining.

Some parties have already been identified as potential sources of additional funding. These include actors from private and public sector such as regional policy makers, EU DBE Cluster, EU parliament, SME organisations, research community, project partners and associates, SMEs, and private investors. First mentioned parties may be interested to support even if there is no clear revenue model foreseen. Towards the end of prior list the (private) parties will request a crystal clear business or revenue opportunity.

5 Development Process of the Sustainability Plan

The development process of the sustainability plan is continuous. There are three development stages during the project time but it is also very important to have a development process that goes beyond the project time

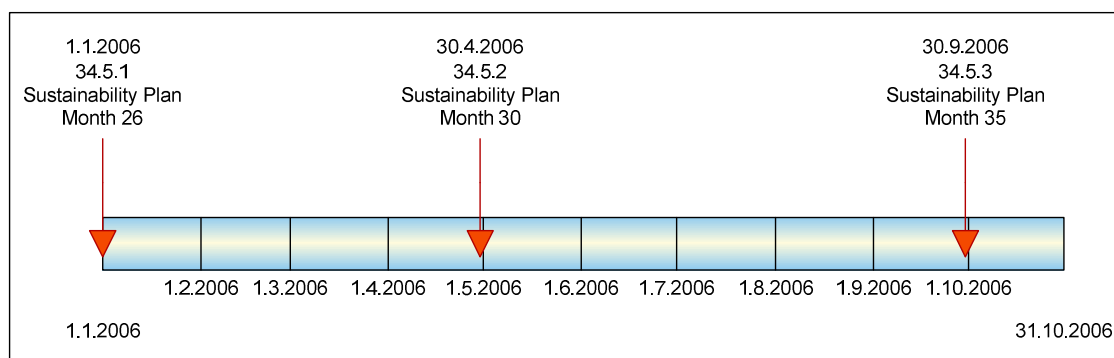


Figure 5 DBE Sustainability Plan deliverable timeline

The structure of the forthcoming deliverables will follow the structure of this document. The contents will be deepened with following emphasis:

Sustainability Plan Draft 3 – Project month 30

1. Business environment and Market description
2. Financial plan
3. Detailed governance model description and the conclusions of the ongoing Foundation creation process
4. Aspect of time considered in different areas

Final Sustainability Plan – Project month 35

The final sustainability plan will be finished by the end of project month 35. There will be active collaboration during the creation of the final sustainability plan with the task B16 Exploitation strategies as the tasks are aiming in the same goals.

Appendix I – Legal Entity Characteristics

Legal entities that were taken in question as a type of DBE business entity were primarily foundation (or trust), limited company, or association. Depending of domiciles local legislation these are the most common entity types, in which business owners are legally responsible for no more than the amount that they have contributed to a venture (limited liability).

Descriptions of legal entities below are based on Dictionary of Legal Terms¹⁴ and Wikipedia¹⁵. Although the prior mentioned web page has background of Anglo-American legislation (Common law) the descriptions are mainly common in Europe. Also Wikipedia partly refers to common law.

Foundation or trust

Foundation is a kind of philanthropic organization, set up by either individuals or institutions as a legal entity – usually either a corporation or a trust – with the purpose of distributing grants to support causes in line with the goals of the foundation.

A trust is a relationship in which a person or entity (the trustee) has legal control over certain property (the trust property or trust corpus), but is bound by fiduciary duty to exercise that legal control for the benefit of someone else (the beneficiary), according to the terms of the trust and the law.

A good example of a foundation behind an open source project is Mozilla Foundation, which was established in July 2003 with start-up support from America Online's Netscape division. The mission of Mozilla Foundation is to provide organizational, legal, and financial support for the Mozilla open source software project and thus ensure the continuation and existence of Mozilla project beyond the participation of individual developers. It also provides a vehicle to limit the legal exposure of participating in an open source project. The Foundation has been incorporated as a California not-for-profit corporation.¹⁶

Corporations and companies

A corporation is a legal entity (distinct from a natural person) that often has similar rights in law to those of a natural person. Civil law systems may refer to corporations as "moral persons;" they may also go by the name "AS" (anonymous society) or something similar, depending on language.

A company in the broadest sense is an aggregation of people who stay together for a common purpose. This includes commercial purposes, organised as a type of business organization.

A legal entity, allowed by legislation, which permits a group of people, as shareholders, to create an organisation, which can then focus on pursuing set objectives, and empowered with legal rights which are usually only reserved for individuals, such as to sue and be sued, own property, hire employees or loan and borrow money.

¹⁴ www.sixthform.info/law/03_dictionary/index_dictionary.htm

¹⁵ http://en.wikipedia.org/wiki/Main_Page

¹⁶ <http://www.mozilla.org/foundation/>

Association

Association is a group of individuals or legal entities that voluntarily enter into an agreement to form a body (or organization) to accomplish a purpose. Associations may take the form of a non-profit organization or they may be not-for-profit corporations; this does not mean that the association cannot make benefits from its activity, but all the benefits must be reinvested. Most associations have some kind of document or documents that regulate the way in which the body meets and operates. Such an instrument is often called the organization's bylaws, regulations, or agreement of association.

Some characteristics of legal entities

Major differences or characteristics of legal entities come from the ways they approach to making profit (entity's profitability and profits to stakeholders), membership/partnership, and image issues.

The primary advantage of a company structure is that it provides the shareholders with a right to participate in the profits (by dividends) without any personal liability (the company absorbs the entire liability of the business). The other two types are usually non-profit or not-for-profit, when all the benefits will be reinvested. A limited company may also have such non-profitable objectives.

Company and association have partners or members as foundation usually does not have. The membership or ownership of DBE business may be important way to bind stakeholders like developers to the use DBE technology and community. Association is more open for new members than company for new partners. Also company lets new partners to join business, but procedure is more complicated.

Image issues have to be inspected carefully, too. Association and foundation may be more easily understood as not-for-profit communities, those objectives are to develop and distribute DBE technology. This kind of imago would support the wider distribution of technology.

In every type of DBE legal entity is crucial to observe the expenses and potential incomes of the legal entity.

No acting legal entity

Alongside the highly active DBE legal entity is an “open source” type open network or community. Then the legal entity is maybe needed only to maintain server or other facilities as a technical gateway of distribution. In this case community – with no barriers to join – develops DBE technology and distributes it to end-users. On the other hand legal entity owned or controlled by small group of parties maintains the platform of distribution.