

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

Project acronym: **COSPA**



Workpackage II

Collection of Requirements for OS applications and ODS in the PA and creation of a catalogue of appropriate OS/ODS Solutions

Deliverable 2.4

Analysis of Requirements for Open Source Applications in the Public Administration

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Contract Number: IST-1-002614

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Delivery Date:

Short Description: The relevant deliverable D2.4 is used to collect and collate the requirements of the PAs for software applications. This will help to find if the software that is in use meets their requirements and could be used, in other contexts, to improve the existing software applications or to design new ones.

In general Workpackage II (WP2) primarily aims to understand what OS tools are currently utilised in PAs, and to which ODS the data currently produced is compliant. At the same time this work package intends to gather and analyse user requirements from the partner PAs, in order to use this data in later WPs.

Partner owning: University of Sheffield (USFD)

Partners contributed:

Made available to: All project partners and EU officials and representatives

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V 0.9	2004-10-25	Mike Holcombe (University of Sheffield)	Methodology and presentational polish

All major additions and changes to this document are listed in this section. After every change the version is increased by one hundredth. By each review the document gets an integer version number. The final version gets an integer number and additionally the status finalised.

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Table of Contents

Executive Summary.....	6
1 Introduction.....	7
2 Method.....	8
2.1 Method for Data Collection.....	8
2.1.1 Preliminary Work.....	8
2.1.2 First and Second Round of Data Collection.....	8
2.1.3 Final Round of Data Collection.....	10
2.2 Method for Data Collation.....	11
2.2.1 Data Pre-processing.....	12
2.2.2 Information Analysis.....	12
2.3 Proceeding to the Information Analysis	13
3 Results.....	18
3.1 The Data	18
3.2 Information From the Business Processes Forms.....	19
3.2.1 Business Process Data Submitted by Geographic Region.....	20
3.2.2 Software Used in the Support of Business Processes.....	21
3.2.3 The Use of Word Processors Within the Business Processes.....	23
3.2.4 The Use of Spreadsheets Within the Business Processes.....	25
3.2.5 Database Use within the Business Processes.....	27
3.2.6 Databases in Use.....	28
3.2.7 Suggested Open Source Solutions.....	33
3.2.8 Summary of Planned Process Improvements.....	35
3.2.9 Frequency of Use of the Business Process.....	38
3.2.10 Derivative Processes Linked to the Business Processes.....	43
3.2.11 Notes Supplied Within the Business Process Questionnaire Responses.....	46
3.3 Information From the Business Processes Descriptions.....	47
4 Discussion.....	51
5 Conclusions.....	53
Appendix A - Abbreviations.....	54
Appendix B - Glossary.....	55
Appendix C - Questionnaires.....	56
5.2 Requirements Specifications for Software Used in the PAs.....	57
5.3 PA contact details.....	57
5.4 IT Budget Details.....	57
5.5 Software in Use.....	58
5.6 Software in Use (2nd part).....	58
5.7 Business Processes.....	59
References.....	61

Executive Summary

This document is the result of the collection of the requirements for Open Source (OS) applications submitted by the partner Public Administrations (PAs). It is not meant to be an exhaustive study of all OS applications which are used by Public Administrations neither a list of available OS applications, which is covered by Deliverable 2.1 but a detailed sample.

However, it is of fundamental importance for Workpackage 2, as it provides:

1. An analysis of processes that are in use in the partner PAs
2. An analysis of software applications that are used by the partner PAs
3. An analysis of the business processes that are in use in the PAs

Information collected on data standards will be considered in 2.5.

Deliverables 2.9 and 4.1 are also linked with the outcome of this deliverable.

1 Introduction

The partner PAs, according to the Annex I of the COSPA agreement, are coupled with a shepherd, that is in charge of helping and supporting the linked PA during the project.

<i>PAs</i>	<i>PA Shepherd</i>
Consorzio deli Comuni AA (SGV)	Free University of Bolzano / Bozen (FUB)
Torokbalint City Council (TO)	MTA Szamitastechnikai es Automatizalasi Kutatointezet (MTA)
Hanstholm Kommune (HK)	Aalborg University (AAU)
SOCITM (SOC)	University of Sheffield (USFD)
Beaumont Hospital (BH)	University of Limerick (UL)
South-West Regional Authority (SWRA)	University of Limerick (UL)
Provincia di Pisa (PP)	Free University of Bolzano / Bozen (FUB)
Provincia di Genova (PROGE)	Free University of Bolzano / Bozen (FUB)

Table 1 List of partner PAs and their Shepherd

For the aims of our deliverable, SGV, SOC and SWRA are “special” partner PAs as they represent a number of different organisations. More information on the nature of these PAs is available on the Consortium agreement.

2 Method

The goal of deliverable 2.4 was to collect and collate the requirements of partner PAs for software applications.

Section 2.1 describes the methods used for collecting the information from partner PAs; section 2.2 describes the methods used for collating the data.

2.1 Method for Data Collection

Finding an effective method for data collection has not been a straightforward task. Subsection 2.1.1 describes the preliminary work; subsection 2.1.2 the first and second rounds of data collection; subsection 2.1.3 the final round.

2.1.1 Preliminary Work

Initially a document was generated by USFD as a guide to aid capturing requirements applicable to this project, based on the IEEE 830-1998 standard.

The document was organised in three sections:

- **Introduction**, defining the purpose of the document, an overview of the document and the scope of the software to be analysed;
- **Overall description**, providing a summary of the software characteristics, user characteristics and software constraints;
- **Specific requirements**, describing the software requirements in sufficient detail to enable the development and testing of a system satisfying those requirements.

It was distributed to the COSPA consortium via its internal mailing list for comment. The small amount of feedback received lead USFD to believe that a simpler document was necessary to have any real collaboration with the partner PAs.

2.1.2 First and Second Round of Data Collection

As a result of the preliminary work it was decided that a much simpler format was needed to aid the collection of the software requirements.

Our aim was:

- To obtain information about the needs of the PAs with regards to the types of software they were using. USFD stressed that the information provided should be about what a particular type of software was required by them, rather than what features a specific brand of software was offering.
- To generate sufficient data for further analysis. This was addressed by aiming to maximise the speed of collection. USFD prepared example documents and timed the effort required ensuring that the requirements could be collected efficiently.
- To provide a flexible format to be used in very different organisations. USFD thought that it would be possible to rely on the expertise of the PA personnel to extract the relevant information.

It was decided that the following data was to be collected:

Workpackage II, Deliverable 2.4

- Software type;
A description of the type of software, for example: word processor, web browser, instant messaging program, rather than specific products like OpenOffice.org Writer, Internet Explorer and Gaim.
- Criticality;
An evaluation of the importance of the software for the business processes of the PA.
- Brief description of the software;
A short overview of what the software is supposed to do.
- Constraints, assumption and dependencies;
A statement on the required pre-conditions to use a specific software type, e.g. “must run from the command line” or “needs to integrate with our legacy database”.
- Description of functional requirements.
A list of functional requirements and of their priority: mandatory (must be there), desirable (required for full functionality) or optional (no major functionality loss if not present).

A basic form, along with a number of examples, was produced to collect different examples of the following data. The form (Table 22, included in Appendix C - Questionnaires) was circulated among partner PAs in electronic format.

USFD asked the PAs to send back as many copies of this form as possible, stating their requirements for the software that was typically in use in their organisation for their processes. Software that might be used within the organisation but for purposes not related to the scope of the organisation was not to be considered (e.g., computer games and music composition software).

During the first round of data collection USFD had been in charge of collecting the requirements directly from all the partner PAs and did not get the expected collaboration from the PAs .

This was followed by a second attempt, where the PA shepherds were in charge and directly responsible for collecting the requirements from the PAs.

Persuasion was needed, as many of the PAs did not perceive this part of the workpackage as important for their aims and they had only a partial perspective on the research elements of the project.

The output collected from the PA in these first two rounds varied in quantity and quality, with 0 to 10 forms finally completed and returned per PA (see Table 2).

<i>PAs</i>	<i>Number of Response Forms Completed</i>
Consorzio dei Comuni AA (SGV)	5
Torokbalint City Council (TO)	5
Hanstholm Kommune (HK)	0
SOCITM (SOC)	2
Beaumont Hospital (BH)	3
South-West Regional Authority (SWRA)	10
Provincia di Pisa (PP)	8
Provincia di Genova (PROGE)	4
TOTAL	32

Table 2 Number of response forms received by each partner PA after the first and second round of data collation

The results of these two-rounds data collection showed that there had been some communication problems with the PAs resulting in inadequate and insufficient data for analysis. Possible reasons for this are investigated in Chapter 3.

2.1.3 Final Round of Data Collection

The discussion of the results of the first and second rounds of data collection with our partners lead to a common agreement that the results were not acceptable. It was decided that strong action was needed in order to produce meaningful results and as a consequence a new strategy for collecting requirements was defined. This strategy was based around collecting business processes rather than software requirements. It was felt that this would allow partner PAs to provide information about their work with less abstraction and would enable USFD to gather the data required.

2.1.3.1 Business processes and Business process modelling.

Modern organisations rely on efficient and effective business processes in order to perform their responsibilities and functions. Although they may use computers – and software – to support these activities it is not an exclusive means of achieving their objectives.

The decision to focus on identifying business processes in PAs rather than relying on a catalogue of the requirements of the software used was driven by two insights:

1. although software may be being used it may not support the business process well;
2. many processes are perfectly well carried out manually.

Furthermore, the identification of the software requirements of the software used by the PAs proved problematical, it was felt to be a more achievable aim to concentrate on identifying the business processes through the individuals performing them. This decision was made in consultation with our partners IBM following their experiences doing something similar with other PAs.

Workpackage II, Deliverable 2.4

Much attention has been placed on business processes recently and much consultancy effort has been devoted to capturing and recording this information in commercial companies and other organisations. Many see the identification of the business processes in an organisation as an essential first step to the development of quality software to support the business objectives of that organisation. This is becoming more critical as organisations interact through, for example, the Internet. Thus Web services is one of the drivers of this activity.

As part of the standardisation of this activity a number of proposals for business process languages have been made. These include BPML and ebXML.

BPML

Business Process Modelling Language (BPML) is a meta-language for the modelling of business processes. The foundational processing model is that of a finite state machine and allows for the description of collaborative business processes and their transactions. Various associated languages provide graphical notations and facilities for defining web services etc. ([2]).

ebXML

This also offers a standard language for representing business processes, their execution as business transactions and business collaborations between two or more parties. More features are currently under development. (see [3])

The relevance of these developments to PAs remains to be seen, one of the goals of this stage of the COSPA project is to see what are some of the common business processes in use in PAs in the EU. It is possible that the standard languages, such as BPML and ebXML are not entirely appropriate and that a dedicated language for PA processes is needed.

As far as the sort of the processes identified in the data collected are concerned they seem to fit the following pattern.

Firstly, most processes can be broken down into subprocesses. The way that this is done will depend on the circumstances but there are two levels of analysis that seem appropriate in this context. The first part of the analysis is to identify how each main process collected could be broken down into *core business processes* or *bricks*. In general PAs will combine processes in a variety of ways, for example through collaborations with other organisations, in sequential and concurrent transactions and so on. Further work is needed to examine the principal strategies appropriate to this aspect.

We have identified a number of standard bricks from the data collected and this analysis can be taken further to provide a detailed description of the sort of administrative processes that are commonly used in the PAs.

This analysis is based on a general model derived from a generalised state machine . The key insight is to realise that many processes can be broken down into a number of stages.

At the initiation of the core process there is a simple task which usually results in a query to some data source – this may be a database but could easily be a paper source or a collaborative process with another department/organisation seeking information – and then a substantive process is

carried out which may be dependent on the results of the query.

Following the substantive process a result may be committed to the data source and a simple terminating process concludes the original process.

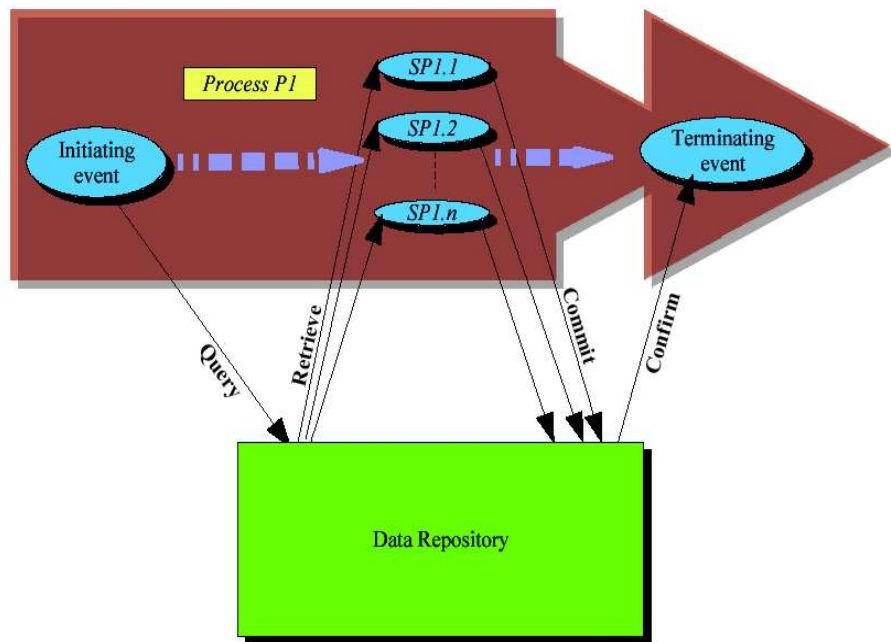
Under this scheme the substantive process can itself be decomposed in the same way and thus we have a recursive mechanisms which could form the basis of a simple business process language.

We can illustrate the idea in the following diagram.

Process $P1$ is decomposed into a series of interactions with a data source and a simpler, subprocess $SP1.i$ which depends on the results of the first query process.

Each $SP1.1, \dots, SP1.n$ is a subprocess with the same process structure, so $SP1.1$ could be decomposed into a number of data source interactions and the processes $SP1.1.1, \dots, SP1.1.k$ and so on.

At some point it is useful to break a subprocess into a series of sequential and concurrent subprocesses which do not involve interactions with the data sources of the organisation.



The level of detail and the amount of decomposition will depend on the circumstances.

It is a feature of this technique that it identifies data formats and collaborative processes involved in the query and commit operations. Analysis at this level of detail is not appropriate until after the prioritisation of processes has been done.

2.1.3.2. Data collection strategy

It was decided to collect information about a number of issues including examples of business processes through a web-based system since there was little time available for this task. The collation of the first two rounds of data collection had in fact taken much longer than expected, because the sheets had to be input into a spreadsheet, and because some of the sheets were hand-written. Therefore it was decided to use a different medium for data collection in this phase.

A number of new forms were devised in order to gather information about requirements through business processes.

Workpackage II, Deliverable 2.4

PAs were asked to submit the data through the website with the assistance of the shepherds.

These forms were:

- PA contact details;
Information on the PA, its size and how to contact its relevant personnel.
- IT budget details;
Information on the budget of the PA for the IT sector (for examination in later work packages).
- Software in use;
Information regarding the software which the PA partner uses (for work packages 2 and 4)
- Business processes
The business processes used within the PA partner organisation, including the software and data standards currently used.

2.1.3.3. Web site development

The secure, sophisticated and easy to use web site was developed by Genesys Solutions, a software house within the University of Sheffield. Funding for this was achieved by a transfer from another partner.

Each partner in the consortium was provided with a password and were able to submit their data in a confidential manner – that is only authorised users such as those doing the data analysis were able to see the data of the PAs.

The PAs, with the help of their shepherds, were asked to submit at least 50 different business processes together with relevant further data. A detailed paper on the process providing examples of a number of business processes was circulated. Furthermore USFD put into the system examples of business processes used in Genesys Solutions in order to give some guidance as to what was required.

There were very few problems raised with the approach during the e-workshops relating to this activity.

Workpackage II, Deliverable 2.4

It was important to have the contact details of PA personnel who were involved in the definition of the business processes in case further information is required.

Information was also requested on the IT department of the PA, if there was one; the annual operating budget for IT; the training budget and the time spent on training IT users.

Much of this further information was thought to be useful for later stages of the COSPA project.



You are Admin

You are logged in as:
Admin

- [Admin Home](#)
- [Questionnaires](#)
 - [PA contact details](#)
 - [IT budget details](#)
 - [Software in use](#)
 - [Business processes](#)
- [Software List](#)
- [Cospa Project](#)
- [Log Out](#)



PA Contact Details

Name of PA: Admin

Contact Name:

Contact phone number

(including international code):

Contact email:

Contact address:

Number of departments:

Site maintained by Genesys Solutions 2004
The University of Sheffield

Workpackage II, Deliverable 2.4

Information was required concerning the software currently used for different business processes.

This was an opportunity to discover the range and type of software in use.

The database collected under the WP2.1, the catalogue for software in the PAs, was another reference point for this information.



You are Admin
You are logged in as:
Admin

- [Admin Home](#)
- [Questionnaires](#)
 - [PA contact details](#)
 - [IT budget details](#)
 - [Software in use](#)
 - [Business processes](#)
- [Software List](#)
- [Cospa Project](#)
- [Log Out](#)

Software In Use

Add software to 'your software list'

Select software that you are using from the dropdown box, and your list of software in use.

Choose software with:

Category:
Licence type:
Matching software:

Add software to COSPA database

Is your piece of software not shown? Add one to our database:

Add Software

Your software list

Software name	Details of use	Action
eclipse	11 Licences	Edit Delete
firefox	1 Licences	Edit Delete
Microsoft Windows 2000	4 Licences	Edit Delete

[Back to questionnaire list](#)



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The critical form was the description of the business processes used in the different PAs.



Add Business Process

Each PA was asked to submit at least 50 of these over a period of time. There was no restriction as to what type of process should be included. The ways to describe the various processes was deliberately left open in order to encourage the submission of the information quickly.

The form contained subsidiary questions which related to the data standards used in the process, if known; the potential opportunities for using open source applications and any related business processes. If the PA was revising the process in some way information about this was also requested.

You are Admin
You are logged in as:
Admin

- [Admin Home](#)
- [Questionnaires](#)
 - [PA contact details](#)
 - [IT budget details](#)
 - [Software in use](#)
 - [Business processes](#)
- [Software List](#)
- [Cospa Project](#)
- [Log Out](#)

Process short name:
(max 20 characters)

Unique short name identifying the process.
Process name:
(max 200 characters)

General name describing the process
Process description:

A description of the process used by a PA e.g. payroll, issuing licences.
Department responsible:

The department with overall responsibility for the process.
Contact e-mail:

The e-mail address of an employee of

The system was tested for several weeks by the partners during and after the development and refined according to their input.

PAs started to fill the questionnaires in at different times: SWRA and BH started first, then the others. This allowed us to check better the business process description process, the actual data collection process through the web site, the pertinence of the data collected and it allowed USFD to circulate a small set of good examples, provided by SWRA, to the other partners.

Each of the PA partners was provided with a user name and password, that they shared with their shepherds. PAs were allowed and encouraged to re-edit their data, modifying it according to the feedback of their shepherd or of USFD.

Workpackage II, Deliverable 2.4

An example of a report on the business processes submitted can be found in the next illustration.



View Tables From Cospa Database

You are Admin

Select a table to view: Swap pa_id for real name:

You are logged in as: Admin

...Or enter your own SELECT query here:

[Export this query to csv file](#)

process_id:	pa_id:	shortname:	name:	description:	dep
8	University of Sheffield	QA	Quality Assurance	The process of ensuring quality of code and documentation produced by development teams. Genesys has a set of documents that clearly define the criteria that must be met for work to be of a suitable quality. If the work is of a satisfactory standard, it is approved for release. Otherwise, it must be sent back to the team to be refactored.	R and
10	Cork County Council	iPlan	Planning Application Process	New Planning Applications Application form is returned to the Planning Department, and checked to ensure all supporting documentation is attached and included. Application is validated by the planning authority. Letter is sent to applicant	Planr

- [Admin Home](#)
- [Questionnaire](#)
- [Software Lists](#)
- [Cospa Project](#)
- [Log Out](#)

The response of the partners was rather mixed but the final result was the collection of nearly 200 different business processes *currently* used in Public Administrations all over the EU. This represents a unique and valuable resource which will be the subject of much study in the COSPA project.

2.2 Method for Data Collation

The method for data collation has been finalised after data collection was at an advanced point. It was not clear, before starting, exactly what kind of data would be collected, the best way to process it and how useful it would be.

A number of assumptions were made:

- processes of different organisations could be very similar;
- processes that look different may be similar when considered in depth;
- similar processes could be grouped together to produce more general ones.

This, finally, led to the development of a methodology to find the core business or “token processes” (or subprocesses), that are used as a basis for any processes in the PA. This does assume that the processes collected are significant and a reasonable sample of current PA activity.

The methodology can be decomposed as follows:

1. data pre-processing, to ensure that it is understandable, correct and complete;
2. information analysis.

2.2.1 Data Pre-processing

Before starting the decomposition, pre-processing of the data is necessary to ensure that the analysis is done on suitable material, that is understandable, correct and complete.

- Understandable;

For a communication to be effective, according to Jakobson, the actors of this process need to use a common code. Example problems related to this issue include incorrect translations, use of a different language for a text or use of acronyms not clear to other members of the project.

- Correct;

Data provided by the partners needs to be checked for full correctness across the process and the processes. The main problem experienced is conflicting information, when different fields provide inconsistent information. Grammatical and syntactical errors need to be detected as well.

- Complete;

While the system required the PAs to fill in a number of different fields relating to the business processes, some partners were not able to comply for various reasons. In some cases the information used in a field was not as complete as needed for analysis or rather vague.

- Without noise;

Process data may contain data that may have been provided to make the process more clear, but was not strictly relevant, this was removed from the process (or at least from the main fields) before the analysis.

When an action was required, the following procedure was followed. First, USFD tried to amend it, using the information that could be extracted from other information submitted by the PA. Failing

this, the PA was contacted to correct the data. If no input was received, the entire process was discarded and not considered in the analysis. In this way it is hoped that the analysis would not be misleading.

2.2.2 Information Analysis

While data pre-processing is done differently on the different fields, the subsequent analysis of the different fields proceeds using a specific procedure for business processes description and a different one for the other information.

For business process descriptions, the steps were:

- process decomposition;
- identification of the different tokens;
- token analysis.

The starting point is the analysis of the process description, that will be decomposed into its tokens.

Each token process will (usually) include only one verbal form other lexical elements. Because of the very concise style of the presentations all verbal forms, including substantive verbs, are considered. Implicit predicates are considered as well. According to the type of subordinate, they can introduce a new sub-process or not. Subordinates based on “if”, “when” etc. do not introduce new processes. More verbs can co-live in the same token when only one is indicating an active action in the process (e.g., in the phrase *Document published in the web and available on-line*, the fact that the document is available on-line does not require a new action after the publication.).

The second step is to identify the relation between different tokens, and to identify some tokens that can be used as “bricks” for “building” the processes of the organisation. Tokens can contain a different degree of information.

The final step is the analysis of the tokens themselves.

The resultant analysis of token processes will allow us to have a deeper knowledge of the administration itself and may allow us to find better work procedures.

For the other fields, the analysis was carried out in a variety of ways which will be described elsewhere.

2.3 Proceeding to the Information Analysis

The following is an example describing the process of analysing of a subset of the information provided in an example process and may be a good way of proceeding and explaining the method.

Process name: General name describing the process	Group Scheme Application
Process description: A description of the process used by a PA e.g. payroll, issuing licences.	Application received Scheme chairperson informed by letter Engineers report submitted Letter sent outlining decision taken. Records updated

Workpackage II, Deliverable 2.4

<p>Department responsible: The department with overall responsibility for the process.</p>	Water Supply and Sanitary Services
<p>Current IT support: State software user during process. E.g. are there any databases used.</p>	MS Word, SQLserver based application within web based front end
<p>Current data formats: Current formats for files used. E.g. Microsoft Word .doc, Adobe .pdf</p>	.doc
<p>Open source opportunities: Software that meets the needs of the process. Often an open-source equivalent of software currently used e.g. MS Office -> OpenOffice, MS Access -> MySQL</p>	open office suite, mySQL
<p>Open data standards: Data standards that meet the requirements for storage of information e.g. MS Word .doc -> OpenOffice .sxw, JPG,GIF -> PNG</p>	unknown
<p>Planned process improvement: Any process improvements that have been approved, but not yet implemented.</p>	integration with planning application software

Table 3 Example of process before pre-processing

According to our method, the example in Table 3 will be first pre-processed.

For both the *Process description* and the *Current IT support* fields correctness needs to be enforced: punctuation needs to be included for a better understanding and any grammatical or syntactical errors need to be corrected. This does not require any action from the PA responsible for the example.

Current IT support and *Open source opportunities* need to be re-edited to use the official name of the applications: MS Word is Microsoft Word, SQLserver is Microsoft SQL Server, open office suite is OpenOffice.org, mysql is MySQL.

Furthermore, we can find contradictory information among different fields:

- *Current IT support* and *Current data formats*: Microsoft Word, and Microsoft SQL Server are used, but the only data format written is .doc. We need to state that a Microsoft SQL Server data format is used as well.
- *Open source opportunities* and *Open data standards*: if OpenOffice.org and MySQL could be used for this process, the same is true for their formats, and needs to be stated.

Current IT support has incomplete information as well. It states that a web based front-end is used, but no information on the requirements for the web browser is stated. Correcting this data needs the support of the PA that filled the form.

The example would be modified as in Table 4. Modified sections are underlined.

Workpackage II, Deliverable 2.4

Process name: General name describing the process	Group Scheme Application
Process description: A description of the process used by a PA e.g. payroll, issuing licences.	<u>Application received. Scheme chairperson informed by letter. Engineers report submitted. Letter sent outlining decision taken. Records updated.</u>
Department responsible: The department with overall responsibility for the process.	Water Supply and Sanitary Services
Current IT support: State software user during process. E.g. are there any databases used.	<u>Microsoft Word and a Microsoft SQL Server based application with a web based front end. Web interface used with Microsoft Internet Explorer.</u>
Current data formats: Current formats for files used. E.g. Microsoft Word .doc, Adobe .pdf	<u>.doc, Microsoft SQL Server format.</u>
Open source opportunities: Software that meets the needs of the process. Often an open-source equivalent of software currently used e.g. MS Office -> OpenOffice, MS Access -> MySQL	<u>OpenOffice.org, MySQL</u>
Open data standards: Data standards that meet the requirements for storage of information e.g. MS Word .doc -> OpenOffice .sxw, JPG,GIF -> PNG	<u>OpenOffice.org format, MySQL format.</u>
Planned process improvement: Any process improvements that have been approved, but not yet implemented.	Integration with planning application software

Table 4 Example of process after pre-processing

The next step is the decomposition of the *Process Description* into sub-processes.

Our example will be decomposed into:

- Application received
- Scheme chairperson informed by letter
- Engineers report submitted
- Decision taken
- Letter sent outlining decision
- Records updated

Please note that the phrase *Letter sent outlining decision taken* is in fact included in a different sub-process: taking the decision, that happens before, and sending the letter. In a similar way, sending the letter implies that the letter has been written and printed.

3 Results

3.1 The Data

The data for this workpackage was collected on the COSPA data collection website and was provided by PA partners and their shepherds over a period of approximately three months. None of the PAs could access in any way the data inserted by the others into the system, thus ensuring that different processes were described.

PA partners were asked to submit each separate business processes on a separate form and complete as many of these forms as possible. Fifty data forms from each PA were thought to be a reasonable number to generate sufficient data to analyse, so this number was requested.

The amount, quality and speed of delivery varied considerable between PA partner organisations. A summary of the number of forms completed by the PAs can be seen in Table 5. The remainder of this chapter will focus on the data submitted by the PAs within the business process forms and in particular the numerical data that can be extracted from them.

<i>PA</i>	<i>Contact Details</i>	<i>IT Budget</i>	<i>Software in Use</i>	<i>Business Processes</i>
Beaumont Hospital (BH)	Yes	Yes	Yes	50
Consorzio dei Comuni dell'Alto Adige (SGV)	Yes	No	Yes	19
Hanstholm Kommune (HK)	Yes	Yes	Yes	9
Province of Pisa (PP)	Yes	Yes	Yes	33
Provincia di Genova (PROGE)	Yes	No	Yes	30
South West Regional Authority (SWRA)	Yes	Yes	Yes	91
Torokbalint City Council (TO)	Yes	Yes	Yes	4

Table 5 Summary of the data forms submitted by the partner PAs

3.2 Information From the Business Processes Forms

The aim of the business process forms was to collect various data that would help assess software requirements with the partner PAs. The data captured on the business forms was:

- a detailed description of the process and the department responsible;
- the software used to support the process;
- the current data formats used;
- opportunities for the process to be supported by Open Source;
- any planned process improvements;
- the frequency that the process is used;
- any derivative processes linked to the processes;

Workpackage II, Deliverable 2.4

- any further information which the PA partners would like to add.

The aim of this data was to be able to better understand and analyse business and software requirements within PAs with a view to investigate the possibility of transitions to Open Source solutions in later work packages. The detailed analysis of the processes descriptions is carried out in subsequent subsections of this chapter.

3.2.1 Business Process Data Submitted by Geographic Region

The business processes data was provided by the seven PA partners. A total of 236 business processes were submitted. The number of processes and level of detail provided varied considerably between the PAs and consequently varied between the countries from which the partner PAs reside.

It is possible that PAs within the same country may have similar needs with regards to the type of roles and activities which the PAs are expected to perform and on specific requirements they may have on the software e.g. language constraints. The number of partner PA and the business processes submitted, collected by country, are shown in Table 5. Illustration 1 depicts the proportion of business processes submitted by each participating country.

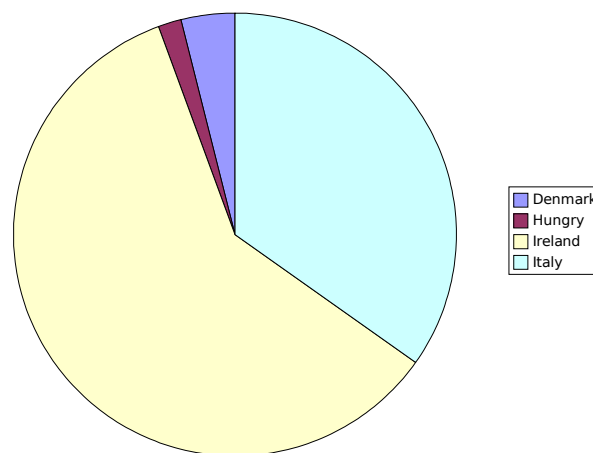


Illustration 1 Business process submitted by country

<i>Country</i>	<i>No. of Business processes</i>	<i>No. of PA partners</i>
Denmark	9	1
Hungary	4	1
Italy	82	3
Ireland	141	2
Total	236	7

Table 6 A summary of business processes listed by country

3.2.2 Software Used in the Support of Business Processes

This section contains the information which the partner PA supplied regarding the software they use

Workpackage II, Deliverable 2.4

to support the business processes they described. The information supplied about the software varied in detail between PAs and also between individual processes supplied by the same PA.

Illustration 2 shows the proportion of the business processes that were using software compared with those that either were not using software or of which the nature of the software was not known. Of the 17 processes that were classified in the “Unknown Software/None” category only a single business process was a definite “None” and the details of the others were unknown.

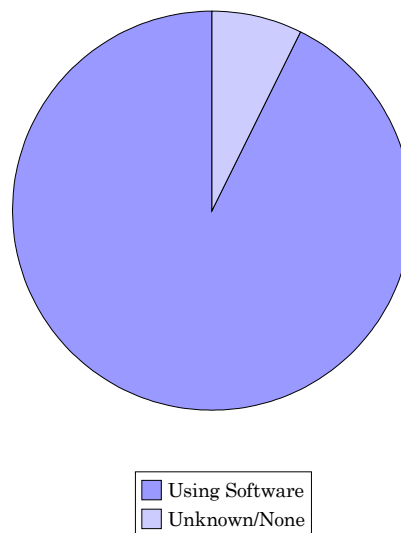


Illustration 2 Software use within business processes

There were many different types of software being used to support the business processes. The most frequently mentioned were the standard office packages such as word processors, spreadsheets and databases. A wide variety of other proprietary and bespoke systems were being used including:

- GIS mapping tools;
- Financial management software;
- Graphics software;
- Housing management software;
- Healthcare system;
- Planning management software.

3.2.3 The Use of Word Processors Within the Business Processes

The use of word processors to support the described business processes was widespread, with regards to both the number of PAs and the number of business processes using them. Six out of the seven PA partners were using a word processor to support the business processes they submitted. The total number of processes that stated that a word processor was used within the process was 112. This equates to 51% of the business processes that were using known to be using software support were using a word processor. This is shown in Illustration 3.

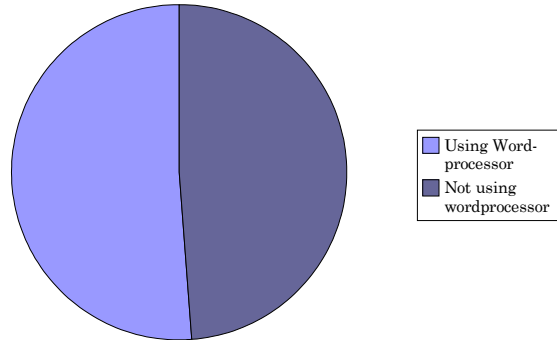


Illustration 3 Business processes distribution according to the use of word processors

Microsoft Word was the most frequently specified word processors that was is use within the business processes: all of the PA using a word processor were using Microsoft Word within at least some of their business processes. One PA was using both Microsoft Word and StarOffice Writer. This summary can be see in Table 7 with a more detailed breakdown of the data in Table 8.

<i>Word processor</i>	<i>No. of Processes</i>	<i>No. of PAs</i>
MS Word	108	6
StarOffice/Open Office.org Writer	4	1
Unknown	1	1
Total	113	6

Table 7 Word processor use within business processes

Workpackage II, Deliverable 2.4

<i>PA partner</i>	<i>No. of processes</i>	<i>No. of processes using word processors</i>	<i>Percentage using word processor</i>
PP	33	9	27%
BH	50	0	0%
SGV	19	13	68%
TO	4	2	50%
SWRA	91	70	77%
HK	9	4	44%
PROGE	30	14	47%
Total	236	112	

Table 8 Word processor use by PA

3.2.4 The Use of Spreadsheets Within the Business Processes

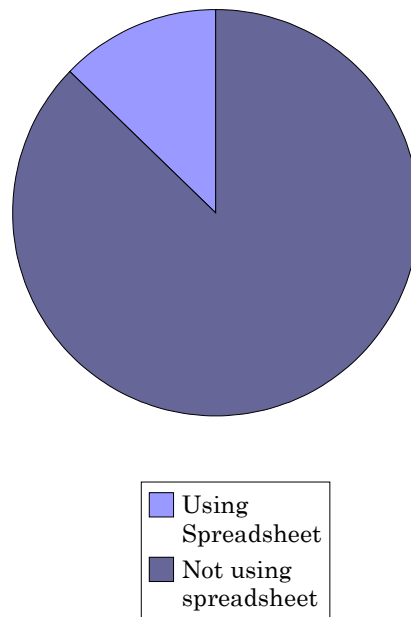


Illustration 4 Spreadsheet use

The use of spreadsheets to support the business processes was again widespread when considering the number of PAs using them. Six of the seven partner PAs were using spreadsheet to support some of the business processes they submitted. However the number of business processes utilising them was much smaller than those using word processors. The total number of processes that stated that a spreadsheet was used within the process was 28. This gives 13% of the business process known to be using software were using a spreadsheet, shown in Illustration 4.

Microsoft Excel was the most frequently specified spreadsheet in use, with 5 out of the 7 PAs using it within at least some of their business processes. One PA was using StarOffice Calc. This information can be see in Table 9, with a more detailed breakdown of the data shown in Table 6.

<i>Spreadsheet</i>	<i>No. of processes</i>	<i>No. of PAs</i>
MS Excel	25	5
StarOffice/OpenOffice.org Calc	3	1
Total	28	6

Table 9 Spreadsheets use within business processes

Workpackage II, Deliverable 2.4

<i>PA partner</i>	<i>No. of processes using a spreadsheet</i>	<i>Total no. of processes</i>	<i>Percentage using a spreadsheet</i>
PP	3	33	9%
BH	0	50	0%
SGV	5	19	26%
TO	0	4	0%
SWRA	4	91	4%
HK	3	9	33%
PROGE	13	30	43%
Total	28	236	

Table 10 Spreadsheet use by PA

3.2.5 Database Use within the Business Processes

The data extracted from the business processes shows the importance of the databases for the business processes of the PAs. All seven of the partner PAs listed that they used databases in the support of their business process. Of the 219 processes that were known to be using software, 70% were found to be either explicitly using a database or a system that was driven by a database, this is shown in Illustration 5.

If the total number of collected number of processes was considered, the percentage known to be using databases falls to 65%. However it is possible that some of the processes where the software use status is “Unknown” could be using databases. If it was the case that all these unknown processes were using databases the percentage would then rise to 72%.

The next subsection within this chapter looks in more detail at the actual databases used to support the processes.

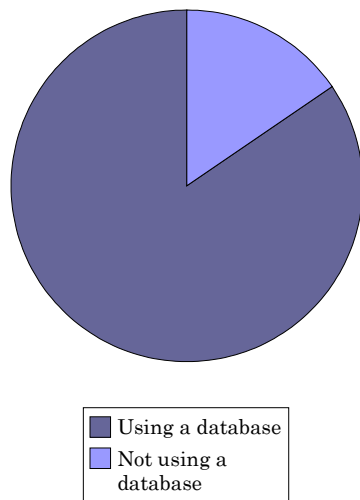


Illustration 5 Database use with business processes

3.2.6 Databases in Use

From the business process submitted, it was ascertained that all the PAs were using databases to support their business processes and of the submitted business process at least 154 them were them involved using a database of some description. This data was examined more closely and the breakdown of the databases used can be seen in Table 2.

<i>Database Details</i>	<i>No. of processes</i>	<i>No. of PAs</i>
Oracle	45	5
MS Access	34	3
MS SQL Server	31	2
Unknown	10	2
Dbase	7	2
Postgres	5	2
Turbo Image	43	1
Prop. Unknown	12	1
Informix	5	1
FoxPro	1	1
Interbase	1	1
MySql	1	1
OS Unknown	1	1
Ounis	1	1
Sybase	1	1
TOTAL	198	

*Table 11 Databases used within the Business Processes
– ordered by Number of PAs using the software*

–

The databases may be classified in the following way:

- Proprietary
- Open Source
- Unknown

The proportional distribution of this classification can be seen in Illustration 6.

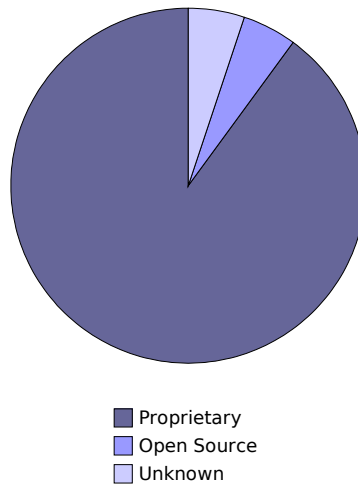


Illustration 6 Database use classified by license type

3.2.7 Open Source Solutions

Within the business processes forms the partner PAs had the opportunity to suggest Open Source software that could possibly be used in the support of their business processes rather than the current proprietary solutions they use. The list of this software and the frequency that it was suggested as an alternative can be found in Table 7.

<i>PA partner</i>	<i>None/unkn own</i>	<i>No. of processes already OS</i>	<i>No. of processes with OS possibilities</i>	<i>Total no. of processes</i>	<i>%age with a possibility to change</i>
PP	23	2	8	33	24%
BH	4	4	42	50	84%
SGV	5		14	19	74%
TO			4	4	100%
SWRA	9		82	91	90%
HK	5		4	9	44%
PROGE	13		17	30	57%
Total	59	6	171	236	

Table 12 Summary of processes with OS possibilities

Workpackage II, Deliverable 2.4

Suggested Open Source solutions were:

- OpenOffice.org
- MySQL
- Postgres
- Vista
- GIS Mapping software
- Evolution
- OS Library management system
- GIMP
- Portable Network Graphics
- OS Mapping tool

Table 13 provides information on this data.

pa_id:	PP	BH	SGV	TO	Swra	HK	PROGE	TOTAL	Number of PAs	
OO		5	0	14	2	74	0	13	108	5
MYSQL		3	0	2	2	56	0	4	67.5 *	HK a possibility
POSTGRES/		0	24	0	0	0	0	0	24	1
VISTA		0	8	0	0	0	0	0	8	1
POSTGRES		0	10	1	1	0	0	2	14.4*	* HK a possibility
Gis										
MAPPING										
SOFTWARE		0	0	0	0	4	0	0	4	1
EVOLUTION		0	0	0	0	3	0	0	3	1
OS LIBRARY										
MANAGEMENT										
SYSTEM		0	0	0	0	3	0	0	3	1
Gimp		0	0	0	0	1	0	0	1	1
PORTABLE										
NETWORK										
GRAPHICS		0	0	0	0	3	0	0	3	1
MAPPING										
TOOL		0	0	0	0	1	0	0	1	1
OS										
database		0	0	0	0	0	4	0	4	
		8	42	17	5	145	4	19		

Table 13 Open Source Alternatives for PAs

3.2.8 Summary of Planned Process Improvements

Within the business process questionnaire partner PAs were asked to state whether there were any planned improvements within the processes they were describing, this would include both to the process and the IT support used within it. The results obtained can be seen in Table 21. Of the 236

Workpackage II, Deliverable 2.4

processes collected 47 (20%) were planning some changes to either the software and/or process.

<i>Process Improvement</i>	<i>No. of Process</i>
Unknown	50
Updated or New System in development or planned	6
Automation of process	1
Document management for all maps and plans	3
Document Scanning	2
Improve Web Access	4
Implement activity tracking	7
Integrate result sets	2
Integrating into workflow	1
Integration with planning application software	2
Multiple presentation formats	1
None	135
None, new system	4
On-line data capture	7
Updating business process workflows	10
Extending business process	1
Total	236

Table 14 Planned improvements to business processes

These were then classified into the following categories:

- None/Unknown
- Planned amendment to business process
- Planned amendment to software system used

The breakdown of the number of business processes falling into each of these categories is shown in illustration 7. This table also shows the number of PAs whose planned improvements fell in that category.

As with the data collected for other parts of the business process questionnaire the responses were variable with a number being excellent and a few less well considered. Out of the seven PAs from which data was collected, three state that there were no planned improvements to any of the processes they described. If the “None” data for these PAs were removed the distribution of the classifications would be as shown in Illustration 7 . This would possibly give a different indication about the planned improvements. It would mean that the number of process that involved a planned

Workpackage II, Deliverable 2.4

improvement is 31% rather than 20%.

<i>PA</i>	<i>No. of processes with planned improvements</i>	<i>% of total processes submitted</i>
SGV	0	0%
HK	1	11%
PP	0	0%
PROGE	0	0%
SWRA	6	7%
BH	38	76%
TO	2	50%

Table 15 Planned improvements listed by partner PAs

3.2.9

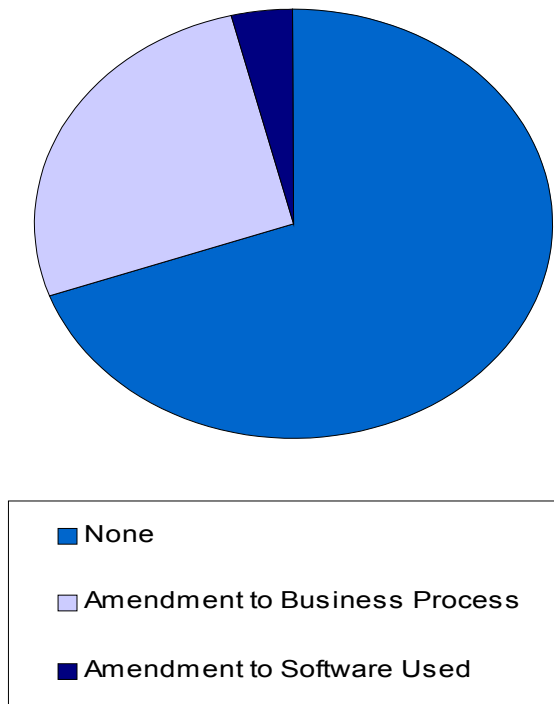


Illustration 7 Planned improvements

Within the business process capture process data was not collected about the time scales of these process improvements. It is possible that these could be investigated within a later work package.

3.2.10 Frequency of Use of the Business Process

The partner PAs were allowed to describe how often the business process was used in which ever way was most convenient. Some stated number of time used per year, others used descriptive data such as continually, daily, monthly etc. Data such as “As often as not” and “when needed” were classified as no data provided. A summary of the data submitted can be seen in Table 12. Five out of the seven PA partners provided information about the use of the submitted business processes.

<i>PA partner</i>	<i>No. containing numerical data</i>	<i>No. containing descriptive data</i>	<i>No. of processes</i>	<i>Percentage</i>
PP	4	21	33	76%
BH	35	12	50	94%
SVG	0	0	19	0%
TO	0	4	4	100%
SWRA	91	0	91	100%
HK	0	7	9	78%
PROGE	0	0	30	0%
Total	130	44	236	

Table 16 Summary of data for frequency of business process use

The numerical and descriptive data is shown separately. The numerical data was provided by three PA partners. This numerical data has been grouped together according to the number of times per year the process is used and can be seen in Illustration 8. The summary of the descriptive data can be seen in Illustration 2.

Workpackage II, Deliverable 2.4

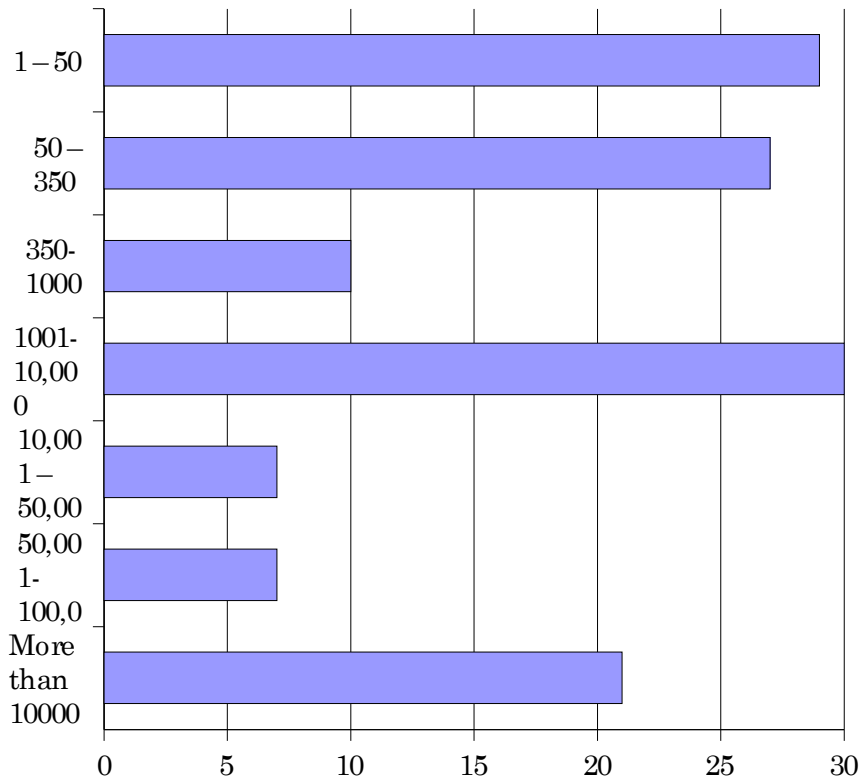


Illustration 8 Business process usage from numerical data

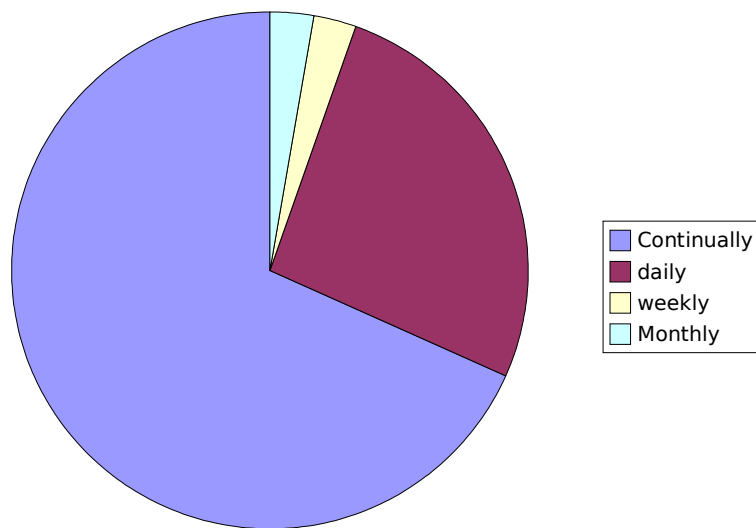


Illustration 9 Business process usage from descriptive data

Workpackage II, Deliverable 2.4

<i>annualusage:</i>	<i>Software No. of processes No. of times</i>		<i>%</i>
Database (exc.access)	79	6346228	91.97
Word	70	356309	5.16
Access	20	31846	0.46
Autodesk	3	30000	0.43
Library system	3	30000	0.43
Planning system	3	24000	0.35
Finance system	5	23000	0.33
Excel	3	18000	0.26
Mapping software	8	17216	0.25
Housing systems	3	15000	0.22
Graphics software	4	5250	0.08
Road manage	3	3000	0.04
Outlook	3	106	0
other/unknown	1	6	0

<i>Software package type</i>	<i>No. of processes</i>	<i>No. of times used</i>	<i>Percentage</i>
Databases(excluding MS Access)	79	6346228	92.00%
MS Word	70	356309	5.20%
MS Access	20	31846	0.50%
Autodesk	3	30000	0.40%
Library system	3	30000	0.40%
Planning system	3	24000	0.40%
Finance system	5	23000	0.30%
MS Excel	3	18000	0.30%
Mapping software	8	17216	0.30%
Housing software	3	15000	0.20%
Graphics software	4	5250	0.10%
Road management software	3	3000	0.00%
Total		6899849	

Workpackage II, Deliverable 2.4

annualusage:	No. of processes	No. of times
Database (exc.access)	79	6346228
Word	70	356309
Access	20	31846
Mapping software	8	17216
Finance system	5	23000
Graphics software	4	5250
Outlook	3	106
Housing systems	3	15000
Road manage	3	3000
Autodesk	3	30000
Library system	3	30000
Excel	3	18000
Planning system	3	24000
other/unknown	1	6

Usage	Continually	Daily	Monthly	weekly
Wordprocessor		6	7	
Spreadsheet		0	6	
Outlook		0		
Mapping software		0		
other/unknown		0		
Access		1		
Other database	21		7	1
Graphics software		0		
Road manage		0		
Finance system		0		
Housing systems		0		
Planning system		0		
Library system		0		
Autodesk		0		

3.2.11 Derivative Processes Linked to the Business Processes

Within the business processes forms the PA partners were asked to provide information about the links a particular business process had with other processes or software systems within the organisation. The number of processes which included information about derivative processes can be seen in Table 17. .

<i>PA partner</i>	<i>No. of processes with a link/stated derivative</i>	<i>No. of processes</i>	<i>Percentage of processes</i>
PP	19	33	58%
BH	48	50	96%
SGV	0	19	0%
TO	0	4	0%
SWRA	43	91	47%
HK	0	9	0%
PROGE	0	30	0%
Total	110	236	

Table 17 Processes containing linked/derivative process information

Only 3 of the partners provided information for this section and each of these will be examined separately.

- **BH**

All but 2 processes were linked to other systems. 46 were linked to the main Hospital information system and the remaining 2 were linked to the Hospital Personnel System.

- **SWRA**

43 of the business processes submitted by SWRA contained information about the other processes/system that particular processes were linked or related to. Of these 33 were linked to one other process and/or system. 7 were linked to 2 processes and 3 were linked to 3 or more processes, this is shown in Table 18. The highest proportion of processes were linked to the financial management system (17 of the processes), other links included were to a Housing management systems and a number of other different planning systems.

Workpackage II, Deliverable 2.4

<i>No. of other processes/system that a given business process was linked to</i>	<i>No. of business processes</i>
1	33
2	7
3	3
Total	43

Table 18 SWRA's linked business processes

• **PP**

19 of the processes submitted contained information about other related business processes. 11 of these processes were linked to 6 or 7 other of the submitted business processes. This is not too dissimilar to the data from SWRA because many of the linked processes could be considered as subprocesses of a financial management system.

<i>No. of other processes/system that a given business process was linked to</i>	<i>No. of business processes</i>
unclear	3
1	5
6	6
7	5
Total	19

Table 19 PP's linked business processes2

3.2.12 Notes Supplied Within the Business Process Questionnaire Responses

The final section at the end of the business process questionnaire was a space where the partner PAs could add any further information that they felt was needed. The information supplied here can be seen in diagram Illustration 10.

Almost all of the business processes did not contain any further information. Of the 8 processes that contained extra information, these could be categorised as:

- Change to open source will be difficult because using the current database format is required by law (2 processes)
- Not known if open source application is available (3 processes)
- Details of a possible Open Source Solution (2 processes)
- Process information (1 process)

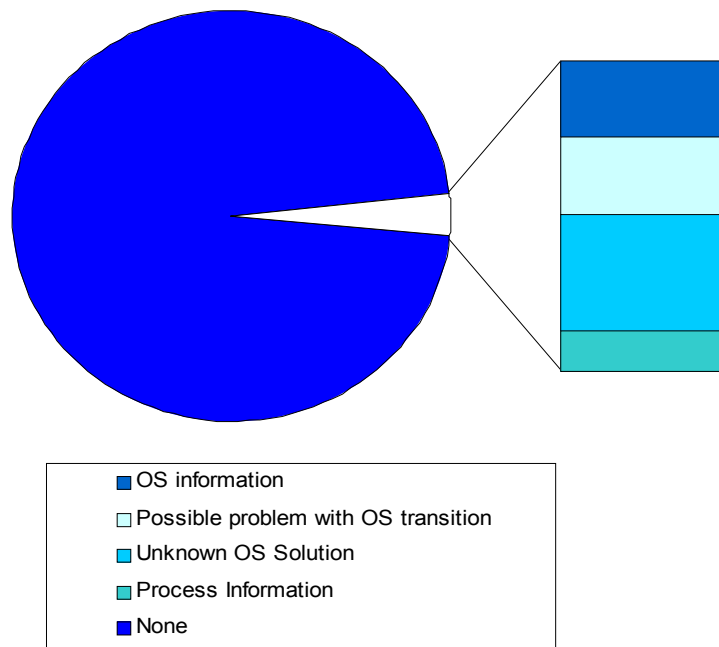


Illustration 10 A breakdown of the information supplied within the notes section

3.3 Information From the Business Processes Descriptions

The 192 unique processes submitted by the partners PAs have been processed using the methodology described in Chapter 2, in order to find the subprocesses that were used by partner PAs, and to find the “composition bricks” that can be used to “build” any of their business processes that are based on the use of software.

Decomposing the submitted processes allowed to generate a preliminary list of 1514 non-unique sub-processes, some of them using software (1005 subprocesses) and some not (509 subprocesses).

Implicit use of software was taken into account: for example, subprocesses requiring a letter to be sent without mentioning that the letter was written first have been considered as using software.

The next step has been to collate the subprocesses, grouping them in relevant groups.

During the procedure of analysing each subprocess, there were two possible options:

1. The subprocess was unique;
2. The subprocess was completely or substantially identical to another;

The next examples will allow to better understand the procedure.

If we consider two subprocesses of BH: *A radiology episode number is created* and *Clerical officer makes appointment on hospital system*, are both repeated, in the preliminary list, four times, because are common to different processes of BH.

Similarly, there are 33 subprocesses that require writing a letter and sending it, although it is expressed in different ways according to the PA. This is a single subprocess repeated 33 times, not 33 subprocesses. Moreover, we grouped writing a letter and writing a report, because from the point of view of the requirements for software there are no major differences.

So, after the first decomposition phase, the subprocesses have been aggregated into 61 core business processes or “bricks” (see Table 20), and analysed in terms of frequency of use inside the PA processes.

Workpackage II, Deliverable 2.4

PROCESSES	OCCURENCES
CORE BUSINESS	
Allocate file number / episode number / id	10
Analyse / Process data / Process information	3
Authenticate employee on a system	1
Compress documents	1
Emit certificate	1
Export / convert information	5
Extract citizen information/status from the system	10
Grant licence	1
Interact with other department (write request)	4
Issue permit / authorisation / identification	3
Keep track of documents / items carried out	3
Management of application for benefit	1
Management of appointments / book resource	40
Management of complaints from public / known problems	3
Management of data related to the core business in the system	95
Management of incidents	1
Management of job offers	2
Print a query to a system	34
Publish information on-line	8
Publish information on-line (intranet)	3
Read data from a system / query a system	7
Review and correct document (content)	10
Review and correct document (spelling and grammar)	1
Scan document / information	3
Send information via network	3
Sign / Approve	2
Translate document	1
Update/Insert citizen information/status in the system	23
Write document / send message / Fill form	140
CONTRACTORS / GOODS	
Generate order	3
Management of contract database	1
Management of data about contractors / suppliers	3
Management of goods in database	3
Management of work flow	2
EMPLOYEES	
Extract information about employee	1
Management of data related to employees payment / allocate id number / create account	9
Management of data related to employees personal data / contact information	7
Management of data related to employees qualifications	3
Management of organisation structure	1
Management of sick leaves	1
Management of work force (work shifts / working time)	26
Management of work force leave	1
Review employees details	1
Set up Internet access / Software	3
ECONOMICAL / FINANCIAL / STATISTICAL	
Account data processing	1
Fine / blacklist citizen	2
Process financial data	1
Management of surplus/deficit	2
Management of operating costs	1
Management of invoices / payments / expense forms	8
Management of financial information	3
Management of credits	2
Management of budget	2
Management of balance	4
Determine deductions	1
Cash flow management	3
Calculates sum to pay / tax / membership fee	3
Analyse numerical data / Make statistics	6
SUPPORT	

Table 20 Business subprocesses

Workpackage II, Deliverable 2.4

Analysing the list, we could find the common subprocesses (see Table 21).

<i>Business subprocess</i>	<i>Percentage of use</i>
Write document / send message / fill form	27,50%
Management of data related to the core business in the system	18,66%
Management of appointments / book resource	7,85%
Print a query to the system	6,68%
Management of work force (work shifts / working time)	5,10%
Management of work force (work shifts / working time)	5,10%
Update/Insert citizen information/status in the system	4,52%
Extract citizen information/status from the system	1,96%
Allocate file number / episode number / ID	1,96%
Review and correct document (content)	1,96%
Management of data related to employees payment / allocate id number / create account	1,76%
Management of invoices / payments / expense forms	1,57%
Publish information on-line	1,57%
Management of data related to employees personal data / contact information	1,37%
Read data from a system / query a system	1,37%
Analyse numerical data / Make statistics	1,18

Table 21 Percentage of use for subprocesses

Each of these core processes can be analysed in a more detailed way as described in Chapter 2.

4 Discussion

This section contains the discussion of the results from all the rounds of data collection.

- The data collected represents a subset of the composition of the COSPA consortium.

As Table 6 (and following) show, BH and SWRA have provided the great part of the data for this deliverable. The first consequence of this is that Ireland is overrepresented in the data, and that some data might be not fully representative. For example, the database Turbo Image (see Table 13) is used by 43 processes, but only by one PA.

- Localisation/Internationalisation is a reoccurring issue.

Software in use must meet the language needs of the countries in which it is being used. While this cannot emerge from the last round of data collection, that was one of the main findings of the first two rounds.

The main requirements were localisation of the graphical user interface, support for the local character and availability of language tools, as spell check and thesaurus.

Italian and Hungarian PAs felt that it was important to have language tools for other languages than the official (German for Hungary and English for Italy).

Unstructured data collected in the project meetings suggested the importance for a partner (SGV) of software supporting the creation of bi-lingual documents (SGV is located in a region where both Italian and German are official languages). The issue was not reported in their examples, but is worth mentioning here.

- A small amount of security requirements were gathered.

The lack of security requirements collected is unlikely to be due to a lack of interest in security and more likely due to fact that we were not successful at capturing it. It was not a particular aim to collect security requirements. If it is necessary to collect this information then perhaps one way this could be addressed would be to ask Systems Administration staff of the PAs to fill out forms with a view to security. As a general improvement the requirements collection form sent will be amended so that it is possible to state from what perspective the form is being completed (e.g. General user, System Administrator, etc.)

- A general lack of advanced feature requirements on some of the most common software types.

As with the last point, this may be explained by user type, which can in future be addressed by modifying the data form. However it could also be that many users do not need lots of the advanced features that the general software (e.g. Office applications) provide.

- Software is needed that works on a variety of Operating Systems.

Window and Linux were the most often stated. However, a number of the forms stated a need for software to work on all Operating Systems and it may be worth investigating what “all” means. Macintosh Operating Systems have not been mentioned and no form explicitly stated UNIX support as a requirement.

- Integrated Applications.

There appeared to be a desire that various applications can be integrated into the PAs office suite software. SGV reported in our meetings that they are already starting to integrate a OS

Workpackage II, Deliverable 2.4

office application within their systems.

- Internet Applications.

The focus on Internet Applications was noticeable. The list of requirements for e-mail and content management systems was far more detailed than for other software types.

5 Conclusions

The amount and the detail of data collected for 2.4 raises the possibility of further and more detailed analysis in the next deliverables, the first being 4.1.

We foresee the possibility of being able to draw a “map” of tokens that are used to compose the processes in the PAs, and their relationship, thus opening great opportunities for exchange of information and collaboration. Further, more detailed analysis involving the use of data formats and standards is also possible,

For the PAs, a clear advantage is that once the tokens have been identified and a platform for communication agreed, it will lead to a more standardised way of acquiring and using software.

Appendix A - Abbreviations

The following table includes abbreviations used along the document.

<i>Abbreviation</i>	<i>Expanded Abbreviations</i>
OS	Open Source
ODS	Open Data Standard
WP	Work Package

Appendix B - Glossary

Appendix C - Questionnaires

This deliverable required collecting data from our partner PAs.

This appendix is including the forms used for that purpose.

5.2 Requirements Specifications for Software Used in the PAs

Software type:	
Criticality (1 – 5 ; 1 is unessential and 5 is critical):	
Brief description of the software:	
Constraints, assumptions and dependencies:	
Functional requirements:	
Description	Priority:

Table 22

5.3 PA contact details

Name of PA:
 Contact Name:
 Contact phone number (including international code):
 Contact email:
 Contact address:
 Number of departments:

Table 23

5.4 IT Budget Details

Please specify the amount budgeted per year (in euros) for each of the following:

Off-the-shelf applications:
 Bespoke (commissioned) applications:

Workpackage II, Deliverable 2.4

Other applications:

Maintenance:

Consultancy:

Outsourced services:

Training budget:

Software support:

Total IT budget:

The total budget for IT expenditures of all the organisation's departments

Please specify future training needs and data standards issues:

Future software needs:

Future data standards issues:

Your comments:

5.5 Software in Use

Software name:

Category:

Operating System:

Description:

URL:

Licence type:

5.6 Software in Use (2nd part)

Software name:

Version:

User training requirements:

Administrator training requirements:

Number of licenses in use:

Cost per licence (in euros):

Use of the software:

What is this software used for and why you have chosen to use it.

Your comments:

5.7 Business Processes

Process short name: (max 20 characters)

Unique short name identifying the process.

Process name: (max 200 characters)

General name describing the process

Process description:

A description of the process used by a PA e.g. payroll, issuing licences.

Department responsible:

The department with overall responsibility for the process.

Contact e-mail:

The e-mail address of an employee of the PA that would be able to answer any queries, should they arise.

Current IT support:

State software user during process. E.g. are there any databases used.

Current data formats:

Current formats for files used. E.g. Microsoft Word .doc, Adobe .pdf

Open source opportunities:

Software that meets the needs of the process. Often an open-source equivalent of software currently used e.g. MS Office -> OpenOffice, MS Access -> MySQL

Open data standards:

Data standards that meet the requirements for storage of information e.g. MS Word .doc -> OpenOffice .sxw, JPG,GIF -> PNG

Planned process improvement:

Any process improvements that have been approved, but not yet implemented.

Frequency of use:

How often is the process used by different user groups?

Constraints:

Specific constraints of the process e.g. the time within which the process needs to be completed.

Workpackage II, Deliverable 2.4

Derivative processes:

Processes that follow on from this or have a similar role.

Notes:

Any further details and comments.

References

N°	Source / URL	Last check	Author
1	COSPA Project documentation. Annex I - “Description of Work”, October 2004.		
2	Business Process Modelling Language web site. http://www.bpmi.org/bpml.esp	10/23/04	WMLH
3	ebXML web site. http://www.ebxml.org/specs/#technical_specifications	10/23/04	WMLH
4			
5			