Open Source Software Study – OS on Vienna's Desktop Workplaces

Based on Vienna's collected open source knowledge regarding its server environment, the technical quality of open source operating systems and office applications as well as the migration decision of the city of Munich, the capital of Austria evaluated the use of open source software on desktop workplaces within the municipality.

Introduction

On November 3, at the Open Source Software Conference for public administrations in Vienna – Austria, Brigitte Lutz who is the person in charge of IT from Vienna's city administration, presented the first details of the open source software study conducted by Vienna. The municipal department 14 is the internal IT service provider and is responsible for the support of about 16.000 PC-workstations.

The study analyses the feasibility of a migration to open source software on desktop workplaces within the municipality of Austria's capital and aims to identify the current IT situation of the municipality, migration costs and operating efficiency of open source software, suitable open source products as well as risk and strategy considerations. Furthermore the study examines the technical feasibility of a shift to open source and presents migration recommendations.

The starting point

According to the study, 7.500 of 16.000 personal computers could be identified as suitable for a migration to OpenOffice.org and 4.800 for a migration to Linux. OpenOffice.org was already parallel installed on the selected workplaces prior to the conference.

At this point of time, the PC-workstations of Vienna's municipality are equipped with Microsoft's operating system Windows 2000 and the office suite Microsoft Office 2000.

Migration Scenarios

Within the scope of the study 3 migrations scenarios were evaluated for the analysed 7.500 workstations.

1. Updated versions of Microsoft's operating system and office suite will be installed on the workstations
2. MS-Office will be replaced by OpenOffice.org
3. MS-Office will be replaced by OpenOffice.org and Linux replaces MS-Windows on 4.800 PC-workstations

The following chart shows the used software products on Vienna's workstations that were determined by the study. The acquired results were used for determining the migration potential.
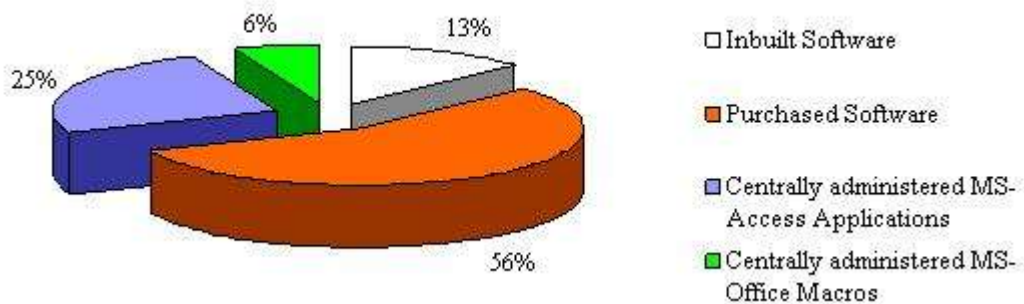
The survey showed, as a consequence of the variety of tasks needed for the city administration, a complex and heterogeneous software environment.

Furthermore the software products were analysed if they are independent from any kind of operating system and if alternative equivalent open source products can replace the used proprietary software applications.

Software Classification*
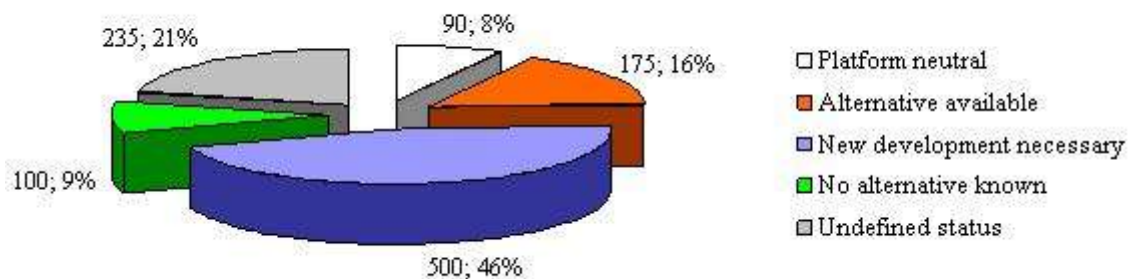
*Total of software applications: 1100

The results of this survey admitted also an evaluation of potential workplaces that could be migrated. On 7.500 workplaces the use of MS-Office 2000 is not essential for data processing and can be replaced without big effort by the open source application OpenOffice.org. On 4.500 of 7.500 workplaces a migration to the open source operating system Linux can be realized due to used operating system independent software or the availability of alternative products running under Linux. The number also includes workstation with a maximum of one less critical platform depend software application that can be migrated to the operating system Linux.

For the remaining 8.500 workstation, a migration feasibility will not be evaluated due to technical as well as economical reasons. From this follows that a coexistence of MS-Windows and Linux will be necessary long dated.

The technical evaluation proved that a migration of the determined personal computers can be realized and that Linux and OpenOffice.org based workstations afford all common functional requirements. The integration of open source based systems in the IT environment of Vienna's public administration could be affirmed by the study.

Strategic considerations and Risks

The decision for a migration is not only based on technical and economical consideration. Risk assessment and the resources needed to achieve strategic goals by a migration play the most important role in the process of decision.

According to Vienna's study the use of open source software would bring numerous strategic advantages for the municipality. The use of open source software reduces the technical as well as the given functions dependence from external suppliers. The city expects from a cooperative development process an improved quality of the IT systems. Cost saving by the use of open source software will be expected through an improved interoperability between the various components and through more generous license terms. Open standards and interfaces shall facilitate the internal and external data exchange. Furthermore the avoidance of proprietary software use reduces the ability that external suppliers abuse their predominant market position. These enumerated considerations are the main motivations for the municipality to force the use of open source software.

The study also identified the risks that could come along with a shift to open source software products.

Technical risks can be seen in a coexistence of two different system platforms (open source and non open source), that causes a higher administration effort. Technical detail problems, that not appeared by the analysis of the IT environment, can arise from numerous tasks on various workplaces caused by a migration to open source software. User information, support and training have to be considered to encourage the acceptance of open source based new systems. The range of platform independent software is limited and the further development is not predictable. Due to the use of open source software regarding the server environment of the municipality, open source knowledge is available within the IT department but new requirements will be arise by the use of open source on desktop systems.

A hypothetical infringement of patents following the likely introduction of software patents in the EU will be constituted as a marginal risk.

Recommendation

Resulting from the study, a migration of altogether 7.500 workstations to open source software

products (7.500 can be equipped with OpenOffice.org and 4.500 with the operating system Linux) is recommended. With regards to the necessary preparation - required infrastructure for the support and maintenance of the new products has to be established - the installation of open source software application on workstations can be started in the 2nd quarter of 2005. The IT department and the internal Training Academy will provide the supply for the needed support, consulting and training environment of both products – OpenOffice.org and Linux.

Additionally the study also recommends a parallel installation of the open source office suite on workstations that depend on MS-Office and were not evaluated for an OpenOffice.org migration, to encourage the coexistence of both products and to guard against interoperability problems.

Along with the introduction of open source software further measures are recommended to encourage the use of open source software and future migration projects. Purchase and development of operating system neutral products is advised with the aim of binding guidelines to ensure a coexistence of both platforms (Windows and Linux). Creation of guidelines for existing application (e.g. the development of new macros) should also be forced by the migration team to avoid interoperability problems. A shift to the XML open document format will be based on the proposals of the European Union. Economic efficiency of migration suitable workstations will be analysed with the help of standardized questionnaires.

Key to the success of the migration is a well-defined communication and information policy between the migration team and end-users. Employees have the possibility to try open source applications at home. The migration team hopes to reduce reservation against open source software and training costs with this step. The creation of a user community will encourage the exchange of open source knowledge within the municipality.

Evaluation

The study showed that OpenOffice.org and Linux can replace parts of existing workplaces and can be integrated in the IT environment of Vienna's municipality. The software applications OpenOffice.org and Linux will be installed on suitable workstations. A soft migration is preferred. In general, workstations that are less problematic will be replaced first.

The IT department emphasises that as a consequence of developing market trends - more and more hardware and applications will be available for open source systems - and as a consequence of reached knowledge due to the migration process of open source suitable workstations, a new overall evaluation is sensible for 2006. A general migration decision will be reached in 2007. Due to the updated IT environment state of the city of Vienna there is no immediate need for a general software shift until 2007.

Further Information:

- Municipality of Vienna – Computer Centre: http://www.wien.gv.at/ma14/

- Conference Presentation: http://staedtebund.wien.at/de/oss/referate/lutz_folien.ppt

- Vienna Study, Summary Version: http://www.wien.gv.at/ma14/pdf/oss-en.pdf

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