Linnaeus University

Department of Computer Science

**Company info – GVT Book Publishing Company**

**Assignment #2, VT25**

GVT Book Publishing Company in a Swedish city. You will work with the same company in assignment 3.

**Interview with one of the company's employees**

**The server environment**

*Alex:* Well, first of all, we have Mozart (DELL PowerEdge T130) which is our original server. It is running Ubuntu server (the same applies to all servers), and then we run Apache 2.4, PHP, and Ruby.

*Consultant:* Do you operate all your server components on the same machine?

*Alex:* No. Our *database server* runs on BRAHMS (DELL PowerEdge T130), and the *web application* and *mail server* run on Schubert (DELL PowerEdge T130), nothing else. Well, *an SSH or Secure Shell server*, of course, so that we can access the servers and make some changes.

*Consultant:* How do you copy the files to the servers? And how do you administer databases?

*Alex:* We run all file operations on the servers via *Server Message Block (SMB).* Regarding the database so is everyone's data in the database on BRAHMS, and there is no need for direct access to the database server, so we do not need such access to the machines. For the administration of the books page, and customer database, we use phpMyAdmin.

*Consultant:* Have customers themselves accessed the database?

*Alex:* Not directly, only indirectly when they access our public web server that fetches books, articles, and other information from the database.

*Consultant:* Okay. Do you run your Domain Name System (DNS) Server?

*Alex:* Yes, that's right. We manage the DNS so we can easily modify our infrastructure and for instance, add some test servers.

*Consultant:* Test Environments?

*Alex:* Yes. Brahms and Schubert, we run Apache with PHP or Ruby, but we have set up a rather flexible test environment that allows us to develop, for example, Tomcat Java or Django. And then some IT-interested colleagues run their Apache server on their workstations to test things locally. It's a little up to each person to decide what they want to do.

*Consultant:* I understand. How do share files within the company?

*Alex:* First, we have a *SAMBA service* (re-implementation of the SMB networking protocol) at Beethoven where everyone can upload files. SAMBA enables Linux/Unix machines to communicate with Windows machines in a network. Later we also bought a business service from Dropbox where we can share files with each other within the company, no matter where we are. It's not possible to access Beethoven unless one is inside the corporate network.

**The network environment**

*Consultant:* How is it with access from the internet (200 Mbit/s from the ISP IP-Only), which machines can you access from the outside?

*Alex:* In the current situation, one can access Mozart, Brahms and Schubert from the outside. All other equipment is protected behind a NAT in our Cisco 1921 Integrated Services Router.

*Consultant:* And how do you handle the addresses internally?

*Alex:* The servers have static addresses, and the clients get their addresses via a Dynamic Host Communication Protocol (DHCP) server on Beethoven.

*Consultant:* How is the network otherwise structured?

*Alex:* In the server room, all the servers and our router are connected to an HP ProCurve (a network switch) and from that, an Ethernet cable up to the office where we have a couple of similar switches where all our desktop computers are connected.

*Consultant:* How many laptops do you have?

*Alex:* Well ... we are 23 employees, and all of them have desktops. So, we have about 27 computers. But then, we have also a wireless network (Cisco Aironet 1121G W-LAN AP 11G) that is for our phones or the laptops that we take with us on travels.

*Consultant:* So, all employees have laptops too?

*Alex:* No, most of them use desktops as their main computer, and then we have 4 laptops that we share.

*Consultant:* How are you doing with account management when computers leave the network? You did not mention any central user database.

*Alex:* That's right. Since the company was so small, each one has taken charge of their computer; in other words, we cannot log on to each other's computers. The shared computers are automatically logged in, so there is no problem, and on the personal computers each has its user to be able to have their settings.

*Consultant:* And on the servers?

*Alex:* It depends. On Brahms and Schubert, not all employees' have accounts. Only trusted employees can work directly with the servers. Mozart and Beethoven, however, all have their accounts, and the accounts are local.

**The client computers**

*Consultant:* How are the workstations, have a standard installation or ...

*Alex:* We have a mixed environment with Windows and MacOS, each person is using the type of machine and operating system that is most optimal for his or her work. Otherwise, I'm not so sure... they run on their machines themselves. Regarding the shared laptops, they are quite clean and standardized.

**Server room**

*Consultant:* Look, it's a little bit crowded down here in the server room ...

*Alex:* Yes, we are forced to share the basement space with Chambers on the first floor and it involves the addition that it is hard to bring down the wireless signal here, but we get pretty good natural cooling which is good. It's a bit awkward that they have their archives and their old furniture down here but so far it works well, and we have still quite a lot of space in our racks, so we do not see it as a major problem.

**Pictures of the company environment**

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Situation plan

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Airplane photography

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Exterior view



3D Floor plan