

A Pilot Project in PAs to transit to an Open Source Solution

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ABSTRACT

This manuscript reports of a small-scale deployment of OSS for office automation in Public Bodies. We describe the environment, the process and the problems encountered. We analyze data about the personal productivity in this light transition approach. We describe the major issues encountered and we suggest possible solutions. We find that personal productivity is not affected by the introduction of the new open source solution.

Categories and Subject Descriptors

D.2.9 [Software Engineering]: Management - *Productivity*

D.2.12 [Software Engineering]: Interoperability - *Data mapping*

General Terms

Management, measurement, experimentation.

Keywords

Open Source Software, Personal Productivity, Desktop Applications, Transition, OSS.

1. INTRODUCTION

Open Source Software (OSS) has grown a lot in popularity. Often this is connected with the perception of a reduction in IT

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expenditure, such as that:

- OSS is free, one does not have to pay any license
- Source code is available, so it is possible to tune the software for specific needs by removing unnecessary, resource-consuming features. Is it really convenient to pass an OSS solution? Few studies report on a transition to OSS. In particular little is known about transitions for desktop applications, even less in a context like Public Administrations (PA).

There are specific factors which might overcome the claimed advantages of OSS:

- Cost of transition from previous solutions
- Interoperability and integration with existing solutions
- Cost of training personnel for the new tools and hostility to change
- Reduced productivity of the personnel

This study aims at shedding some lights into the matter following a twofold approach:

- a small-scale deployment of the OpenOffice suite in several PA bodies for which we describe also the environment, the process and the problems encountered during the transition.
- an empirically evaluating personal productivity in a transition to OpenOffice. The project aims at showing that OpenOffice allows personnel to produce as efficiently as Microsoft Office.

2. A SMALL-SCALE DEPLOYMENT OF OPENOFFICE SUITE IN SEVERAL PA

The Consortium of the Townships of the Province of Bolzano-Bozen (Italy), in collaboration with the Centre for Applied Software Engineering of the Free University of Bolzano-Bozen, has performed a trial installation of OpenOffice in ten associate

townships. Transitions lasted from two to four working days and employed two instructors each. Personnel training was performed on-site and one-to-one. The conversion of more than two hundred documents from Microsoft Word to OpenOffice was performed without any particular problem and with great efficiency: the size of an OpenOffice document was generally one third of the equivalent Word document. The most reported problem is the refuse to use tools different from those of colleagues or from those used at home. However, during the transition to OpenOffice we found only a few employees showing hostility to change.

3. EMPIRICALLY EVALUATING THE PERSONAL PRODUCTIVITY IN A TRANSITION TO OPENOFFICE

The aim of the experiment is to evaluating the introduction of OpenOffice in PAs. As the first step we analyze interoperability between proprietary desktop applications to evaluate the cascade effects of the transition to OpenOffice. According to the result of interoperability analysis we introduce the OpenOffice application. Then we analyze productivity in two different groups differentiated by the use of OpenOffice. We have selected data from two weeks before the transition, two weeks soon after the transition, and two weeks during the new configuration access to documents. The data have been collected automatically in background with the PROM tool.

The histograms below report of the three productivities in the three periods in the two groups. Each bar in the below histograms represents the productivity of a single employee in the three different phase of the monitoring. The different phases (Fig. 1, Fig.2) correspond to: pre-transition phase (1), transition phase (2), post-transition (3).

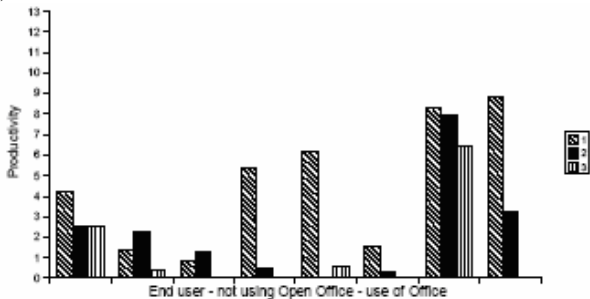


Figure 1: Productivity in the 3 periods - group not using OO

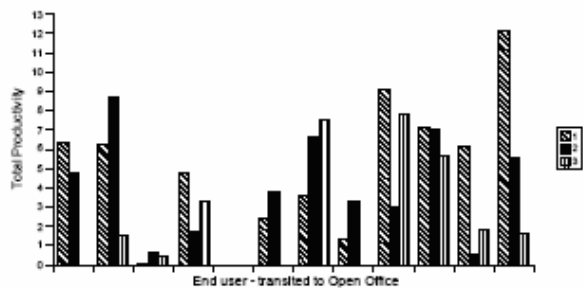


Figure 2: Productivity in the 3 periods - group transited to OO

4. RESULTS

We considered the use of OSS for office automation tasks, for which no significant success case is known. We described a trial installation of the OpenOffice suite, reported the problems encountered and describe a possible experiment design and data analysis.

The data collection has been made with a non-invasive tool working in background.

The good results of the trial installation motivate the instantiation of a more extended experiment aimed at studying, analyzing, and evaluating the introduction of OpenOffice in public institutions.

We suggest an extensive analysis of the application interoperability before a transition

5. REFERENCES

- [1] Berger, M. LinuxWorld: Amazon.com clicks with Linux. *ComputerWorld*, <http://www.computerworld.com/softwaretopics/os/linux/story/0,10801,73617,00.html>.
- [2] Fenton, N.E. and Pfleeger, S.H.: *Software Metrics: a Rigorous and Practical Approach*. Thomson Computer Press, 1994.
- [3] Free/Libre and Open Source Software: Survey and Study. (June 2002), <http://www.infonomics.nl/FLOSS/report/index.htm>
- [4] Hochmuth, P. Amazon cuts costs with Linux. *Computerworld*, <http://www.computerworld.com/softwaretopics/os/linux/story/0,10801,65674,00.html>.
- [5] Humphrey, W. *Introduction to the Personal Software Process*. Addison-Wesley, 1997.
- [6] Netcraft Survey, <http://www.netcraft.com/survey>.
- [7] Shankland, S. Verizon switches programmers to Linux. *CNET News.com*, <http://news.com.com/2100-1001-949913.html>.
- [8] The OpenOffice project. <http://www.openoffice>