



## Maintaining a sustainable Future for IT in Higher Education

Thursday 16th June 2011

Poster Session

### On Budget is Not Enough - Lesson Learned Leaving an Email System from the 90s

#### 1. EXECUTIVE SUMMARY

The task was to reduce the central costs of the university's IT-infrastructure and the recommendation was to begin with the e-mail system. When a new solution was in place the result was that the budget was cut with 120 000 euro per year. This presentation is a case study describing the problems arising when replacing the ageing e-mail system and how they were solved. The presentation will take a look at the preliminary study of the project including cost analysis and questions coming up when it was time for the users to migrate to the new solution. It discusses the steps that had to be taken to complete the shutdown and transition to a new e-mail system.

#### 1.1. BACKGROUND

Umeå University has 4200 employees and 37000 students. The IT-Office has the strategic responsibility for the use of IT at the University. Its task is to satisfactory support the University's business activities and guarantee that students and staff have access to appropriate IT-infrastructure and IT-applications. To fulfill that task the IT-Office is working mainly with *ICT Services and System Development*, which is a unit at the University, as supplier and their task is to support and develop tools for rational use of IT for the University.

In the IT-budget for 2008 the IT-Office were told to cut costs. Since it was time to leave the old email system we took a look at that. The project was initiated in January 2008 and the plan was to take a new system in use in January 2009. The task was completed in November 2010 – on budget but delayed by two years and the problem was not the new system.

In the preliminary study when looking for consequences, the first question was – is it possible to cut the costs? We had an in-house solution with interfaces to other processes that was relying on the

account directory in the e-mail system. The next question arising was - how to identify, evaluate and measure the costs that belonged to the e-mail system?

In the cost analysis we evaluated different alternatives. Maintain the current solution, let the new solution include students or outsource the students e-mail. The suggestion and decision was to buy MS Exchange for the employees and outsource the students to MS live@edu.

The journey moving from an old e-mail system to a new one went well, almost no technical problems or disruptions, just a lot of questions looking for answers. When it was time to migrate the e-mail accounts and mailboxes the project turned over to a slow motion process. The users were never ready to move and a lot of them wanted things to be as it always had been. We needed to come to an end with the project, made some changes in the project team, focused on communication and set up clear deadlines. The last part of the project – cleaning up and moving or closing remaining accounts was a never ending story.

## 1.2. CONCLUSIONS

The cost analysis pointed to an annual saving of 19 percent for the e-mail solution. We did cut the annual costs with 30 percent, 86 500 euro. On top of that we retired three applications which freed some extra resources, 33 800 euro. We are expecting a payback period of two years and four months. It's about the people - not technology - you have to do the homework and learn from history. Take decisions and stand for them – and communicate.

## 2. INTRODUCTION

In 2008 the IT-Office gets a reduction of the IT-budget with 108 000 euro. Since it was time to leave the old e-mail system we took a look at that. We had an in-house solution from the 90s which had interfaces to other processes that was relying on the account directory in the e-mail system and our in house supplier *ICT Services and System Development* already had a mission to present a proposal for a new e-mail solution for the university. Both student and staff used our e-mail solution. We had two core objectives. To obtain a more cost-effective system and perhaps outsource student's e-mail.

## 3. PRESTUDY

The project is preceded by an investigation in which a number of implications and opportunities are highlighted. We discussed the technological implications, business impacts and if it was a good idea to phase out or outsource the students e-mail. When we summarized the reports everyone argued for keeping the students e-mail in house. It was very easy for them to highlight all the problems arising and very few saw any opportunities if we outsourced.

### 3.1. COST ANALYSIS

The main issue was the cost. We paid 269 000 (year 2007) euro per year for our e-mail solution. There were no license costs and a large proportion of the costs went to personnel costs. We had an in-house solution with interfaces to other solutions that relied on the account directory in the e-mail system and we had to identify and evaluate those. We made a spreadsheet identifying the cost items and discussed it with the supplier.

They told us that the only resources they would free if we outsourced the students were some backup area, approximately 11 000 euro. The survey showed that almost the entire extent of the costs of the e-mail service consisted of common fixed costs. The number of mailboxes did not affect at all. Our supplier estimated that it would cost between 44 000 to 76 000 euro to move to an outsource solution or to face out the students. We tried to separate the costs of student served email and staff but there was no clear model for this.

The main reason for choosing an external provider for the students was to save money. The study showed that it would take between 4 to 7 years to recoup savings which meant that it was not possible to justify the implementation of such a solution. But the e-mail system was old and there were a number of reasons why it should be phased out. We needed a new system that was more efficient to manage and our supplier estimated that cost savings would be around 50 000 euro per year.

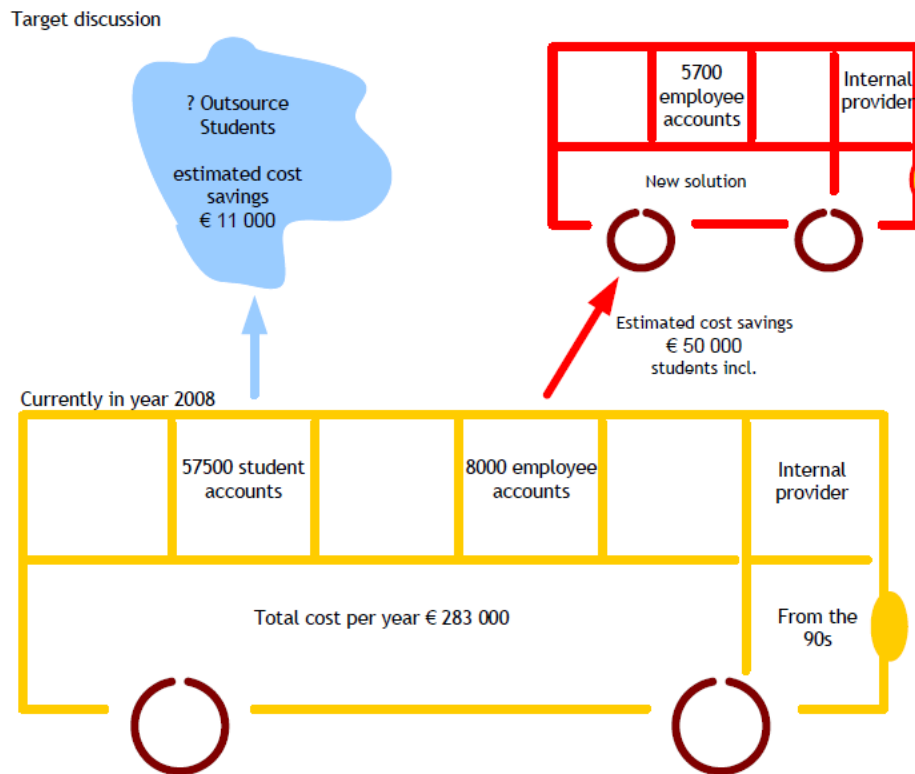


Figure 1 Does it matter how many accounts you have?

**Table 1 - Cost and revenue analysis - different alternatives**

Cost according to SLA with supplier year 2007, note 1.	Today's solution	Outsource students	Phase out students
<b>Impact on revenues</b>			
Poorer service, webmail		negative	negative?
Use of portal		negative	negative
Goodwill		negative	negative
@studnet.adm.umu			negative
Phase out local solutions	€ positive	€ positive	€ positive
Large storage space	negative	positive	
Bbetter language support		positive	
Automatically generated e-mail list		negative?	negative
<b>Cost, Service level agreement (SLA)</b>			
Personal service	€ 164 412	€ 164 412	€ 164 412
Hardware	€ 104 751	€ 93 882	€ 93 882
<b>Total cost per year</b>	<b>€ 269 163</b>	<b>€ 258 294</b>	<b>€ 258 294</b>
<b>Non-recurring costs</b>			
Authentication CAS		€ 2 420	€ 2 420
Authentication proxy-server		€ 4 840	€ 4 840
Account directory and Ladok		€ 4 840	€ 4 840
Adjustment DASA		€ 5 500	€ 5 500
Migration		€ 37 950	
Information/support		€ 5 500	€ 5 500
Adjustment local solutions		€ 11 000	€ 11 000
Solution for e-mail registration		€ ?	€ ?
<b>Risks/ consequences</b>			
Availability/ denial of service attacks		high	high
Confirmation letter delayed		medium	medium
Valid e-mail blocked		low	low
Bulk mail		medium	medium
Local solutions are created		high	high

Note 1; service desk is not included

## 4. PROJECT IMPLEMENTATION

### 4.1. CHOICE OF SOLUTIONS

The project started in January 2008 and the first milestone was to collect user needs and to evaluate and select an e-mail solution. In June 2008 our Vice-Chancellor decided that we would choose Microsoft Exchange 2007 as the university's e-mail system and the budget for the project was 130 000 euro. The plan was to have a new system in use in early 2009. In October 2009 the plan was changed and it was decided that the students would be outsourced to Microsoft live@edu.

### 4.2. MS EXCHANGE 2007

In the beginning the project went on almost according to plan and in April 2009 the system was up and running. Almost no technical problems or disruptions, just a lot of questions looking for answers. We did a review of our Active Directory and made some new rules. We needed guidance and rules for the delivery of e-mail accounts. There had been no thinning for years so there were a large number of inactive accounts and accounts that should not exist.

### 4.3. THE MIGRATION - SUBPROJECT

When it was time to migrate the e-mail accounts and mailboxes the project turned over to a slow motion process. In reports from the project, we could read about a very slow process. Problems and questions arising were:

- We needed to identify the account holders. We had no unique link between the e-mail account and the holders. Function accounts were particularly difficult. We used the aliases frequently and we needed to identify those that were still in use.
- We had no unique link between the Active Directory and the holders. Several ways to manage this had been developed and now it needed to be streamlined and formalized.
- We recommended Outlook, but said more options were possible. But, we did not recommend Eudora and a lot of users wanted to continue to use Eudora – because they had always used it.
- We wanted to streamline the e-mail addresses. Our standard for an e-mail address is [firstname.surname@unit.umu.se](mailto:firstname.surname@unit.umu.se), alternatively [firstname.surnamn@umu.se](mailto:firstname.surnamn@umu.se) when this is possible. Over the years there has been reorganization and there were a number of old addresses that were not compatible with today's organization. We wanted to take this opportunity to adjust this- the users did not, they wanted to keep the address they had always had.
- We underestimated the need for copying the old e-mail. We wanted them to start from the scratch, and archive the old e-mail. They wanted to copy the old e-mail to the new account. Most of them used POP3 and had all their e-mail on their own computer. Sometimes it took several hours to migrate a single account. The project budget did not cover this. They had to pay – and they did.

The project covered for migration of the e-mail accounts. We created and provided a web-based migration tool. If the users wanted help with copying old e-mail they had to pay for this. A new timeline was set to the end of December 2009. At the end of the year 2009 16 percent of the accounts were moved. The users were not in a hurry, they got their e-mail, and they knew we could not just shut down the old e-mail system.

We identified risk and problems and started a separate sub-project and appointed a responsible person and new deadlines was set. We hired additional personnel and their assignment was to visit all departments and plan their transition. The message was – if they had not migrated by the end of June 2010 we would migrate the e-mail accounts from the project. We set up a flight computer so that we could monitor developments in real time and we had project reports every two weeks.

From May 2010 we paid the provider according to the budget for the new e-mail system. At the end of June we moved remaining accounts and no one complained. Now we were over in the new system. Remaining were the accounts that we could not identify and shutting down the system i.e. to cut the last links which were dependent on the system. The project was completed and delivered a final report in November 2010.

#### 4.4. LIVE@EDU - SUBPROJECT

The project started in October 2009. The migration started in March 2010 and was then implemented in increments of 300 accounts at a time. We increased the speed in steps and eventually migrated in 2500 accounts per day. There were some minor problems along the way but nothing that did not resolve. In the end we had moved 85000 accounts. Eighteen students missed some emails after the migration – we re-migrated their accounts and the problem was solved. Five students complained of the new e-mail platform and claimed that there was a deterioration in the change to live@edu. The project ended in June 2010. It had been ongoing for eight months, spent 600 hours and cost 33 000 euro.

## 5. RESULTS AND CONSIDERATIONS

### 5.1. ON BUDGET BUT DELAYED

**On budget but delayed by almost two years.** The project started in January 2008 and the plan was to have a new system in use in early 2009. The project was completed and delivered a final report in November 2010. The major challenge was the migration and closure of the old e-mail system - someone has to dare to take decisions and ensure that they are implemented.

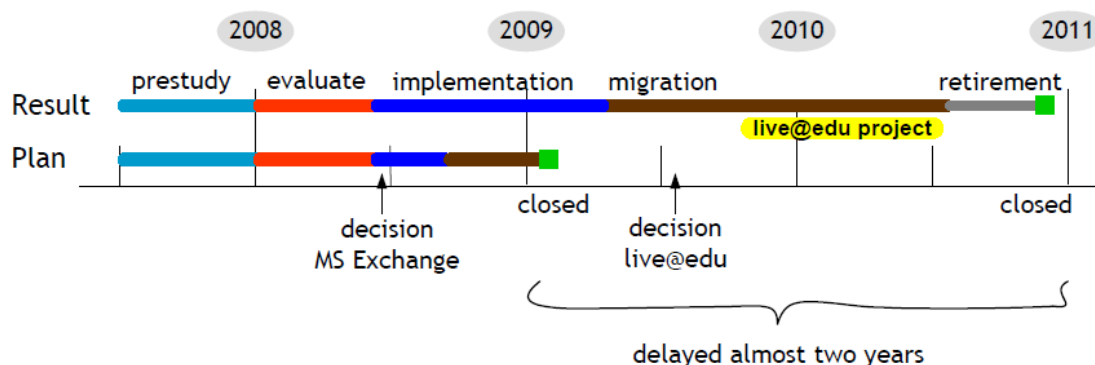


Figure 2 Project schedule

## 5.2. COST SAVINGS

The total cost saving per year is around 120 000 euro. The total cost for our old e-mail solution was 283 000 euro year 2009. With the new solution in place we pay 196 000 euro per year. In the pre-study our supplier estimated that cost savings would be around 50 000 euro per year. The result is 86 500 euro per year. On top of that we shut down three applications which freed 33 800 euro per year. The total cost for the project was 285 000 euro. We expect a payback period of two years and four months.

We used 5500 hours to get over to a new e-mail solution. It is unknown how many hours, in addition to those who purchased, were spent among users. We are talking about shutting down Sympa – the mailing list manager, there is resistance to this. Not so much money to save, but one system less to manage.

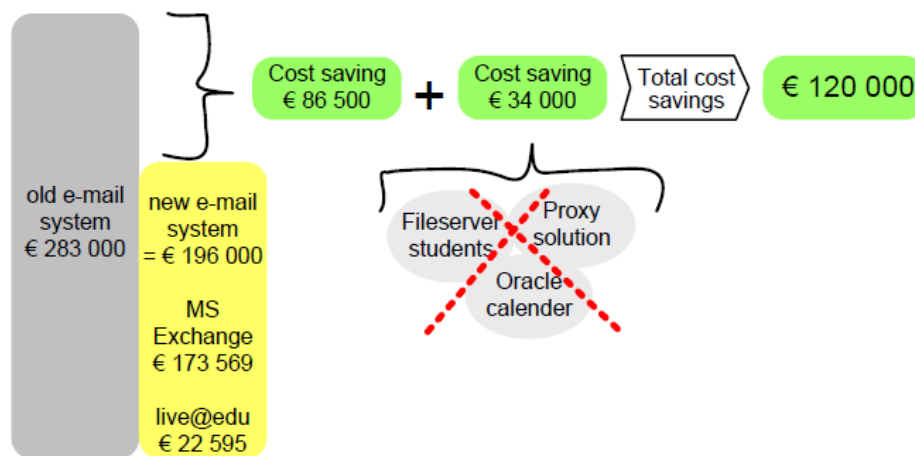


Figure 3 Total cost saving per year

5.3. REPORTING OF FIGURES

Table 2 - Cost savings per year

a	Total cost per year, old system (year 2009)	€ 282 609
b	Total cost per year, MS Exchange 2007	€ 173 569
c	Total cost per year, liv@edu	€ 22 595
d	Total cost saving per year for the e-mail = a-(b+c)	€ 86 469
e	Shut down three applications, Oracle calendar, fileserver for students, proxy solution	€ 33 804
	<b>Total cost savings per year = d+e</b>	<b>€ 120 273</b>

Table 3 - Project costs

Cost MS Exchange for personnel (on budget)	€ 130 435
Cost live@edu (in the it-budget)	€ 33 043
Cost of migration old e-mail (not in project budget)	€ 121 196
<b>Total cost</b>	<b>€ 284 674</b>

Table 4 - Hours used in the project

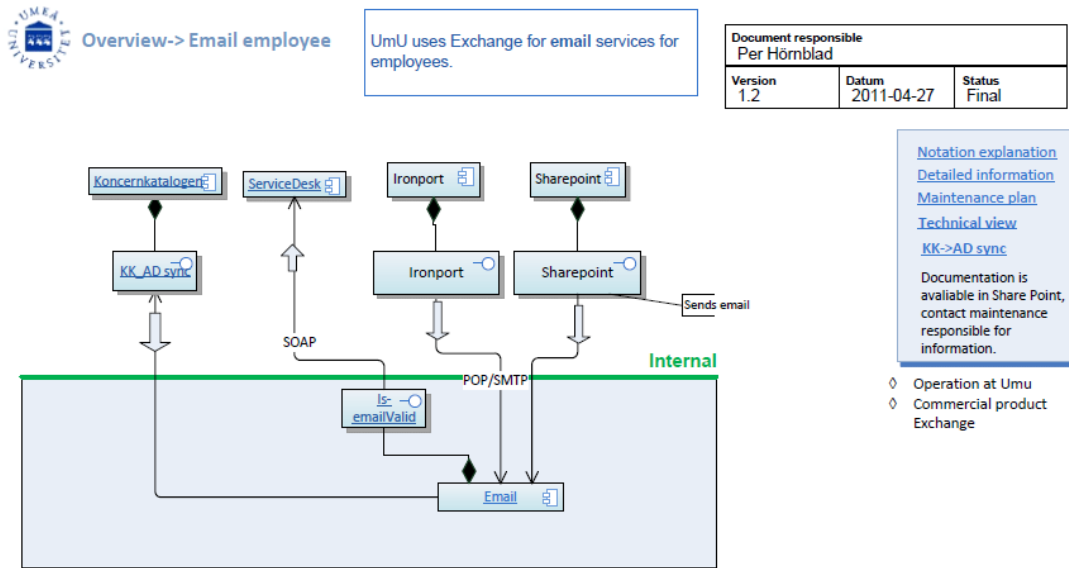
Hours charged to project	1830
Hours charged to annual maintenance	570
Hours charged to the supplier	300
Purchased hours of migration assistance	2200
Hours charged to live@edu project	600
Spend hours locally at the units	???
<b>Total hours used</b>	<b>5500</b>

Table 5 - Costs for the new e-mail solution per year

		Exchange	live@edu
1	Sympa - mailing list manager	€ 6 634	
2	Hardware -operations	€ 69 899	€ 7 204
3	Maintenance	€ 48 783	€ 15 391
4	License Exchange 2007	€ 13 804	
5	Ironport (virus/spam)	€ 34 449	
	<b>Total cost year 2010</b>	<b>€ 173 569</b>	<b>€ 22 595</b>

Note: Service desk is not included.

## 5.4. OVERVIEW E-MAIL EMPLOYEE DEPEND



## 5.5. OVERVIEW LIVE@EDU DEPEND

