

Consortium for studying, evaluating, and supporting the introduction of Open Source software and Open Data Standards in the Public Administration

Project acronym: COSPA



Work Package 4

Identification of target OS applications to use in the partner PAs, their customisation to fit the ODS, with specific attention to the use of proprietary tools by the other applications still in use in the PA

Deliverable 4.1

Identification of the training and administrative support needs and issues for the adoption of the identified OS applications and environments

Contract no.: IST-2002-2164



Project funded by the European Commission under the
“SIXTH FRAMEWORK PROGRAMME”

Work Package 4, Deliverable 4.1 - *Identification of the training and administrative support needs and issues for the adoption of the identified OS applications and environments*

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|---------------------------|---|
| Project Acronym | COSPA |
| Project full title | A Consortium for studying, evaluating, and supporting the introduction of Open Source software and Open Data Standards in the Public Administration |
| Contract number | IST-2002-2164 |
| Deliverable | 4.1 |
| Due date | 31/08/2004 |
| Release date | 11/07/2006 |
| Short description | Deliverable 4.1 contains details of the OS applications and environments that may be suitable for use within the PAs, along with the corresponding training and administrative needs. It is based on information provided by the partners of the COSPA project in WP 2. |
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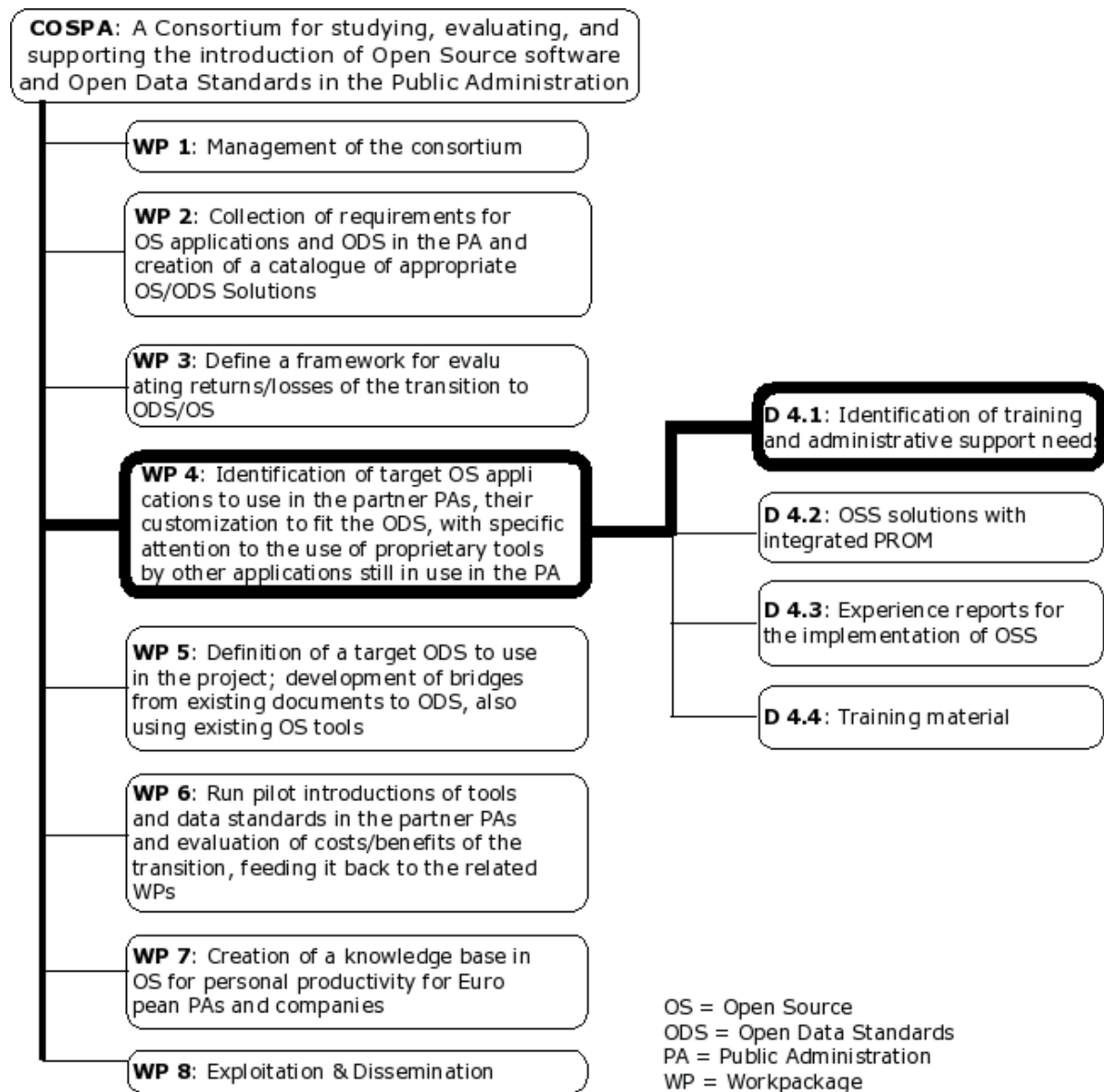
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Deliverables Navigator



Executive Summary

This document provides a *catalogue raisonnée* of Open Source software (OSS) environments (operating systems etc) and software applications (desktop packages) that would meet the operational needs of PAs planning to migrate to an Open Source desktop environment. It is intended as a practical resource, providing useful information for technology decision-makers selecting appropriate solutions on the basis of reliable data.

The data in this catalogue covers two vital factors facing any PA that adopts an Open Source solution: what kind of training the end users will require, and what kind of computing resources will be needed to install and maintain the software.

The software listed is limited to the kind of general purpose applications used in PAs, ranging from project management and text editing packages to email, graphics, and database applications. The choices and data concerning these applications are based on a consensus of opinion derived from a variety of reliable sources.

Inevitably, the software packages and operating systems listed in this catalogue will change over time; some will upgrade and extend their functionality as the Open Source community supports them, others will receive less support and stagnate. This catalogue will therefore need to be kept up-to-date on the COSPA knowledge base, and it is hoped that permanent commentary and feedback from PA users will keep it relevant, accurate, and constantly tailored to the evolving needs of PAs.

1 Introduction

This document includes:

- A list of OSS used or suitable for use in the PAs.
- Information on training and experience needs
- Information on support needs

Data collection was carried out within the WP 2 time-frame , while collecting information for the various deliverables (D 2.1, D 2.3 and D 2.4/D. 2.5) was largely due to work by Connecta. More information on the data collection process can be found in D 2.1, D 2.3 and D 2.4/D. 2.5.

1.1 Scope

This deliverable concentrates on the selection of software suitable for office use in PAs, and excludes applications that are highly specialised or targeted at technical experts.

1.2 Methodology

The research carried out by the Sheffield unit of the COSPA project was coordinated by its principal investigators, who played a leading role in identifying the key points of the research. Weekly meetings were held to verify work status, check the progress, and delineate action points until the next meeting. The principal investigators coordinated the work with other COSPA groups. Each deliverable was verified by at least one of the principal investigators, to ensure compliance.

2 Method

In line with the aims of this deliverable, the software is grouped into two main categories: *software environments* and *software applications*.

A software environment can be defined as *the operating system, user interface and device drivers on top of which software applications can run*. Software applications are *computer software directly used in a task that the user wishes to perform*.

The following section will analyse OSS applications and OSS environments that have been identified as suitable for use in PAs. A few software applications not covered by the above classification will also be included, since they might be used on a PA desktop and are therefore relevant to the objectives of both this deliverable and COSPA as a whole. An explanation of terms used is provided in the glossary.

For this project, a software program is considered suitable when it is appropriate for its intended use. It is not easy to define when something is appropriate for its intended use, and this is a problem common to many communities including the Open Source community.

It was decided to include software that was already considered suitable by an *endogenous* and/or an *exogenous* review. A review is endogenous when it is carried out by someone belonging to the community that developed the software. An exogenous review is undertaken by someone from outside the development community.

Although many fields of endeavour use the concept of peer review, it is unsuitable for the context under examination. Peer review assumes that only a peer is capable of establishing whether a task has been conducted in an appropriate way. This is true for research: for example, where other researchers in the same or neighbouring fields will evaluate the results, and are usually the only people qualified to do so.

It might sound like a good idea to consider only people with a technical background as an acceptable review source when it comes to evaluating a kernel, the security of a protocol, or the implications of choosing a given network technology. But expertise from different fields may be more beneficial when evaluating software suitability, including:

- **Legal and political** – Avoiding legal charges, or having someone who can answer in court if the software is working wrongly are day to day issues for PAs. There may also be political reasons for deeming software suitable, such as encouraging European software companies.
- **Technical** - Issues to be considered include functionality, security, and stability, among others.
- **Strategic** – Deciding whether to use OSS to avoid being tied to manufacturers is an example of possible strategic options.
- **Documentation, training and support** - Evaluating issues concerning the experience and knowledge required to use a given software application in light of the current skills of the user base.
- **Usability and accessibility** – Whether the software meets requirements with respect to effectiveness, efficiency and satisfaction, thereby enabling users to achieve their specific goals.

This categorisation, while used here to give an overview of the issues to be considered, will

not be expanded further in this document.

Studies and reviews of OSS can be *selective*, analysing software from a specific angle, or *comprehensive*, taking a broad perspective of the software.

OSS will be put forward for adoption after an overall evaluation of the various knowledge sources, and when endogenous and exogenous reviews provide complementary findings.

This shifts the focus from deciding what software is suitable to deciding *what sources for reviews are suitable*. There may be differences in quality between the various sources of information, e.g. an anonymous and unverified post in a newsgroup cannot be considered as equivalent to a research study.

Suitable sources of knowledge, include, in order of importance:

- **Reports from partner PAs, Observers and other PAs** - Partner or Observer PAs' experience in using a software application is extremely relevant. The same applies to PAs outside the project, when reports are available.
- **Reports from other partner organisations** - Experiences from other partner organisations such as universities, research centres or commercial organisations.
- **Research and government reports** – These includes reports produced either by government or from inside the scientific community.
- **Software included in major operating systems** - Operating systems such as Debian or FreeBSD have a strong tradition of including good-quality software. Developers ensure that the software is suitable for the target users of the operating system.
- **Analysis of software activity** - Software that is already attracting developers and users is likely to be suitable for a wide range of users, whereas complex software with only a few users and developers is more likely to have problems. Simple projects may have few users yet high quality developers.
- **Popular articles** – media articles describing software applications can be a useful source when assessing whether a software is potentially suitable.

Different sources may report differing results, especially for example, on the cost of training and support. Research reports have been written by different organisations with differing outcomes.

In the case of conflicting reports, or when only one report can be found about a specific software topic, sources should be evaluated extremely carefully. When reputable organisations agree in their reports, one can assume that the reported experience is worth considering in-depth.

3 Results

The information presented in this section comes from a variety of sources outlined in the previous section, including details from personnel in European PAs and European companies working with PAs. The information was collected in meetings, phone conversations, face to face conversations, and informal interviews, and refined on the basis of data about OSS software use and requirements collected and synthesized in WP2.

Much of the data has been collected thanks to the experience of Connecta in delivering training on both Open Source and proprietary software, and has been confirmed by the public administrations that reviewed the document.

The following sections list suitable software applications, and provides details on:

- **Requirements for training people to use the software** - When training requires is less than 4 hours, an informal process such as self training using documentation, or peer training is usually sufficient. But if more time is needed, then formal training, either face-to-face or remote, is appropriate. The training times assume no prior knowledge of the software unless stated.
- **Requirements for installing and maintaining the software** - In most cases, the software can be installed from a binary package, while in others compilation from source code will be required. Unless otherwise stated, binary packages and an easy-to-use installation procedure are available for the software in question. When a package requires a large number of dependencies, this fact is noted, but the dependencies themselves are not listed. the idea is to emphasize their impact on installation time and complexity.

Only mature software with available documentation has been considered.

Technologically speaking, this deliverable focuses on applications that can run on a fully Open Source desktop. This means that applications that are Open Source but which require a proprietary operating system are not included.

3.1 Administrative support needs and issues for adoption

One of the main problems for PAs is that they need to be able to locate sources for support in their administrative needs.

In the context of proprietary software, software vendors have often a number of different types of partners. This strategy allows proprietary software vendors to find synergies with other companies and to reach the market – and the PAs – in an effective way.

For example, big enterprises that develop proprietary software tend to use a network of partner SMEs to reach a higher number of potential customers. Companies as big as Microsoft or Oracle would not be able to effectively target small and medium PAs, but this has been effectively done using partners.

In the Open Source context, the situation is not too different, and the bigger players, such as Red Hat and Novel have their partner programs. Through their network of partners, they are able to provide the level of quality assurance that is often required in PAs, and to overcome the well-known problems of fear, uncertainty and doubt (organisations are often led to irrational fears of innovation).

As an additional opportunity, a relevant source for finding solutions for administrative support needs is the network of Linux User Groups (LUGs). LUGs are geographically based user groups that are based on a common interest, not only in Linux, but in Open Source software in general.

LUGs usually maintain local mailing-lists and/or discussion forums, that allow them to create a community, and often organise events in which experiences can be shared. In LUGs it is possible both to find help from volunteers, and to be directed to possible technology suppliers. As the LUGs are community-based, the outcome of suggestions and discussions in the LUGs is likely to be vendor-neutral.

Two important locations to find a local LUG are the linux.org web site (<http://www.linux.org/groups/>) and the Linux Users Groups WorldWide project (<http://lugww.counter.li.org/groups.cms>).

3.2 Comparison with proprietary software training

According to the information collected from Connecta, that has a long experience in delivering training both on proprietary software and on Open Source software, the training on Open Source software is not specifically different, for most aspects, from the training for proprietary software.

The training on Open Source applications and on proprietary applications has not any specific differences.

The main difference appears to be in the training on Microsoft operating systems versus the training on Unix-like operating systems as Linux. The basic training on Microsoft operating systems is typically done in 1 day, while the training on the Open Source operating systems that we have identified typically requires from 2 to 3 days, of which 1 is dedicated to concepts that usually not included in the training on Microsoft operating systems (for example the concepts of users, groups, permits).

It is important to underline that, as we have reported in D 4.1, often there is a lack of training of personnel in the PAs. PAs in the COSPA project have included in their migration plans training on the new OSS, but they report that training might have been needed even without the Open Source migrations, to improve their productivity.

3.3 Open Source environments

Open Source environments grouped into:

- Operating systems (OS);
- Graphical user interfaces (GUI).

Device drivers, although part of the software environment, will not be considered, since they are do not form part of the COSPA agenda.

3.3.1 Operating Systems

Different operating systems are available and are used on PAs desktops. All suitable options identified are Unix-like systems.

| | |
|-----------------------|--|
| <i>FreeBSD</i> | <p>Requirements for training people to use the software:</p> <ul style="list-style-type: none"> • about 24 hours for migrating from a competing operating system, including training on the user interface • about 3 days for basic use |
| | <p>Requirements for installing and maintaining the software:</p> <ul style="list-style-type: none"> • installation procedure of average complexity • default installation not very hard to install • customising the installation may be difficult • the update/upgrade system less easy to use that comparable operating systems |

| | |
|----------------------|--|
| <i>Debian</i> | <p>Requirements for training people to use the software:</p> <ul style="list-style-type: none"> • about 18 hours for migrating from a competing operating system, including training on the user interface • about 3 days for basic use |
| | <p>Requirements for installing and maintaining the software:</p> <ul style="list-style-type: none"> • installation procedure of average complexity • default installation not very hard to install • customising the installation may be difficult • update/upgrade system less easy to use compared that comparable to other operating systems |

| | |
|----------------------------|--|
| <i>Fedora Linux</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • about 18 hours for migrating from a competing operating system, including training on the user interface • about 3 days for basic use |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • update/upgrade system of average complexity compared to other operating systems |

| | |
|--|--|
| <i>Mandriva, RedHat Linux, Suse Linux</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • about 14 hours for migrating from a competing operating system, including training on the user interface • about 3 days for basic use |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • easy-to-use update/upgrade of the system |

3.3.2 Graphical user interfaces

Graphical user interfaces (GUIs) graphically implement the basic functionalities offered by the operating system, such as file copying and printing, changing user preferences (such as screen size, resolution) etc. The GUIs in OSS systems are very similar to the GUI's in proprietary operating systems and as such it is believed that the training time will be comparable for both systems. In fact, the European Computer Driving License (ECDL) can be obtained either using proprietary systems or OSS, and the training times for the either options appear to be the same.

| | |
|---------------------|---|
| <i>Gnome</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours for basic use • 12 hours for in-depth knowledge |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • pre-installed in many recent Linux distributions (including Debian, Fedora, Red Hat Linux) and on different Unix-like operating systems (including FreeBSD) • Version 2.14 provides new support for lock-down modes for administrators |

| | |
|------------|--|
| KDE | Requirements for training people to use the software: <ul style="list-style-type: none">• 4 hours for basic usage• 12 hours for in-depth knowledge |
| | Requirements for installing and maintaining the software: <ul style="list-style-type: none">• pre-installed in many recent Linux distributions (including Suse Linux and Mandriva Linux)• provides support for special, locked-down modes called “kiosk”, that allow administrators to reduce tampering by users, and selectively allowing or denying actions on the desktop |

3.4 Open Source applications

This section offers a refinement and summary of the content already mostly available in D 2.1, where further information about the software applications can be found.

3.4.1 Office automation

| | |
|-----------------------|--|
| OpenOffice.org | Requirements for training people to use the software: <ul style="list-style-type: none">• similar to those of proprietary office suites• sufficiently similar for most courses to be directly applicable to OpenOffice.org in general• estimated 4 hours training time for basic functionality (all parts of the suite), and 16 hours for more advanced use |
|-----------------------|--|

3.4.2 Personal / project assistant applications

Personal assistant software applications track and manage everyday activities such as deadlines and tasks. Project assistant software applications help to manage projects by breaking down activities, allocating tasks and overviewing progress.

| | |
|---------------------------------------|---|
| <i>J-pilot and Kpilot</i> | Requirements for training people to use the software: <ul style="list-style-type: none"> • less than 1 hour |
| <i>Open Workbench</i> | Requirements for training people to use the software: <ul style="list-style-type: none"> • 4 hours for basic use • 12 hours for advanced use |
| | Requirements for installing and maintaining the software: <ul style="list-style-type: none"> • requires JRE 1.3.1 or later |
| <i>Planner</i> | Requirements for training people to use the software: <ul style="list-style-type: none"> • 2 hours |
| | Requirements for installing and maintaining the software: <ul style="list-style-type: none"> • requires JRE 1.3.1 or later |
| <i>The Sunbird project</i> | Requirements for training people to use the software: <ul style="list-style-type: none"> • 1 hour |
| | Requirements for installing and maintaining the software: <ul style="list-style-type: none"> • deployed as an auto-install xpi file for Mozilla, Firefox or Thunderbird |
| <i>The OSWorkflow Designer</i> | Requirements for training people to use the software: <ul style="list-style-type: none"> • 1 hour |
| | Requirements for installing and maintaining the software: <ul style="list-style-type: none"> • the package requires many individual components • available easy-to-use distribution with all necessary software already included |

3.4.3 E-mail, groupware and instant messaging clients

These are applications for reading and writing emails, performing collaborative work, and exchanging real-time messages with people over the Internet.

| | |
|--|---|
| <i>Evolution</i> | <p>Requirements for training people to use the software:</p> <ul style="list-style-type: none"> • 1 hour for the email component • 1 hour for the calendaring and collaboration features |
| | <p>Requirements for installing and maintaining the software:</p> <ul style="list-style-type: none"> • currently, the groupware plug-ins for Exchange and GroupWise are available separately, and need to be installed alongside Evolution, slightly increasing install effort • next version will supply plug-ins directly in the main package |
| <i>Gaim, GnomeMeeting, Kopete, OpenC6, Phonogaim</i> | <p>Requirements for training people to use the software:</p> <ul style="list-style-type: none"> • 1 hour for each package |
| | <p>Requirements for installing and maintaining the software:</p> <ul style="list-style-type: none"> • most distributions include these applications |
| <i>Thunderbird</i> | <p>Requirements for training people to use the software:</p> <ul style="list-style-type: none"> • 2 hours |
| <i>Haystack</i> | <p>Requirements for training people to use the software:</p> <ul style="list-style-type: none"> • the software is unusual in the way it integrates different data sources, and this requires considerable adaptation time • 4 hours of training for basic usage |
| | <p>Requirements for installing and maintaining the software:</p> <ul style="list-style-type: none"> • requires several additional libraries • requires the Eclipse development environment • install and set-up time are around 5 hours on Unix-like systems • Microsoft Windows releases are simpler and more stable (Microsoft Windows 2000/XP required) • 1 gigabyte of disk space required (or more, as the repository grows) and JDK 1.4 |

3.4.4 Printing and faxing

These are specialised applications for sophisticated printing such as: full colour, kerning, etc. There are also applications for sending/receiving faxes over IP networks, such as the Internet.

| | |
|------------------------------------|--|
| <i>Gfax and KSendFax</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • requires a working Hylafax server or Mgetty-sendfax for KSendFax |
| <i>KUPS and Gnome-print</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • included in all recent Linux distributions |

3.4.5 Graphics

Software applications for graphics-related tasks such as free-hand drawing, digital image capture and editing.

| | |
|------------------------------------|--|
| <i>GIMP</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours for basic painting and using the software • 20 hours for sophisticated use |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • usually pre-installed in many Linux distributions • easy to install package for Microsoft Windows |
| <i>Labplot and Kmatplot</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 2 to 3 hours for people with experience in scientific graphing |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • the packages require several additional libraries |

3.4.6 Hypermedia

Software applications for reading, playing and authoring non-conventional document media such as hypertexts (web pages), digital motion pictures etc.

| | |
|--|---|
| <i>AccessGrid</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • install requirements are significant, and a full install needs several external packages • a binary package is available for RedHat and Microsoft Windows • maintenance and set-up are also significant, especially for certificate creation and virtual room and applications set-up |
| <i>Endeavour2</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| <i>Firefox</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| <i>GnoCHM and xCHM</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • minimal |
| <i>Kvoicecontrol</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • administrator must set-up the environment for spoken command execution |
| <i>Nvu</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours for basic web page creation • 15 hours for more sophisticate website authoring |
| <i>Omsp, OpenMash, PeerCast, Straw</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours for basic web page creation • 15 hours for more sophisticate website authoring |

| | |
|------------------------|---|
| <i>Videolan</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • use of certain encoding formats requires additional binary packages. These must be downloaded separately, and may need a separate license |

3.4.7 Emulators

These are software applications which provide a virtual hardware/software platform on the top of the current one. This enables programs written for a platform to be run on another machine and may be useful when migrating to a OSS desktop.

| | |
|-------------------------------|---|
| <i>Dosemu and Wine</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • creation of the configuration file may require significant effort |

3.4.8 Utility applications

These are software applications that provide useful but secondary add-in functionalities to the desktop environment, such as: pop-ups, sticking notes, fonts loading.

| | |
|-------------------------------|--|
| <i>Luminance Panel</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |

| | |
|-------------------------|---|
| <i>TopicDocs</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • can be installed with Java WebStart, or directly by copying the Jar files |

| | |
|---|--|
| <i>The KDE URL Link Launcher</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |

| | |
|------------------------|--|
| <i>Wbumount</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | <ul style="list-style-type: none"> • source code compilation is required for the installation process |

| | |
|--------------------|--|
| <i>Xnee</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour • source code compilation is required for the installation process |

3.4.9 Database servers

The regular database server software applications that provide the basic functionalities for efficient indexing/storing data.

| | |
|--|---|
| <i>Ingres, MaxDB, MySQL and PostgresSQL</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 6 to 12 hours of initial training for maintenance and database administration |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • end users should not be able to interact directly with this package |

3.4.10 Database - front-ends and clients

These are software applications for accessing data stored in database servers, using well-established query languages/protocols.

| | |
|----------------------------|---|
| <i>Agata Report</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • the package needs many additional packages and libraries, increasing the install time |

| | |
|--------------------------|--|
| <i>DataVision</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • the package needs many additional packages and libraries, thereby extending install time |

| | |
|---|---|
| <i>DBDesigner 4</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 2 hours for basic use • more sophisticated use: 10 hours |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • the package needs many additional packages and libraries, increasing the install time |
| <i>Mergeant</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 2 hours |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • several dependencies required |
| <i>MySQL Control Center</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • for users with knowledge of Mysql and databases: 2 hours |
| <i>Rekall</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours for basic use • 12 hours for sophisticated use |
| <i>Sqlgui</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 2 hours |
| <i>The Zaval Database Export Utility</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour for expert database users |

3.4.11 Knowledge management

These are software applications for storing and retrieving “knowledge” in the form of text documents, presentations, graphical documents etc. They usually provide sophisticated options for extracting and indexing knowledge from the input documents.

| | |
|----------------------------|--|
| <i>Protege 2000</i> | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • for users with a knowledge of ontology creation and the semantic web • 10 hours |

| | |
|--|--|
| Mapeditor and POPulation MAPper | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • requires source code compilation |

| | |
|-------------|--|
| Qgis | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 2 hours |

| | |
|-------------------------------------|---|
| TerraView and TerraVision TM | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • 4 hours for basic usage |

3.4.12 Encryption, privacy and security

Software applications for ensuring the privacy and secrecy of computer-manipulated data. Also includes software for defending computer systems from virus attacks.

| | |
|-----------------------|--|
| Clam Antivirus | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |

| | |
|------------------|--|
| Gringotts | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |

| | |
|-----------------|--|
| Opensign | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • already signed binaries are available for deployment through web pages |

| | |
|----------------------|---|
| Opensignature | Requirements for training people to use the software: |
| | <ul style="list-style-type: none"> • less than 1 hour |
| | Requirements for installing and maintaining the software: |
| | <ul style="list-style-type: none"> • several packages are needed to ensure correct functionality |

4 Conclusions

The information provided in this deliverable can positively impact training and administrative support needs, by helping PAs discover whether the software they are using or evaluating meets their requirements.

For PAs, one clear advantage is that instead of evaluating available OSS, they can refer to this document, without having to select the software out of the blue.

The software included in this document has been evaluated at different stages of the COSPA project and has been deemed suitable by reputable partners.

As OSS experts know, one of the problems of the OSS development model is publicity. There is a lot of software available, but it does not benefit from the proprietary style advertising budgets. Projects such as COSPA therefore make it easier for PA decision-makers to find out whether there is a suitable piece of open source software for a specific use, and how easy or difficult it will be to migrate from existing software to this potential OSS solution.

This document is intended as a contribution to an authoritative resource for selecting of OSS in PAs. This will enable users will be choose an OSS more easily, rather than having to evaluate each software application every time. In many cases, PAs will be able to use a common set of applications and data standards. At the same time, OS developers may be able to concentrate on improving and extending the software that PAs find particularly appropriate for their needs.

The information in this document is accurate as of publication, but will grow obsolete as new OSS comes onto the scene and as developers lose interest in supporting existing software. To ensure that this resource is continuously useful, the COSPA knowledge base will keep an up-to-date version. It is also hoped that PAs themselves will not only use this resource but also add value to it in the form of commentaries and updates, as they gain more experience with OSS.

Appendix A - Abbreviations

The following table lists abbreviations used in the document.

| <i>Abbreviation</i> | <i>Meaning</i> |
|---------------------|--------------------------------|
| D | Deliverable |
| CAD | Computer Aided Design |
| CAM | Computer Aided Manufacturing |
| EC | European Commission |
| GIS | Geographic Information Systems |
| GNU | GNU is Not Unix |
| GUI | Graphical User Interface |
| OS | Open Source |
| ODS | Open Data Standard |
| OSS | Open Source Software |
| PA | Public Administration |
| RPM | RedHat Package Manager |
| WP | Work Package |

Appendix B - Glossary

| <i>Term</i> | <i>Meaning</i> |
|--------------------------|--|
| deb | deb is the extension of the format used by Debian for managing binary packages, and the binary packages themselves. The format is now used by operating systems derived from Debian as well. |
| exogenous | Caused by factors that are external to the system |
| endogenous | Caused by factors that are internal to the system |
| graphical user interface | A graphical user interface (GUI) is a method of interacting with a software through graphical elements. |
| kernel | The essential core component of an operating system. |
| operating system | An operating system is the software responsible for the direct control of hardware and running basic system operations. It includes the user interface, low-level system utilities, and the kernel. |
| rpm | rpm is the extension of the format introduced by Red Hat for managing binary packages in Red Hat Linux, and indicates the binary packages themselves. The format is now used by other Linux distributions. |