United Business Institute

PRINCIPLES OF TELECOM MANAGEMENT

(Prof. Chris Henny)

Term Case Study:

Conditions under which a medium sized technology company (ScanSoft) should consider yes or no to outsource its network, intranets and web sites and to what extent.

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1 Introduction

In today's electronic age and the era of globalization, new technology and necessity of the management of the network place in Software companies makes the need for strategic decisions in whether to or not to outsource the IT services within companies.

ScanSoft is the company we have chosen for this study; this is a Software company with international operations. The proposal will be based in this company and the main issues that will lead us to decide the conditions in which we will be based for deciding outsourcing or not of the network, intranets and web sites of the company. At the same time we will be able to see a scope into which extent the outsourcing activity will consist of. The document will recommend a partial outsourcing and the conditions used for this decision.

1.1 Company Disclosure

The present document contains confidential information, which was gathered for the purpose of this educational case study. Any misuse or disclosure on the information provided will have to follow its legal consequences. ScanSoft approved the analysis of this document only as an educational tool and UBI and people involved in such documentation are entitled to follow confidentiality of this document.

2 Company Background

ScanSoft develops award-winning document automation solutions, including OCR (optical character recognition), eForm design and personal document management applications. Its speech and language solutions, enable the voice-control of computer systems, and are used to add human-sounding synthesized voice to software applications and embedded hardware systems. Business professionals automatically create editable documents from paper and voice, instantly by converting paper forms into digital forms, and easily organizing scanned paper and digital documents on the PC.

ScanSoft's integrated Text-to-Speech (TTS) and Automatic Speech Recognition (ASR) engines are used by leading communications, automotive, and mobile device manufacturers to voice-enable unified messaging, IVR, telematics, wireless and Pocket PC solutions. ScanSoft is a publicly traded company (Nasdaq: SSFT) maintaining offices around the world.

2.1 L&H and ScanSoft

ScanSoft was not a Speech related company as such last year, on December 12, 2001, the ScanSoft completed the acquisition of certain of the assets of the Speech and Language Technologies of Lernout & Hauspie (L&H) a Belgian company worldwide leader in Speech and Recognition. Consideration for the transaction comprised $10 million in cash, a $3.5 million note and 7.4 million shares of the Registrant's common stock. The U.S. Bankruptcy Court for the District of Delaware approved the transaction on December 11, 2001. The transaction was accounted for as an acquisition of assets; accordingly, only the acquired assets and liabilities of L&H will be recorded at their estimated fair values at the same time ScanSoft took a large force of almost the same size as ScanSoft itself. Lernout & Hauspie went bankrupt and the main offices and people were located in Belgium. ScanSoft as an American company was not only taking up a Belgian company almost its size but would deal with new worldwide channels in sales, marketing and operations.

Just in October of this year (2002), ScanSoft has won a bid for buying the Speech and Telecom divisions from Philips. The idea is not only to gain market share but also to work together with Philips in order to complement their product offering with a better background in technology specially to complement their offering of Speech with the Text to Speech technology into the embedded and electronic markets. This acquisition will only be finalized by the end of this year. And for such it will cause major integration of their IT infrastructure with the existing in ScanSoft. Philips will cause major IT integration activities in the future and will have to be considered in the IT plan we are developing.

3 Scope of this study

Our team wants to base the scope of this study to only the Belgian location of ScanSoft (Merelbeke). We want to analyze the IT part, which can be outsourced or keep inside but only for this location. At the same time we will have to see the synergies between the other locations, mainly the headquarters in the US. Even though the final conditions and results of this study will be focus to the Belgian location. As requested this study will analyze 3 parts:

- Network (voice & data)
- Intranet & Internet
- Web Sites

Again, the relationship between all other locations is significant for our study and it will lead us to the final decision. We cannot take the decision of buying in server equipment locally in Belgium knowing that in the US the IT department is working with a different architecture. For such the relationship is necessary, but the final decision will be the conditions to be taken for the location in Belgium which is the European Headquarters.

4 Requirements Definition and Analysis of Situation

4.1 Structural Organization in ScanSoft

ScanSoft as such has employees worldwide, from different cultural backgrounds. The company is mainly divided into its two main technologies OCR and, Speech and Language technologies. These two main subdivisions put the company organization in a easy manageable situation since the second technology company was merged as we described in the last section.

In order to understand the IT necessities in ScanSoft is required to understand the background of the people and their necessities in order to perform the final business need of the company.

4.1.1 Geographical Distribution of ScanSoft

The Company has its main headquarters in 2 locations:

a. The European Headquarters
   - Located in Ghent Belgium (GE-BE)
   - About 180 resources
b. The American Headquarters
   - Located in Peabody US (PB-US)
   - With about 150 employees

These locations are then the central points for other operational and sales offices.
The main operation offices are located in:

a. Ghent, Belgium (HQ)
b. Budapest, Hungry (with about 40 employees)
c. Peabody, US (HQ)
d. Waltham, US (with about 40 employees

Marketing, Sale, and Distribution offices are distributed around the world with small offices with a maximum of about 5 employees each. These locations are:

- Munich, Germany
- London, United Kingdom
- Milan, Italy
- Paris, France
- Go, Sweden
- Tokyo, Japan

At the same time sales people is mobile around the world in places like Latin America, Spain, Asia, Nordic Countries or Australia. These resources do not have fixed location and for such they need a mobile access that allows them to access the company network in terms of voice and data.

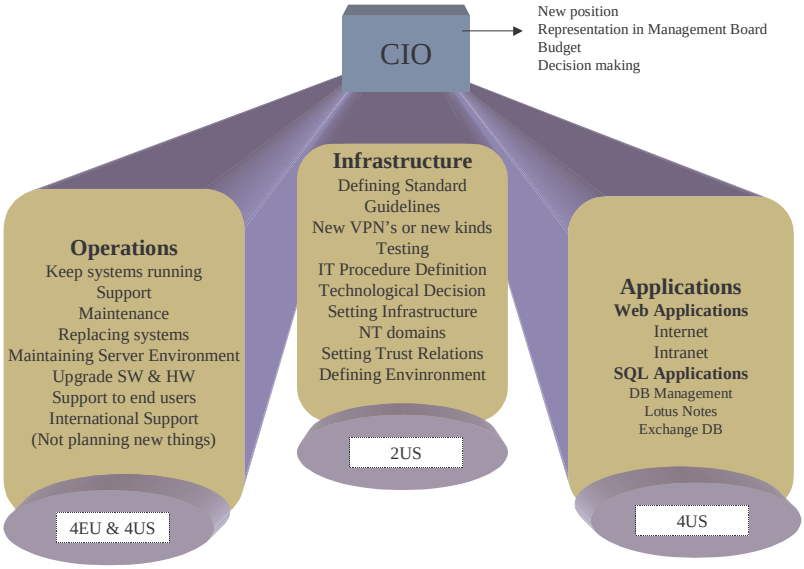
4.1.2 IT Structural Organization

The most interesting structure to study is the one of the Information Technology Division, which is the structure we want to analyze thoroughly in this study in order to see which resources inside the IT department could be outsourced, or even to find an expansion of this team where the need exist.

There is a CIO within the company, located in Peabody, US. In the next level we find the US IT Director in Peabody and to the same level the International IT Director located in Belgium.
Working in the IT department for the International locations we have 5 resources working with the title of IT support. 3 of them are bases doing Operations in Belgium.

The next diagram described the Information Technology division within ScanSoft, notice the different activities performed by each subdivision.

ScanSoft IT Division Organization & Responsibilities



This is an important structure since we may decide to outsource the department and would be a big impact in the way ScanSoft sees at the IT services.

4.1.3 ScanSoft Management Organization

The top management is located in the US Headquarters (Peabody), just an operational manager is located in Belgium being part of the Speech & Languages technology.

Just to have an idea of how the top management is distributed in Belgian location you can make reference to Appendix #1 located at the end of this document.

Only the senior vice-president & CTO of Speech Technologies is located in the Belgian location. As you can see the ScanSoft organization is pretty flat and there is a maximum of about 4 levels until the CEO or president of the company is reached.

4.1.4 Speech & Language Technologies (ASR/Automotive)

One of the biggest teams in terms of operational departments is located in Ghent, and it is the group of Speech & Language Technologies, mainly dedicated to providing software solutions in Speech Recognition, and focusing into the automotive market. This group is divided into 3 sub-sets, which are:

- Engineering: 14 Software Engineers
- Research: 12 Researchers
- Customer Support: 3 Engineers in Customer Support
- Project Managers: 3 for each of the mentioned groups and 1 main manager in the overall team (Total 4)

The full Speech & Language technologies team organizational chart can be located at the end of this document as Appendix #2. Mainly this team works with the next technologies:

- PC technologies (all team)
- Laptop computers provided to Managers or people working with customers
- 5 users of Unix Network using Solaris SUN machines (Mat lab Software)
- About 10 extra users making use of Unix accounts via remote terminal (using PC with X session software)

4.1.5 Text to Speech Technologies (TTS Group)

The second biggest team in Ghent offices is the TTS group mainly developing software on Text to Speech technologies in different environments like telecom, automotive, PC, network based. This group is divided into the next sub-sets:

- Engineering (10 Software Engineers)
- Linguistic Engineering 1 (8 Linguistic Engineers)
- Linguistic Engineering 2 (7 Linguistic Engineers)
- Research (5 Researchers)
- Project Management (5 Project Managers for specific projects)
- Managers: 5 for each one of the previous categories and a top manager of the TTS group (6 in total)

The full team organizational chart can be located at the end of this document as Appendix #3. Mainly this team works with the next technologies:

- PC technologies (all team)
- Laptop computers provided to Managers or people working with customers
- 5 users of Unix Network using Solaris SUN machines (Mat lab Software)
- About 10 extra users making use of Unix accounts via remote terminal (using PC with X session software)
- 5 users using Linux machines (can be same PC with Windows technologies but with different boot system

4.1.6 Linguistic Resources Team

The next group related to Operational is the linguistic team also in Ghent offices. This team is in charge of creating language based algorithms, transcriptions, defining standards, creating voice database based on language for future TTS and Speech recognition technologies. The full team organizational chart can be located at the end of this document as Appendix #4.

This small group is composed of 9 Linguistic resources and 1 direct manager. The Technology used by this team is the next:

- PC technologies (all team)
- Laptop computers provided to the Managers

4.1.7 Marketing Team

Another important group is the Marketing team. This group also located in Merelbeke, has the requirement of having mobile resources, which can access the network and can communicate easily within the company. This team as any marketing team is working along with sales, product management and with customer support within all the range of products of ScanSoft. Based on Merelbeke, but in frequent movement this team is composed of:

- DNS Product (1 marketing director and 1 Product Manager)
- EU Marcom coordinator
- Marketing Coordinator (South Europe)
- European PR
- DataBase Specialist

Mainly this team works with the next technologies:

- Laptop computers provided (all)
- Mobile telephones and remote access to all these users

4.1.8 Sales Team

Sales, again as a highly mobile team is based on the European headquarters (Merelbeke). This group has the requirement of having mobile resources, which can access the network and can communicate easily within the company. The team is composed of the next people:

- 1 VP Manager
- 1 Sales assistant
- 1 Office secretary
- Sales in Belgium
  - 1 Sales Licenses Telco
  - 1 Pre-sales support/demo
  - 1 Distribution channel manager
  - 1 Corporate licensing
- Customer Support
  - 1 Manager
  - 2 technical support

The full team organizational (US and Europe) chart can be located at the end of this document as Appendix #5.

The biggest requirement comes into the technical support since most of the time they need more than one PC equipment for performing their support call activities. In general the requirements for this group are:

- Laptop computers provided (all)
- PC Technologies for all members
- Mobile telephones and remote access to all these users

4.1.9 Finance Team

Finance team was concentrated this year in Belgium as the main location (Merelbeke). It is a big team that has the next resources. This group has the requirement of having PC technologies with mainly Office applications. The team is composed of the next people:

- Treasury Manager
- 2 Order Admins
- Vice president & controller
- Director Finance & admin
- Financial Manager
- Accountant
- Financial Planning & Analyst
- Sales Analyst
- Financial Analyst
- Collectors
- TBH
- Entry accountant
- 2 Order handlings
- Assist Controller
- 2 Senior accountants
- Accounts Payable / accounting
- Contractor
- AR Manager

- Accounts receivable
- Credit & Collections
- Revenue Supervisor
- Financial Analyst
- Revenue Accountant
- M&A Analysit & Financial Planning
- Vice President & General Counsel
- 2 Legal Counsels
- EU Legal Counsel
- Paralegal
- Legal Counsel Belgium
- Legal Counsel
- Director of Corporate Communications

As accounting specialist, this team is using Office applications. At the same time a financial system which is online is being used bye the department.:

- Laptop computers provided (Managers and legal)
- PC Technologies for all members
- Mobile telephones and remote access (Managers and legal)

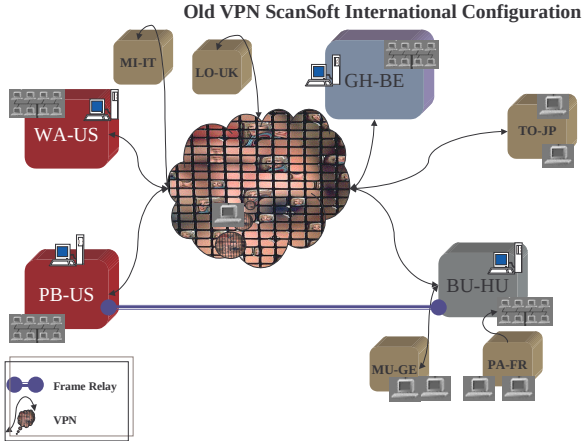
4.2 Network Requirements (current situation in ScanSoft)

In this section we want to get a clear picture of the current Network technology and architecture of the Network. For an easy understanding we have created the next diagrams that facilitate this subject.

4.2.1 Old Network architecture:

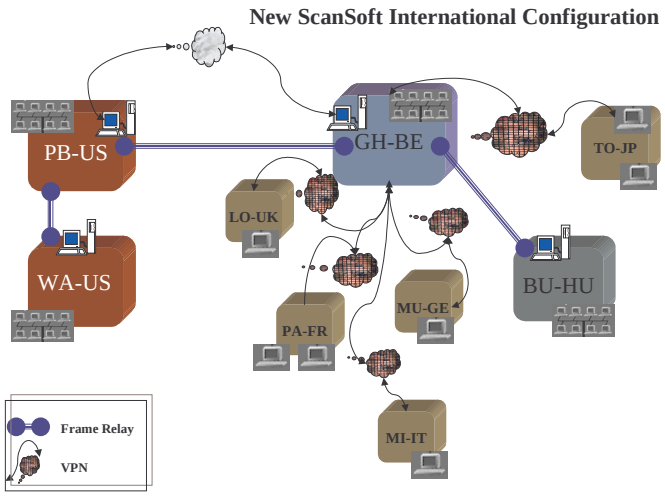
First we must take a look at the old configuration that ScanSoft had before the full integration of L&H was done. Basically this configuration was based in a VPN model, only a VPN was being outsourced (to Sprint) and this would connect ScanSoft US and the old main location of Europe, which was based in Budapest. The network was set up as showed in the next diagram:

Old VPN ScanSoft International Configuration



4.2.2 New Network architecture (after integration of L&H):

After the integration of L&H, the main headquarters changed from Budapest to Ghent in Belgium, this since the geographical, operational and strategic resources were located in this region. The Budapest site passed to be a fully operational site. In order to set up this new integration, the Frame Relay was moved to Belgium, and the Budapest site was still Frame Relay connected to Belgium location. This is a long period contract with Sprint and for such the best capacity was intended to be used by better using the Frame Relay. As we can notice in this new diagram the VPN set up was diminished but still highly costs in the Frame Relay connections can be a disadvantage of this set up.



4.2.3 Voice Network

Since ScanSoft acquired L&H, not only the computer equipment was acquired but also telephone network. This being analog connections having a PBX on site, and small PBX's for sites with more than 5 people are fully owned by ScanSoft.
Voice over IP, has been studied even though after an analysis of impact the data network could be affected since a big part of the bandwidth would be reserved by voice (voice packets have higher priority).

Not only the network but also the terminals or telephones equipment should be renovated to be able to handle this digital system. Belgacom provides the telecom connections in ScanSoft, and standard billing goes through them and their ISDN network.

As ScanSoft owns this equipment we will later conclude that investment could not be beneficial but until costs of Voice over IP and the technology itself go into a more mature level. (Drop of prices and better technology that can support voice and data)

4.3 Intranet and Internet Requirements

ScanSoft as a Software Company used its web portal for the next reasons:

- Promote the company
- Be an entry for share holders (investors)
- Promote its products
- Sale its products
- Be portal for customer support
- Do PR, marketing and partnership activities

This is a highly important entry point for the company as Patrick Dewale, CTO of the company mentions:

"Our web-site is highly important for us, we need a fast entry point where people can go and say, this is a top quality since it is fast and communicates exactly what I needed to know about the company"

In the Intranet side, ScanSoft does not have a highly developed intranet that is used by all employees. The Intranet is rather informally used, but mainly information of HR can be found in here.

4.3.1 ISP

Several ISP providers are used depending on the location; this is in the case of the VPN's. In ScanSoft Belgium, Belgacom provides the ISP chosen by ScanSoft. All people in the company require access to Internet.

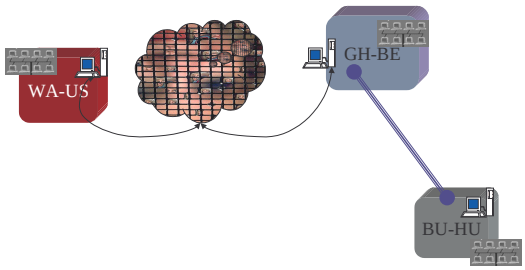
4.3.2 Web Infrastructure

Intranet infrastructure uses a different scheme. The WEB is currently being fully outsourced. Content, design development and hosting is being outsourced by ScanSoft within companies in the United States. This has caused problematic since as many ASP's have gone bankrupt finding a stable provider is a highly issue that the company faces.

In order to provide a better WEB service, ScanSoft was doing the web hosting in-house with a web server on its US site, and using Microsoft Clustering technologies as a bridge US and Europe. These licenses are highly costly for the company and that was the reason of why trying out a web hosting, even though as we mentioned stability of providers is an issue.

In the next diagram we can see how the architecture of the Web infrastructure is set:

ScanSoft Backup and WEB servers Configuration



4.3.3 Web content development and maintenance

The content is currently advised by the different department and finally put in place by an outsourced company (The details of this company are not revealed since it is a changing process currently). Just as the web hosting the ASP's instability is a big issue faced by ScanSoft.

4.4 Database Management

As we have already seen in the IT department, the Database management is fully done in-house. This is an important issue since L&H had multiple DB's in Lotus Notes and ScanSoft had a Microsoft Exchange environment. For such reason the migration is highly difficult and just in December (after one year of acquisition), mail is being migrated from Lotus to Microsoft. Even though the issue of the Databases migration exists. And migrating these Databases is almost impossible (not tool offered in the market capable of handling such migration effectively). For such reason many Database applications are still being used in Lotus Notes while mail is done in Outlook. This is highly a redundancy since the Lotus Notes licenses are highly expensive and the maintenance of such system is a high expense to be taken into consideration.

5 Limitations

Before we can give any alternatives lets draw the next limitations that ScanSoft sets for any proposal or for its business in place.

- Any estimation must consider that ScanSoft already owns network and equipment since the L&H acquisition
- The owned equipment by ScanSoft by be outdated in about 1 year from now
- The budget that ScanSoft draws up is not set since any budgeting is done for each division (ASR, TTS, etc). And then any costs go through each department instead of being assigned to the IT division.
- ScanSoft should be seen not as only the Belgian location but interaction with the other sites should be taken into account
- Current personnel in the IT department could focus themselves into automation and other activities in the case that activities are outsourced
- The stability of the company in the current economy is stable even though changes on the unstable market put ScanSoft at high stability risk

A list of equipment has been added as an appendix to show the main requirements of the company. Appendix #6.

5.1 Buy-in Policy of ScanSoft when acquiring Lernout & Haupsie

Lernout & Hauspie as a company was outsourcing many of its IT infrastructure, from Help Desk to Personal Computer equipment, L&H was leasing big part of its equipment. It was until ScanSoft acquired the company in January of 2002 that the IT policy changed and instead of taking the costs of leasing equipment, ScanSoft decided to buy in the same equipment that it was leasing before the acquisition. The outsourcing company accepted the deal and PC's, servers, cables; Telephone equipment and others was acquired. This item is very important in our study since this means that in many cases the IT equipment is already in house and there would not be a valuable reason for going out to lease new equipment unless ROI can be seen in the future and that is where our study can try to evaluate the situation.

6 Alternatives

In this section we will analyze the alternatives that we could choose within the business taking into consideration the costs that it would overcome for the already discussed requirements of ScanSoft. The first alternative is to go full In House proposition and we analyze an estimate considering the studied requirements. The second alternative is a model not going full outsourcing but only parts of it by explaining the details of the benefits into this alternative.

6.1 In House Proposition

On this section, we will evaluate the possibility of doing everything "in-house". Later on we will see that this is not our recommended proposition even though it is in here to show demonstrate and to show the details of the proposed solution. The cost estimation will be done over three years time, which is the time estimated for the equipment to be changed. Let's go through all points taken into account.

6.1.1 Hardware Cost Estimation

In order to fulfill the requirements of our employees we have the following demand:
171 desktop computers and 58 laptops, and 20 laser printers, and as the core network, 6 main servers, 4 to be used as web server, mail server and applications server, 2 back up servers and 4 firewalls.

The estimated prices of each of these devices are:

- Desktop computer with Microsoft NT/2000 : 1000 €
- Laptop with Microsoft NT/2000 : 1750 €
- Laser printer : 500 €
- Servers with OS installed : 6000 €.
- Firewall : A Nokia firewall has an estimate price varying from 800 € to 2000 € depending on the type itself. (we consider an average of 1400 € for our requirements Nokia IP530 or Nokia IP710) 4*1400

So, the final cost estimation of all pieces of computer equipment needed during the following three years is: 324.100€

6.1.2 Software Cost Estimation

The Software being used by company is the next:

Operations default tools for almost all departments:

- MS Office (Excel, Word, Outlook, Power Point)
- Acrobat
- Win ZIP
- Norton Antivirus
- Lotus Notes (we are migrating from platform but still supporting this email platform for Databases on it)

Professional Tools ASR & TTS

-Cool Edit Professional (an audio tool)
-Clear Case (this may be expensive licenses, the company giving this SW is Rational)
-4NT (command tool)
-Microsoft Visual Studio (Visual Basic and Visual C++ are used even though we have licenses for all packages)
-Matlab (these may be expensive licenses... only used per Researcher)

Free tools we use:

-Python
-J Edit
-Windows commander
-Perl

Professional Tools HR

-HR Head tool

Finance & Marketing

Considering CMR application not yet defined by Management

Average cost for the different licenses of ~ 500 € per user. We are assuming that Software and Hardware will be updated every three years, so one license per product and per user. This price estimate is based on an average per user including all Software in one machine.

500 €/license * 229 computers = 114.500 €

6.1.3 IT Human Resources

A new department (or keeping current staff depending on group structure at the moment) should be created to look after the network. The structure of this new department would be as follows:

- 2 Helpdesk support
- 1 Mail/web Master
- 1 request process
- 1 IT manager

We will use an average of what an employee costs to the employer. From more than one sources we got 50.000 €, as an average cost, which makes a total cost for the personnel of this department of 5*50.000 = 250.000 €/year. One big problem arises at this point, since our company will have as a main working tool the Internet, a high degree of security will be mandatory. This security requires high technical skills and expertise on the person in charge

of such task (probably the web master). Due to this critical issue and the chance of losing such person because of a better offer, illness, holidays, or unplanned issues, this part should be outsourced.

Other point to be highlighted and for us very important is the fact that the web development should be always kept in house, and the main reasons for that are:

- The web page will be in most cases the first image the customers will have about the company, so we should be very sure that everything included on the web site is right.
- Every sub-department should have a person in charge of maintaining and updating the web site of their own department, so more than one person could take the responsibility in case of the main web developer leave the company, illness, holidays, or other issues.

6.1.4 Unforeseen expenses:

10% of the final cost estimate will be considered as unforeseen expenses. This will give us a risk management to be evaluated into the proposal.

Network implementation costs as well as telecommunication costs (telephone lines, faxes, etc.) are things not to take anymore into account since we already have an IT department and the network running with own infrastructure, both data and voice network is owned by ScanSoft, after acquisition of L&H. Possible idea could be to have voice over IP as we have already mentioned, but upgrades in the full network should be done which may be even more costly for the company itself. Waiting for prices and technology to reach a mature level can be a better approach on voice over IP.

Our assumption is that at the end of a 3-year period equipment is already outdated and evaluating the possibility of changing the way we are working so far could be a benefit for the company, even though hidden costs can overcome or final cost on the estimate we have shown.

6.2 Partly Outsourced Proposition (Recommended Solution)

Full outsourcing for ScanSoft is not a solution. This statement is due to several factors:

- Actual Provider's Service an Business stability
- Dependency on third parties
- Security and Reliability
- Integration with existing applications.
- ScanSoft's own business stability

Again we are basing this proposal thinking that within a period (may be about a year or less) the current technology owned by ScanSoft may be outdated and possibility of outsourcing may come as a good solution not only in terms of strategy and technology innovation but at the same time ROI for the company. In this section we analyze the proposal that we suggest to the company once that they are ready to analyze an alternative such as this one where outsourcing of certain parts is involved.

6.2.1 Intranet/Internet

The six following steps have to be considered:

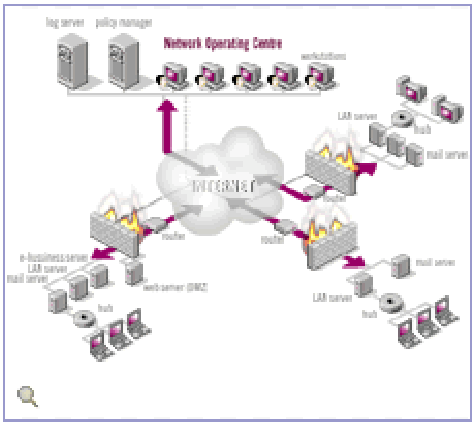
1. Acquisition of the Web Servers
2. Acquisition of PC's and Hardware
3. Installation – configuration of the servers
4. Deployment of the network
5. Personalize Configuration, Security and access
6. Maintenance and follow-up (management)

Steps 1-2 have to be considered as the more important in the cost analysis. Two possibilities are open here: first we just buy the hardware and consider to change after 3 or 4 years; secondly we consider hiring of the hardware to be able to deduct the cost of the hardware every year.

Steps 3 till 5 will need 3-4 months to be completed. We decided to hire an external person for that period to achieve the job in-house in collaboration with an internal IT person. This solution enables the company to have someone who can do the follow up of the network (know-how) and its configuration. This person will also be in-charge of step 6 (maintenance and follow-up) as the training of two other persons of the company. Because, even if there are procedures in the already mentioned steps, each technician will work differently and apply his own methods.

We also did consider renting a 19" box at Colt with a dedicated 256 kbits/s line for a back-up server with vital and crucial information of the company (back-up for disaster recovery plan). Colt is offering a very secure relocated location with possibilities to extend either the capacity of the line either the number of boxes.

As we know that ScanSoft also wants to give access to intranet from remote places, we decided to outsource the firewall device (1 per physical place). Easynet is proposing a "Key on the door" package to protect our network from hackers e.g.. Easynet will make several audits about the access to the intranet of ScanSoft from other places: Who will access? What will be the content needed? Which information has to be accessible? Etc. Their solution will be an integrated solution for what ScanSoft needs.



Easynet Managed Firewall Service considers analyzing of the needs, Installation & Configuration, Maintenance (updating) and Management (monitoring, reporting and ongoing configuration change: 24 hours*7 days/week*365 days/year) of the firewall.

The website will be designed and developed in-house as we consider it too risky to outsource a commercial and marketing crucial application for ScanSoft. The web hosting will be outsourced to Easynet too. Easynet Dedicated Hosting as the service is named will host Scansoft's Internet project on a dedicated server with a direct, high bandwidth connection with the Internet, and the certainty of the secure and controlled environment of the Easynet datacentre.

The need for different applications is very diversified in the company. Having the different applications on one location and give access in function of the user would not be a solution, as the different departments use specific and well determined applications for their work. The solution to outsource the centralization and access to the different applications to an ASP seems to be complicated for different reasons:

1. It does not replace the cost of the licenses
2. The diversity of application (levels)
3. Just a change in structure and deployment
4. Preference of personalized desktops/workstation

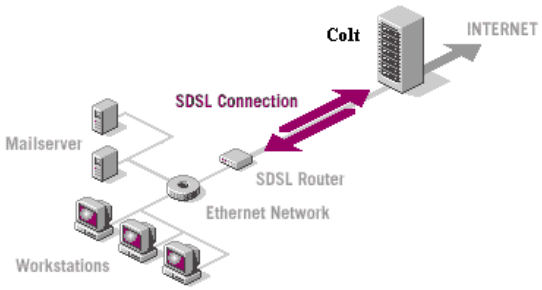
However, we have to remark it is a good solution for updating the different applications.

6.2.2 Communications

The basic communication devices such as phones and fax have to be bought/updated at several periods of time. Secondly, we will have to consider a provider for our telecommunication services. Our solution would be Colt Belgium, because of their reputation and attractive lower cost. The services are:

1) ScanSoft will deal with a single Service Provider for installation, management, billing and reporting (control, fraud, etc.)
2) ScanSoft will receive just one bill - no matter how many numbers you use or countries in which you operate
3) Your COLT numbers will be routed via a COLT Intelligent Network platform to maximize call handling efficiency and minimize call loss

Colt will also be ScanSoft's Internet Service Provider. Characteristic for COLT Interline SDSL is the combination of quality and financial value. ScanSoft's data, telephony and Internet traffic will be faster and more reliable, thus with improved efficiency. By the way, we will pay a fixed fee per month for unlimited Internet. At Colt we have the advantages of a choice between 8 analogue lines, 4 x ISDN-2, 8 x ISDN-2 or ISDN-30 (depending on the quantity of traffic) and permanent, high-speed symmetrical Internet. This is an interesting option as ScanSoft sends large quantities of e-mail. With Internet via COLT InterLine SDSL you have the choice between a symmetrical Internet access of 1 Mb/s or 2 Mb/s up- and downstream. There are 5 variations available, depending on the guaranteed bandwidth Scansoft need.



The advantages of COLT InterLine SDSL**:**

- You pay a fixed fee per month for unlimited Internet use.
- You are entitled to an interesting, monthly discount based on your total telecommunication volumes
- Low installation costs
- Unambiguous invoices and reports give you clear insight into costs and usage
- You are entitled to free national telephone calls. The number of calls depends on the service you use.

6.2.3 Overview of the estimated cost

OUTSOURCING ESTIMATED COST	COMPANY	Price [€] per year	Price [€] 3 years	Needed [€]	**TOTAL 3 years [€]**
Desktop	CERIX	799	2397	171	409887
Laptop	CERIX	1000	2999	58	173930
LaserPrinter	CERIX	841,5	2524,5	20	50490
Server (OS included) (rack model)	CERIX	2890	8670	6	52020
Firewall (hardware+service)	Easynet	2500	7500	1	22500
Webhosting (dedicated server, bandwith)	Easynet	15000	45000	1	135000
Delocated server (backups) (space, service, connect.)	COLT	12000	36000	1	108000
Colt Telecom Service (internet, router, PABX)	COLT	54000	162000	1	486000
Installation/Configuration (5 months, 2 people)	P&L Consult	50000	-	1	50000
Maintenance (8h per week, 50 €/h)	P&L Consult	20800	62400	1	62400
				TOTAL	**686.327 €**
				TOTAL	**863.900 €**
				TOTAL	**1.550.227 €**

6.2.4 Why Easynet and Colt?

Why didn't we choose just one external provider? Why did we choose Colt? Why did we choose Easynet? We did chose both because of their similitude in services on the first place and their compatibility in the second place. If one would enter in financial difficulties we could easily switch to the other one. We also didn't want to be dependent on just one provider, because this would mean that we would lose control over our outsourcing deals. At the moment they both have a good business stability and they were referenced to us by other companies (Alti SA, Sony, Kodak, Bloomberg, etc.) that had a very positive experience with them.

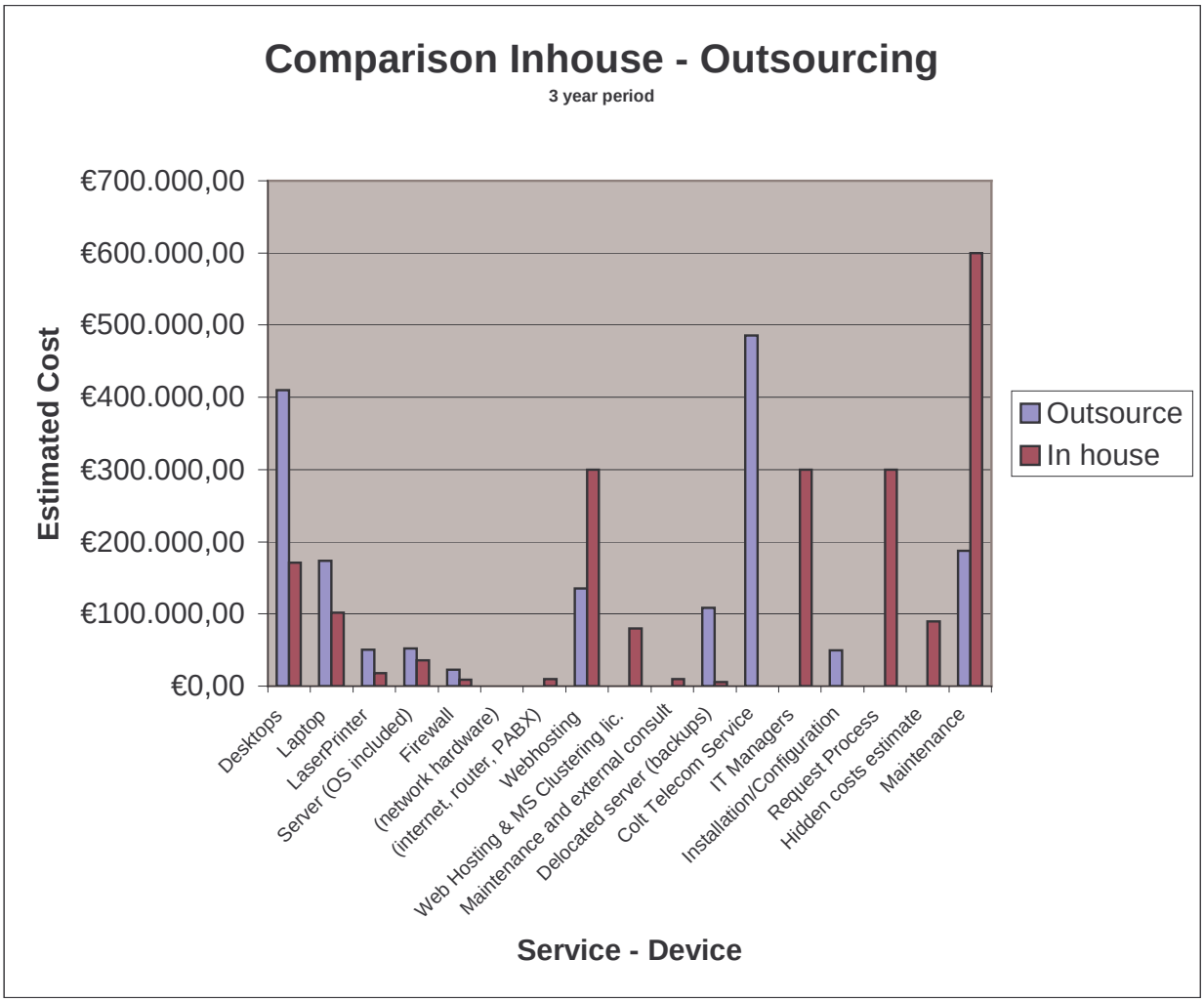
6.2.5 CRM

A CRM tool can be outsourced; our proposition is to do it through **Salesforce.com**, which provide a set of CRM tools that could be used by ScanSoft. Since the specific requirements for this tool are not drawn up, the cost estimate cannot be drawn up for this tool.

6.3 Comparison

The next cost comparison helped us to develop our recommendation. (Costs are variable and estimations are based in standard salary and market prices). Check appendix #7 for comparison summary used for plotted results.

OUTSOURCING ESTIMATED COST	Price [€] per year	Price [€] 3 years	Needed #	TOTAL 3 years [€]	IN-HOUSE	Price (per unit/yr [€]	Needed #	Price [€] 3 years
Desktop	799	2397	171	409887	Desktop	1000	171	171000
Laptop	1000	2999	58	173930	Laptop	1750	58	101500
LaserPrinter	841,5	2524,5	20	50490	LaserPrinter	900	20	18000
Server (OS included) (rack model)	2890	8670	6	52020	Server (OS included) (rack model)	6000	6	36000
			TOTAL	686.327 €				326.500 €
Firewall (hardware+service)	2500	7500	1	22500	Firewall (network hardware)	3000 5000	1 1	9000 5000
					(internet, router, PABX)	10000	1	10000
Webhosting (dedicated server, bandwith)	15000	45000	1	135000	Mail/Webmaster Web Hosting & MS Clustering lic.	50000 40000	2 2	300000 80000
					Maintenance and external consult	10000	1	10000
Delocated server (backups) (space, service, connect.)	12000	36000	1	108000	Supplementary Server (security remote backup)	6000	1	6000
Colt Telecom Service (internet, router, PABX, calls estimation incl.)	54000	162000	1	486000	IT Managers (person)	50000	2	300000
Installation/Configuration (5 months, 2 people)	50000	-	1	50000	Request Process (person)	50000	2	300000
					Hidden costs estimate	30000	1	90000
Maintenance (8h per week, 50 €/h)	20800	62400	1	187200	Helpdesk support & Maintenance (people)	50000	4	600000
			TOTAL	988.700 €			TOTAL	1.710.000 €
			SUBTOTAL	2.361.355 €			SUBTOTAL	2.363.000 €



We have to mention that Colt Telecom Service is taking the internet access with desired bandwidth in account, the different voice and data transmissions (fax,…) as the estimated cost for the calls. This was NOT considered in the in-house part.

The cost comparison can show us how in some items the investment can be beneficial in some cases while in the long run may affect us because of maintenance or upgrades. Our recommendation is not only based in this comparison but in the quality of service beneficial for the company.

7 Conclusion

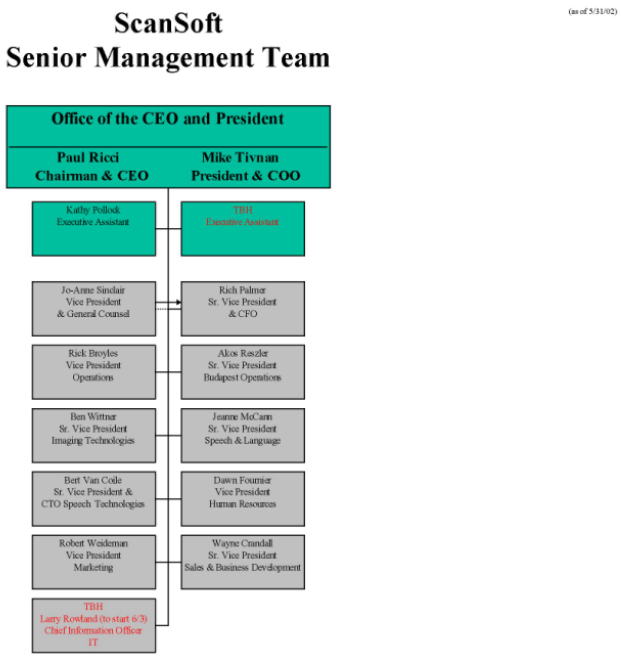
Now that we have analyzed the recommended actions for ScanSoft and that we have shown which is the best alternative for going outsourcing within its IT activities, we want to conclude with the main conditions that lead us to solve this case study. This list is based in the key question of the case trying to establish the main conditions that we take into consideration when doing outsourcing.

1. Lower total cost of ownership by spreading fixed infrastructure and software cost over many costumer.
2. Outsourcing permits ScanSoft to focus on core work, capabilities and strategic activities
3. Outsourcing gives us an idea of project costs
4. Fewer IT experts are needed
5. Faster implementation of business solutions
6. Flexibility. Less long term commitment to hardware/software and sometimes suppliers
7. Outsourcing will provide bundled solutions and simplify the administration and decision making burdens
8. Provide simple and centralized computing
9. Outsourcing takes away the pain and cost of upgrading applications and keeping up with technological trajectories as improvement and new technologies
10. Outsourcing reduces the investment risk, because it is easier to back out of an outsourcing arrangement if it fails technologically
11. Outsourcing offers a predictable and stable level of IT expenditure instead of a volatile and unpredictable IT need

By following these alternatives ScanSoft will be able to see the cost benefit of our proposal. These recommendations are based in a study of costs by the time frame of November and December of 2002; the suppliers were selected considering the market at this time, which can be afforded and reachable from the Belgian location. Considerations to outsource and considerations to set up a different outsourcing structure can be studied more in deeply, but is our recommendation something based not only in a ROI benefit but an IT perspective that will make the company work in its technology environment.

8 Appendixes

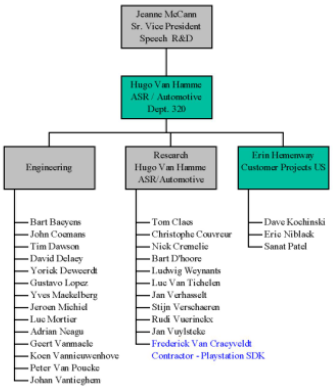
8.1 Appendix #1: Organizational chart of ScanSoft Senior Management Team



8.2 Appendix #2: Organizational chart of Speech & Language Technologies (ASR/Automotive) (team located in Ghent, Belgium)

Speech & Language Technologies
- ASR/Automotive

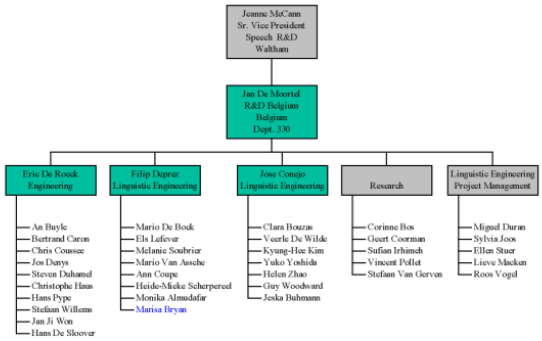
(as of 5/31/02)



8.3 Appendix #3: Organizational chart of TTS Group (team located in Ghent, Belgium)

Speech & Language Technologies - TTS (Belgium)

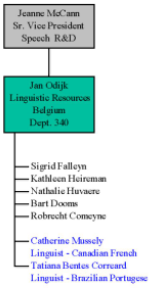
(as of 5/31/02)



8.4 Appendix #4: Organizational chart of Linguistics group (team located in Ghent, Belgium)

Speech & Language Technologies - Linguistic Resources

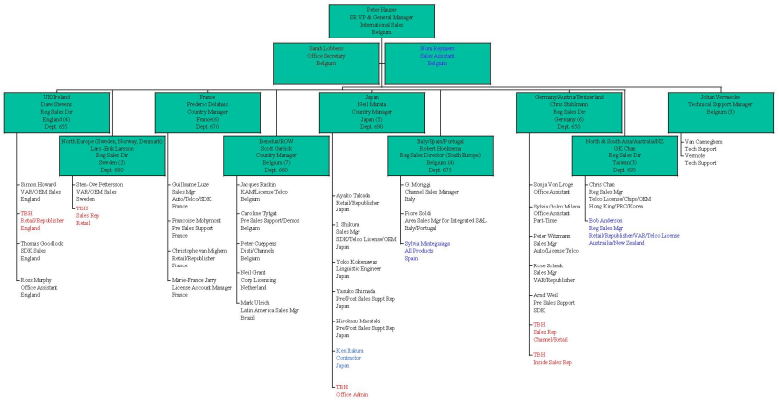
(as of 5/31/02)



8.5 Appendix #5: Organizational chart of International Sales group (full team, you should take a look at the Belgium location only)

International Sales

(as of 5/31/02)



8.6 Appendix #6: IT General requirement (PC requirement)

Information Technology - Merelbeke IT Requirements

Team		Name	Personal Computer	Laptop	Second Personal Computer	Unix System	Linux Computer
Information Technology Division							
	Director International IT	Patrick DeWaele	2	1	1	1	
	IT Support 1	Stijn V.	2	1	1		
	IT Support 2	Barbara D.	2	1	1		
	IT Support 3	Anna H.	1	1			
	IT Support 4		1	1			
	IT Support 5		1	1			
Senior Management Team							
	St. Vice President & CTO Speech Technologies	Bert Van Coile	1	1			
	CIO		1	1			
Finance & Legal Department							
	Treasury Manager	Jeffrey	1	1			
	-Order Admin1		1				
	-Order Admin2		1				
	Vice president & controler	Jerry K.	1	1			
	-Director Finance & admin	John Franken	1				
	--Financial Manager		1				
	---Accountant		1				
	--Financial Planning & Analyst		1				
	---Sales Analyst		1				
	---Financial Analyst		1				
	--Collectors		1				
	--TBH		1				
	---Entry accountant		1				
	---Order handling1		1				
	---Order handling2		1				
	-Assist Controller	Attisa Pizzaro	1				
	--Senior accountant1		1				
	--Senior accountant2		1				
	--Accounts Payable / accounting		1				
	--contractor		1				

	--AR Manager		1				
	---Accounts receivable		1				
	---Credit & Collections		1				
	-Revenue Supervisor		1				
	--Financial Analyst		1				
	--Revenue Accountant		1				
	-Budapest Finance Team		1				
	TBH		1	1			
	M&A Analysit & Financial Planning		1	1	1		
	Vice President & General Counsel		1	1			
	-Legal Counsel	Sims Preston		1			
	-Legal Counsel	Richard Wong		1			
	-EU Legal Counsel			1			
	-Paralegal			1			
	-Legal Counsel Belgium	Geo Van Langenhove		1			
	-Legal Counsel			1			
	Director of Corporate Communications	Rick Mark	1	1			
Human Resources Department							
	International Human Resources - Belgium	Nathalie Schanck	1	1			
	Payroll & Benefits Specialist - Belgium	Claudine D.	1	1			
	EU employment manager	Bart D.	1	1			
Marketing	(BELGIUM location only)						
	Marketing Director - Europe	Mark B.		1			
	EU MarCom Coordinator			1			
	European PR Events			1			
	WWW Marketing			1			
	DNS Marketing			1			
	Real Speak Marketing			1			
Speech & Language Technologies							
1	Software Engineer		1		1		1
2	Software Engineer		1		1		1
3	Software Engineer		1		1		
4	Software Engineer		1		1		
5	Software Engineer		1		1		
6	Software Engineer		1		1		
7	Software Engineer		1		1		
8	Software Engineer		1				
9	Software Engineer		1				
10	Software Engineer		1				
11	Software Engineer		1				
12	Software Engineer		1				

13	Software Engineer		1				
14	Software Engineer		1				
1	Speech Recognition Researcher		1		1	1	
2	Speech Recognition Researcher		1		1	1	
3	Speech Recognition Researcher		1			1	
4	Speech Recognition Researcher		1			1	
5	Speech Recognition Researcher		1				1
6	Speech Recognition Researcher		1				1
7	Speech Recognition Researcher		1				1
8	Speech Recognition Researcher		1				
9	Speech Recognition Researcher		1				
10	Speech Recognition Researcher		1				
11	Speech Recognition Researcher		1				
12	Speech Recognition Researcher		1				
1	Costomer Support Engineer		1	1	1		1
2	Costomer Support Engineer		1	1	1		
3	Costomer Support Engineer		1	1	1		
	Project Manager (Engineering)		1	1			
	Project Manager (Reserarch)		1	1			
	Project Manager (Customer Support)		1	1			
	Speech & Language Technologies - Manager			1			
Text to Speech technologies group							
1	Software Engineer		1		1	1	1
2	Software Engineer		1		1	1	1
3	Software Engineer		1		1		
4	Software Engineer		1		1		
5	Software Engineer		1		1		
6	Software Engineer		1				1
7	Software Engineer		1				1
8	Software Engineer		1				
9	Software Engineer		1				
10	Software Engineer		1				
1	Linguistic Engineers (Group 1)		1		1		
2	Linguistic Engineers (Group 1)		1		1		
3	Linguistic Engineers (Group 1)		1		1		
4	Linguistic Engineers (Group 1)		1		1		
5	Linguistic Engineers (Group 1)		1				
6	Linguistic Engineers (Group 1)		1				
7	Linguistic Engineers (Group 1)		1				
8	Linguistic Engineers (Group 1)		1				
1	Linguistic Engineers (Group 2)		1				
2	Linguistic Engineers (Group 2)		1				
3	Linguistic Engineers (Group 2)		1				

	4 Linguistic Engineers (Group 2)		1				
	5 Linguistic Engineers (Group 2)		1				
	6 Linguistic Engineers (Group 2)		1				
	7 Linguistic Engineers (Group 2)		1				
	1 Researcher		1	1			
	2 Researcher		1		1	1	1
	3 Researcher		1		1	1	1
	4 Researcher		1				
	5 Researcher		1				
	1 Specific Project Manager		1	1			
	2 Specific Project Manager		1	1			
	3 Specific Project Manager		1	1			
	4 Specific Project Manager		1				
	5 Specific Project Manager		1				
	Project Manager (Engineering)			1			
	Project Manager (Liiguistic Group 1)			1			
	Project Manager (Liiguistic Group 2)			1			
	Project Manager (Research team)			1			
	Project Manager (Specific Projects)			1			
	Project Manager (TTS Group Manager)			1			
Linguistic Resources Team							
	Direct Manager			1			
	1 Linguistic resource		1				
	2 Linguistic resource		1				
	3 Linguistic resource		1				
	4 Linguistic resource		1				
	5 Linguistic resource		1				
	6 Linguistic resource		1				
	7 Linguistic resource		1				
	8 Linguistic resource		1				
	9 Linguistic resource		1				
Sales Team							
	SR VP & General Manager International Sales	Peter H.		1			
	Office Scretary	Sarah L.	1	1			
	Sales Assistant	Nora R.	1	1			
	Country Manager	Scott Garlick		1			
	KAM License Telco			1			
	Pre-sales support demos			1			
	Distribution Channels			1			
	Corp. Licensing			1			
	Latin American Sales			1			
	S&L Business Development	Johan S.		1			
	Vice- President Automotive	Scott Pyles		1			
IT servers	NT server		8				
	Mail Server		6				

UNIX server					2	
Linux Server (Note that these servers must be of high capacity)						2
TOTAL	123	58	27	9	12	

8.7 Appendix #7: Summary Cost Comparison

	Outsource	In house
Desktops	€409,887.00	€171,000.00
Laptop	€173,930.40	€101,500.00
LaserPrinter	€50,490.00	€18,000.00
Server (OS included)	€52,020.00	€36,000.00
Firewall	€7,500.00	€9,000.00
(network hardware)	€0.00	€2.00
(internet, router, PABX)	€0.00	€45,000.00
Webhosting	€45,000.00	€300,000.00
Web Hosting & MS Clustering lic.	€0.00	€80,000.00
Maintenance and external consult	€0.00	€10,000.00
Delocated server (backups)	€36,000.00	€6,000.00
Colt Telecom Service	€162,000.00	€0.00
IT Managers	€0.00	€300,000.00
Installation/Configuration	€50,000.00	€0.00
Request Process	€0.00	€300,000.00
Hidden costs estimate		€30,000.00
Maintenance	€62,400.00	€600,000.00