City of Amsterdam investigates the use of Open Source Software within its welfare organisations

The City of Amsterdam initiated two pilot projects to investigate the possibilities to use Open Source Software within welfare organisations funded by the City. The use of Open Source Software might bring down IT budgets of such organization leaving them with more resources to carry out their core tasks and at the same time enable them to make use of modern ICT solutions to support their administrations. The pilots where carried out last year by the Open Source Lab Amsterdam and its outcomes where published just a few months ago. The management of the two welfare organisations involved considers the pilots a success: Clemens Claas, CEO of the foundation De Regenboog said, "After some initial hesitations with regard to the successful migrations of our files I must conclude that all went very smooth and we are very happy with the new ICT infrastructure". This case study describes the case of De Regenboog. In a separate case study to be published soon we will describe the case study of the migration to an Open Source infrastructure of the second organization participating in this initiative.

About the actors

There are relatively few case studies on the use of Open Source Software within non profit organization such as welfare organisations. Although some of them have migrated (partly) to an Open Source environment (such as Greenpeace) they have not communicated their experiences widely as this does not belong to their primary goals. The criteria for the participating organizations in the two pilots described here where that they should be directly supported by the city of Amsterdam. However due to the fact that the scope of the pilots was to see if a complete migration of the working environment would be possible, the participating organization should be willing to go that far. Because of this reason it has taken considerable time to interest two organisations willing to participate.

Stichting de Regenboog (De Regenboog)
A medium sized organization with 35 workspaces which is responsible for homeless people within Amsterdam. It resides in several locations within the city. Many of the staff had limited knowledge of ICT solutions. The organisation needs to communicate specific (partly confidential) information with other healthcare organizations using custom built systems.

Open Source Software Lab (OSSL)
The pilots where executed by the Open Source Software Lab (OSSL). This association was established by the City of Amsterdam in 2002. The main objective of OSSL to bring down the barriers for the use of Open Source by providing information, building a comprehensive catalogue of available Open Source Software and providing these with User Friendly manuals. The role of the OSSL within the pilots was to consult the participating organizations in the pilots. The OSSL ensured resources for variable costs related to project management, testing and implantation. Costs related to investment in hardware and future maintenance are being paid for by the participating organisations. OSSL also

guaranteed the costs for an possible roll back scenario.

DKTP
The ICT services required were delivered by a medium sized, Amsterdam based firm (DKTP).

Rednose
Necessary trainings were delivered by a medium sized provider of computer trainings.

Objectives

The overall objective for the pilots was to investigate the possibilities to use Open Source Software within welfare organisations funded by the City. The use of Open Source Software might bring down IT budgets of such organization leaving them with more resources to carry out their core tasks and at the same time enable them to make use of modern ICT solutions to support their administrations. The following aspects were therefore studied:

- Costs (initial, installation/migration, maintenance)
- Functionality (Open Source Software or application running on an Open Source Platform)
- Interoperability (integration, exchange of data, organizational aspects)

Project Approach

Both pilots were developed in more or less the same different phases.

Inventory
Inventory phase was used to describe the primary work processes of the employees and to see what applications are in use. Also an inventory was made of all the hardware as well as a description of the network. Special attention was paid to all security issues and interfaces with other (external) systems. A detailed inventory was made of all the information available in the organization, ranging from documents to databases.

Design and definition
On the basis of the information from the Inventory a new design was made for the new infrastructure. This gave the opportunity to identify in an early stage possible bottlenecks.

Testing
Based on the new design a test environment was prepared for end users to test the new infrastructure. This environment allowed for a iterative development of the new infrastructure.

Deployment
After the successful series of test the deployment of the new infrastructure was started. Although based on extensive testing in both cases a roll back scenario was always at hand.

Pilot 1: De Regenboog

De Regenboog is a medium sized organization with 35 workspaces which is responsible for homeless people within Amsterdam. It resides in three locations within the city. Many of the staff had limited knowledge of ICT applications. The organisation needs to communicate specific (partly confidential) information with other (healthcare) organizations, often using custom built systems. There is 1 FTE attributed for ICT administration.

Inventory
The hardware within the organisation was seriously outdated. This began to cause more and more problems to ensure effective communication between de Regenboog and other organisations. There was a limited budget for improvements for the ICT infrastructure. Apart from the wish to at least keep but preferably increase the functionality of a new environment the new infrastructure should ensure seamless communication between the different locations.

Locations and networks
Within all three locations there were different types of networks with different connections to the outside.

Hardware
A rather broad spectrum of PC's was present within the organization, ranging from Pentium I till Pentium III machines.

The four servers were:

- Fileserver, location 1: Dell Poweredge 2400, PIII
- Fileserver, Location 2: Compaq Prosigna 200 server, Pentium II 128 MB, 8 GB
- Backup server, Location 1: Intel P166 26 MP, 2GB tapedrive
- Mail server, Location 1: Pentium II 128 MB, 8 GB

A numbers of network printers were in use.

Software
Only Microsoft operating systems where in use with the following versions: Windows 95, Windows 98, NT4 Server SP6 (File, Mail server), NT4 Workstations SP6 (Backup server).

Office applications in use were MS Office 97. Most frequently used were Word and Excel. Some people used Access regularly. The e-mail client in use was Pegasus.

Special applications were a custom built system named Elan (Windows client connected to an Interbase server). Reporting from the Interbase server is delivered through Gognos Impromptu. On the fileserver there were also a few DOS applications such as: Afas (accounting), Addictis (client registration system), Raadpleeg (financial information system on clients), FWG30i (Human Resources application).

Design and definition

A thin client solution was proposed for the old PC's in the organisation. This meant that the investment in new hardware could be limited to new network adaptors.

For the server situation it was proposed to invest in a new server that would allow serving as the central file and application server. Advantaged of this solution are:

- Central maintenance, ease backup and upgrading in the future
- Workspace independent

Software solutions proposed for the server:

- Debian Linux operating system
- Linux Terminal Server Project (LTSP)
- E-Mail: Postfix, Cyrus IMAP as e-mail storage facility
- Amavis & ClamAV as virusscanner
- SAMBA for mappings to the one Windows based PC that would still be kept in use within the network.

Software solutions proposed for the PC"s:

- KDE as desktop
- Evolution as e-mailclient
- OpenOffice as Office Suite
- Mozilla Firefox as webbrowser

- GIMP for graphic design

For a number of applications in use there was now Open Source equivalent at hand. Several possible solutions were presented such as: VM Ware, Wine, Crossover Office, Dosemulator, Quemu, Terminal Server. The following solutions were chosen

Application	Solution
Elan Client	Available on separate Windows PC
Elan database Server	Although the Elan database server is based on the Open Source Interbase application the cost for the migration of the data was estimated to be high. It was provided to run this application on a separate Windows PC
Addictis DOS	DOSemulator
Afas DOS	DOSemulator
Raadpleeg	DOSemulator
FWG DOS	DOSemulator
Websites which require exclusive Internet Explorer features	Codeweavers Crossover Plugin i.c.w. Internet Explorer

Testing

Test of the new environment took place in a hybrid situation. Often it was possible to conduct test from employees own PC's by logging on to the new thin client server. The test server was built separate from the existing servers but contained from the beginning of the test al information related to the user (SAMBA was defined attribute the appropriate user rights). This way there was little difference for the user between the old and new environment which made it possible to continue doing business 'as usual'.

The tests were conducted by a group of six people. There knowledge of ICT ranged from high to low and from high demanders to unaware users. No special training was given before hand. The participants were asked to try and execute the tasks they would normally do.

The test learned that little on the job training was enough in all cases for people to continue to work as they were used to do. Unaware users/users with little knowledge of ICT seemed to have less problems adapting to the new environment but needed sometimes a little more help once a problem occurred. The high demanders, ICT literate test persons seamed to have more difficulty with getting accustomed to the new situation but needed less help once a problem occurred.

Deployment

The largest part of the deployment consisted in the migration of data. Regular files migration provided no specific problems.

User data saved within Outlook and Outlook express files were migrated using several tricks and support programs.

The e-mail data was migrated by making an additional account in Outlook, but referring to the new environment. Copying the data within Outlook into the new account migrated the data to the new environment.

Calendar Items, Tasks and Contacts were migrated using a program called Outport.

Outlook express user information was migrated by installing the Mozilla Browser Suite. Importing the data in this suite made it ease to copy it into Evolution.

Problems

Although the design, testing and deployment of the new Open Source infrastructure caused relatively few problems the biggest risk of show stoppers did not seem to lie in the use of Open Source Software within the organization but in possible problems to communicate with other organizations.

Welfare organizations seem to discovering ICT solutions in a fast pace nowadays and many projects are started to build new application for different purposes. In an early stage of the pilot it became clear the city of Amsterdam was in the process of building a new financial system. Ironically this system was aimed at facilitating organizations, which receive support from the city, in their reporting obligations. However it was unclear if this new system would make use of Open Standards. Within the city administration it was unclear if a answer could be given in time to these questions. Starting up ICT projects within Local Governments can take a considerable amount of time and the discussion on Open Standard appeared to be not on the agenda at the time the project was defined. Now the project was already on its way it became quite uncertain if compliance with Open Standard would become possible. This indicates that a clear Policy on the use of (Open) Standard is necessary to stimulate the use of Open Source Software.

A similar problem occurred in the relation with another department of the city of Amsterdam, the Municipal Health Care Service. In this case it was about a new client administration system. As this application was almost finished, testing for possible problems was possible. Luckily no problems occurred.

Costs

Licenses: 1.283,- EURO. These consist of 1213,- EURO for Microsoft Server 2003 & 5 Terminal Servers, and 70,- EURO for the license of CxOffice.

Hardware: 5.400 EURO. Mainly linked to the investment in the new server.

Related links:

http://www.deregenboog.org/index.html?lang=en
http://www.pcmweb.nl/nieuws.jsp?id=420328
http://www.computable.nl/nieuws.htm?id=420328
http://www.ossl.org
http://www.dktp.nl/

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