

# Mon Valley Providers Council–Special Projects

Consultant, Jérôme Berclaz  
Community Partner, Sue Kerr

## I. Situation description

---

### Organization

The Mon Valley Providers Council (MVPC) is an alliance of human service and related organizations, which are based in or have a substantial service presence in the Mon Valley. The MVPC serves as a formal network for information and resource exchange among human service providers in the Mon Valley. It involves its member organizations in Working Groups, which address crucial issues in the Mon Valley in the areas of Employment and Training, Government Relations, Health, Housing, and Youth. These five Working Groups involve the participation of 89 dues paying members and over 250 staff members of those organizations. Through these standing Working Groups, the Providers Council promotes cooperation, coordination, and collaboration among its member and participating organizations in an effort to fill gaps in human services in the Mon Valley. MVPC serves the 37 Mon Valley communities of Allegheny County. The Providers Council is a project of the Human Services Center Corporation (HSCC) and is administered and staffed by the HSCC.

MVPC was created in 1988. The MVPC's fiscal conduit is the HSCC, which administers the Westinghouse Valley Human Services Center building. The HSCC employs seven full time staff members, one part time receptionist, one older adult employee through the Department of Aging, and three student interns. Three of these full time employees and one intern staff the MVPC. The HSCC owns the Westinghouse Valley Human Services Center building and rents facilities to agencies that need it. The annual budget of the Human Services Center (including MVPC) is about \$500,000. It mainly comes from subscriptions paid by members, rental revenue for the building, donations from foundations, individuals and businesses

### Facilities

The organization is located in a 3-floor building in Turtle Creek, on Penn Avenue. This place is easily accessible, as there is a bus stop just in front of the building and a park place behind it. At the entrance, a reception desk, staffed by volunteers, orients the visitors towards the 17 organizations present in the building. A large elevator provides access to the three floors of the building. Offices and workspace for MVPC and the HSCC staff are on the second floor. Both associations share the same facilities. The reception area contains the receptionist's desk. Next to this room, we find HSCC's Director and Associate Director's office. It is a medium size room with two big desks.

Next to this office, there is a classroom, with about ten desks, which will be used for the Technology Learning Center (a new project of MVPC). The last room<sup>1</sup> is quite big and contains the offices for the rest of the staff (eight people). These offices are separated by cubicles and are very small. They only have a quite narrow workspace. All the documents that need to be archived are also stored in this room. They store material as well (like old PCs, etc.). At the end of the room, a small corridor leads to the toilets.

### Program

Mon Valley Providers Council is organized into five Working Groups: Employment and Training, Government Relations, Health, Housing, and Youth. Each of these Working Group is working on different project related to its domain. For example, the Housing Working Group is organizing a housing meeting, where people seeking for new housing can meet landlords. Therefore their program is very varied. They have to go through all phases of project realization. Computers are mainly used for word

---

<sup>1</sup> You can see the network plan in Appendix B for more detail

processing, data management and financial/accounting purposes. As they are connected to the Internet, they also use e-mail services for communication with the 89 member organizations.

## **Staff**

Dave Coplan is the Associate Director for the Human Services Center and the Director of Mon Valley Providers Council. He started with the HSCC as a student intern 9 years ago. His computer is used for typewriting, scheduling through the Palm Pilot and minimal Internet activity. He also has a DOS/WordPerfect based fund-raising software on his system. Dave handles most of fund-raising and development work. His computer is connected to the Internet by a dial-up modem, but it does not receive e-mail. Dave usually checks his e-mail on Sue's computer. He is keeping his old computer because it can run the fundraising software.

Sue Kerr is Special Project Coordinator. She also began with the MVPC as a student intern in January 1999 and was hired into her full time position in July 1999. She staffs the Working Groups on Health, Housing, Government Relations and Youth and is responsible for program development for these Groups. She also manages the mailing lists, which are stored in several databases and contains over 5'000 contacts. Her work is very various, as she is carrying out all the necessary tasks for a project realization, such as collecting funds, managing publicity... She is often traveling and has a lot of meeting. Sue is also the Technology Coordinator for the HSCC and the MVPC. She coordinates the development and use of technology in all aspects of the agency. She helps people to fix problems with their computers. She also keeps the web page of MVPC updated. Her computer is used for typewriting: she types a lot of letters, flyers... She is very comfortable with e-mails and uses it frequently. As her computer is connected to the Internet, she checks e-mail for all people that do not have an Internet connection and prints them.

Debbie Brown is the Employment & Training Coordinator and staffs the Employment and Training Working Group and the Mon Valley Business Advisory Committee. She uses her computer for word processing and some very light data management. She is learning Word and needs some more training. She often encounters problems with Windows 98 that is freezing for no apparent reason. She has no more space on her small hard disk, and would need a bigger one.

Ellen Kyzer is the Youth Programs Director for the Human Services Center. She coordinates the afterschool program (YouthLIFE) and various youth services for the HSCC. She mostly uses her computer for typewriting with Word 2000. She also has Access and can use it. She needs to become more proficient on this program to manage a planned database for the YouthLIFE program. Although her computer is not connected, she uses e-mail quite often on Sue's computer.

Sloan Hamilton is the Business Manager for the HSCC. She coordinates all of the financial and payroll work as well as the general office operations. She uses her computer for typewriting and financial management. She is learning to use Excel on her own but would need more training.

MVPC uses several interns who have varying degrees of proficiency with software.

## **Technical Environment**

Most of computer material was donated, and the rest was bought with grant monies. MVPC has a modest budget for technology that includes equipment, supplies and repairs. Therefore, these computers are quite old and slow. In the classroom, there is an unused ISDN line, which could be used for Internet access. They have four different phone lines. Three of them are used for the phones and the last one is used for the voice, fax and Internet connection. As the different computers are not connected to a LAN, they always have to ask the other staff members to disconnect, before they can go to the Internet. It is also mention that all the monitors are quite small. They are either 14-inch or 15-inch  
MVPC's Internet service is free through a local ISP. They also have a web site that is freely hosted by this ISP. The ISP gives them 3 e-mail addresses, which is not enough for all the staff.

## Technical Environment, continued

Owner	Proc	Ram	HD	Screen	Misc	Softwares
Dave	386			14'	modem 28k inkjet printer	MS-DOS WordPerfect Windows 3.11
Ellen	Pentium			14'	CD-ROM	Windows 98 Office 2000
Debby	Celeron			14'	56k modem	Windows 98 Office 2000
Intern	Pentium			14'	CD-ROM inkjet printer	Windows 98 Office 2000
Sloan	AMD K6II		10 GB	14'	56k modem	Windows 98 Office 2000
Sue	Celeron		10 GB	15'	CD-ROM 56k modem inkjet printer HP scanner	Windows 98 Office 2000
Unused	486		300 MB	12'	laptop	Windows 3.1 MS-Office 6
Unused	AMD K5	8 MB	1 GB	14'		Windows 95
Unused	Cyrix	40 MB	1 GB	14'	CD-ROM	Windows 95

### Technology Management

Sue is responsible for managing technical environment in MVPC. She tries to fix problems when they occur and to help people getting their computer working. She handles the routine maintenance. MVPC doesn't have a special procedure for requesting assistance. When somebody has a problem, he asks Sue to help him. They don't have any maintenance schedule. They run antivirus software on the computers that are connected and they use a defragmenter from time to time.

## II. Analysis of Problems and Opportunities

### 1. The Internet connection

MVPC is a link between the population of Mon Valley and the different organizations (89 members of MVPC) present in Mon Valley. Therefore, they have a lot of contacts. They try to use e-mail, because it is more practical, but they are very limited by their connection. They have four phone lines in their office, three are used for voice and the last one is dedicated to the fax and the modem. Only four of their seven computers are connected to the Internet by modems. Several people cannot connect at the same time. The people who don't have a modem on their computer use to check their mail on another computer. Sue often checks e-mail for them and print them. Their ISP gives them four e-mail addresses, so several people have to share the same addresses.

We can easily see that their Internet connection is not optimal. They are wasting a lot of time asking other people to disconnect, connecting. The dial-up line is also too slow for an office with 8 people.

MVPC is going to build a Technology Based Learning Center in a room of their office. This Technology Based Learning Center will be networked and connected to the Internet through a DSL line. One opportunity would be to connect all the computers from the office by a Local Area Network and to

connect it to the Technology Based Learning Center, in order to use the fast Internet connection. All the computers could be permanently connected and they would benefit from a fast connection.

To solve the problem of the shared e-mail addresses, they could try to find an ISP that provides enough e-mail addresses for all the staff (because they will have to change their ISP to get the DSL connection).

### *Impact*

The connection would be shared between all the computers and they won't have to wait for the long modem connection phase anymore. Every person would be able to access his e-mail account from his own computer. This would certainly give all the staff the opportunity to save time using more efficiently e-mail. This is important, as e-mail is the best way to communicate with all their 89 members. They will also be able to browse the web much faster. Setting up a LAN would have more impact:

Sue has made a lot of different databases: about MVPC's members, the housing expo, etc. Other members of the staff often need information from these databases, such as addresses or phone numbers. If all the computers are networked through a LAN, Sue could share some of her directories, in order to share the databases to the other users. They won't have to always print parts of databases.

They almost all have cheap inkjet printers that often break down. They are interested in buying a good laser printer that will be shared between all the staff. A LAN would allow them to do that.

They would like to find a software that allows them to exchange messages through the LAN. Especially, they want to leave messages when somebody is not at his office. This could only be done with a LAN. Of course, an easier possibility would be to use e-mail services.

### *Work*

After discussion with the community partner, we found that the networking of the computer was the best solution to improve the quality of the Internet connection. Moreover, a LAN would bring a lot of others opportunities, like a network printer, etc. However, since MVPC's technology budget is still small, it was not possible to buy the material for the network during the frame time of the semester. To finance the cost of the material needed for the network, they rely on grants that they should receive in Spring 2001. So, our goal, during this consulting process, was to teach Sue how to install and configure a Local Area Network, so that she would be able to set it up when MVPC would receive grants. In that way, we have accomplish the following:

- A list of all material needed and a budget
- A plan of the final network
- We have configured a small peer-to-peer network in order to practice the configuration of a LAN
- We have identified an ISP that support DSL connection
- A manual on the network installation

Sue now understands well the basic principle of Internet and of a LAN. She understands the role of the different components of a network. She is not only able to set up the network, but also to maintain it. Through the lessons on the peer-to peer network, she learnt all the steps, from the installation of an Ethernet card to the file and printer sharing. During these lessons, she shows that she was able to prepare on her own a computer ready for a network. We have also planned the different steps to build a network, so when they will receive grants, they will know what to buy and how to set it up. Sue is very enthusiastic about the LAN and has already thought about extensions like a network printer or an internal communication software.

## **7. Reusing the old computers**

MVPC has three old computers that are not used. One of them is a 386 running Windows for workgroups 3.11. It has a double-speed CD-ROM. There is also a Cyrix 686 with 40MB of RAM and 900 MB of hard disk and a CD-ROM. The third computer is an AMD K5 133Mhz with 8MB of RAM and a hard disk of 1GB. These two computers are running Windows 95, but it seems not to be well installed. The 386 is too

old and too slow to be useful. But the others, even if they are not brand new computers, can be used for basic operations like typewriting or running an e-mail client and a web browser.

The receptionist doesn't have a computer yet. They are going to receive one new student intern, who will need a computer. Dave's computer (a 386 running MS-DOS and Windows 3.11) is very slow, and it is not able to run the same programs (Office 2000) as the other MVPC's computers. So there are compatibility issues.

In upgrading the unused computers, they will become suitable ones that either the receptionist, Dave or the new intern could use. As MVPC has a small budget for technology, this is a good opportunity to spare some money, instead of buying new computers.

### *Impact*

With a computer, the receptionist could be more efficient at work. She would be able, for example, to type letters. If the LAN were set up, she would be connected to the Internet and would be able to leave electronic messages to the other staff members instead of hardcopy. With a new computer, Dave would be able to use the Internet and check his e-mails (with his actual computer, he doesn't have the software to do that). He will also be able to share documents with the rest of the staff, as he will have the same software than them.

This will also provide Sue a good opportunity to learn how to upgrade and install new hardware on a computer, as well as how to reinstall an operating system. These tasks are important for a technical coordinator, because when Windows freezes, we often have no other choice than reinstalling it.

### *Work*

After having analyzed the configuration of the three unused PCs, we have decided to put the most powerful parts of each computer together to build a new decent PC. We transferred memory, a hard disk and a CD-ROM on the K5-133Mhz. Then we installed a new Operating System (Windows 98). Unfortunately, it turned out that a part of the motherboard of this computer is broken. This creates disk malfunctions. However, this part was not useless because it gave Sue the opportunity to learn how to upgrade parts of computer and how to install a new operating system. She also learnt some basic notions about bios configuration. During this process, we identified some resources that can still be used: the two hard drives (about 1GB each) work fine and can be easily added to one of their existing computer. As several staff members complains about not having enough disk space, this could be a temporary solution.

## **1. Backing up data**

MVPC keep track of all publication they are making (such as letters, flyers, etc.). They store copy of every document in files. After years, there are a lot of documents and these files take a lot of place in the office. As these documents are almost always created with computers, the best and easiest solution would be to store them in a database, on a computer. If they want to store as well documents that they haven't created, they could scan them (but this is going to take a lot of space and time). In such a way it would be easier to retrieve a document and to reprint it instead of making a photocopy (of what often already is a photocopy). If they are going to implement the LAN, it could be a good idea to put this database on the hard disk of the Internet Gateway computer. As it will always be turned on, every one could access these data at any time.

MVPC has a lot of database, which contains all their contacts. This is very important for the organization. Sue also wants to back up MVPC data, such as her databases, to prevent for accidental deletion. She doesn't want to record all the data for several years, but rather wants to make backup from time to time. There are several possible solutions to do that backup. The best would be to use support like zip disks or tapes. CDR is quite slow and not very easy to use. There are 2GB zip disks that could fit very well.

### *Impact*

The database of all their publication will allow MVPC to save a lot of space in their office. Combine with a LAN, it will facilitate access to the documents. If they want to reuse a document and modify it, it would be easier to retrieve it from the database, than to type it again.

Backing up data will allow MVPC to be more secure and to spare a lot of time, in case a computer break down and data are lost. Once again, if it were combine with a LAN, this would allow every user in the office to make backup of his data.

### *Work*

With the conference at the middle of the semester and some unexpected issues, we did not have much time to work on this task. However, we clearly identified that the best solution for backing up the MVPC's documents was to use a CD burner (creating a database would have been too complicated, and it already exists good software that do it). A CD burner would be plugged on one of their computers. Every one should be able to store the files he wants to back up on a share folder of this computer. Then, when there are enough data to burn a CD or after a certain amount of time, these data will be stored on a CD. To retrieve the archived data, the best solution is to use a CD catalog software. The software scans the CD and builds a database of all the files. In this way all documents are easy to find. This solution is very tied with the LAN, because the CD burner must be installed on a computer that is connected, so that everybody could access to it. It won't be useful until a LAN is implemented. This backup operation is very important. It will allow them to be more secure: in case there is a system crash, they won't lose important data. Moreover, they will be able to reuse documents, instead of retrieving the hardcopy and typing it again into the computer. We also made a budget for the backup material<sup>2</sup>. It turns out that this material is very affordable. Since the price of the media (CDR) is very low too, this is a good sustainable solution.

## **III. Analysis of Outcomes and Recommendations**

### **Analysis of outcomes**

Though this consulting partnership lasted 12 weeks, only 8 weeks were spent actively working on the listed tasks. The initial 4 weeks were spent in assessment and in developing the scope of work.

The partnership with the community partner worked well. After assessing the situation, we decided to concentrate mainly on the network problem, which is the one that will have the most outcomes for MVPC. We also had time to work on the old computers. However, as it was expected, we didn't have much time to spend on the back up problem. But we were able to identify the resources needed for this operation.

During the semester, we had the opportunity to take part of a conference of the Regional Coalition of Community Builders and, through the conference, share the knowledge we have acquire during the semester with other organizations.

What follows are accomplishments and evidences that technical capacity was expanded as a result of this consulting partnership.

---

<sup>2</sup> See Appendix B

### **MVPC wants a technology plan**

After some conversation with Sue and Dave (the executive director of MVPC), they realized that they really needed to have a good technology plan and to have a real technology budget. Until now, their technology budget was mainly dedicated to the resources like ink cartridges or floppy disks. Most of their computers were donated. They have just bought some hardware to upgrade computers. Now they are working on a real technology plan. They understand that it is not efficient to upgrade a computer from time to time. They know that they have to think “long-term”. What we have done about the LAN and the backup will be integrated into their technology plan. Now MVPC is aware of the importance of the technology to do their mission more efficiently. In the future, they should try to maintain at a good level of performance. Especially if they will implement the Technology Based Learning Center, they have to be an example for the Mon Valley Community.

### **Sue is prepared to supervise and implement a local area network**

During this semester, Sue has acquired sufficient knowledge to be able to install and maintain a local area network. The plans we have developed together will help her significantly during the installation of the LAN. Since MVPC is going to network their computer soon, it is really important to have someone who is able to maintain the network and fix basic problems. In such a way they won't be dependent on some outside help. Sue has now a good understanding of how the network will be used. She will be able to plan the use of the network and to manage security. Since most of the staff is not yet familiar with networks, Sue will be able to explain them how to use it to work more efficiently.

### **Sue now has a better understanding of how a computer works**

As most of MVPC's computers are donated, they often need some upgrade to be fully operational. Sue now has the ability to upgrade basic parts of a computer. She is also able to reinstall properly a new operating system. If MVPC receives new computer, she will be able to configure them well, in order to use them as efficiently as possible. She also understands, that upgrading is not always the best solution, and that it can sometimes be better and cheaper to change completely a computer. Therefore, her better understanding of the hardware will help MVPC in developing a good and sustainable technology plan.

### **A backup solution is planned**

Currently MVPC does not perform any special backup operation, except on floppy disks or on hardcopies. With the help of the plan we have prepared, they will be able to implement a good backup solution soon. This solution will take advantage of the LAN and is really easy to realize and cheap. This will provide MVPC much more security in case a computer crash. It will also be much easier to accede and reuse an old document.

## **Recommendations**

### **MVPC staff should take lessons about Internet**

After this consulting process, Sue has now the ability to network the computer of MVPC's office. However, not every staff member is now fluent with e-mail and Internet. They will also need to learn how to share their files and how to remotely access someone else's files. This means that, in order to use efficiently these new technologies, the staff should follow lessons on Internet and e-mail, as well as lessons on file sharing. As it could be difficult to find a course that respond adequately to the staff needs, and as it is often annoying for staff members to follow such classes, they could use their Technology Based Learning Center to perform this task. Sue could teach them using the material of the Learning Center. This solution will certainly be more comfortable for all the staff. It will also cost less money.

It is really important that every staff member can use the Internet efficiently, otherwise it would have been useless to build the network.

### **Internet security**

Viruses are unfortunately quite frequent, especially over the Internet. They can do a lot of damages to a computer and often erase important data. As every computer will be permanently connected to the Internet, it will be important to use Antivirus software. Such software can detect and prevent the virus action by removing them. It is also crucial to update the viruses' database quite often, so that the antivirus knows the new viruses. The best antivirus software are McAfee and Norton Antivirus.

### **Computer policy**

In order to have a secure and reliable computer network, we would recommend creating a policy containing all the important steps to perform. This should contain, for example the rules of the backup (how and how often to backup data) or the information about updating virus databases, setting password, etc. It should contain as well the steps to perform in case of a computer crash or data loss. We also suggest to create a web page that contains this information, and to put it on a share folder of the LAN. This way, this important information is easily accessible to every staff member. It is essential to have a clear policy that states how everybody should use his computer.

### **Keeping track of the software**

Currently, MVPC has no dedicated place to store all the software and other computer related material. We have experienced that it is often difficult to retrieve a specific document. Therefore, we recommend MVPC's staff to keep track of each disks, CD's and manuals in a place that everybody can accede. It is also important to keep track of the licenses that are the proof of property of the software. A good inventory of all resources is important because it can help saving a lot of time, and it can avoid losing important things. In case Sue is not working, other staff member should be able to retrieve these documents easily.

### **Identify a network consultant**

Although Sue has now the ability to set up a Local Area Network, this can be a relatively hard task. She should find somebody that has already done this job to help her when she will do that. Students are probably the best resources here, because they don't cost as much as a professional consultant and have relatively good knowledge.

### **Publish a web page with the FAQ for MVPC's member agencies**

Sue spends a lot of time in answering questions from MVPC's member agencies about technical problems like reading e-mail or saving attachments. We recommend to create a web page containing the answers to the frequently asked questions and put it on MVPC's website, so that everybody can accede to it. This way, people will be able to find the answer to the most common problem directly on the web, without having to phone Sue.

### **E-mail addresses for each staff member**

With the LAN, everybody will have Internet and e-mail access. It is then important that every staff member has his own professional e-mail address. Sharing the same address between several people is not efficient at all, because it doesn't allow confidentiality and user always have to sort their mail. The Verizon DSL offer provides 6 addresses, which are not enough for all the staff. It could be useful to buy more addresses.

It also looks more professional to have a domain name. It could be used for the website (e.g. "www.mvpc.org) and for the e-mail addresses (e.g. "xyz@mvpc.org"). A domain name cost about \$30 a year and can be registered on sites like <http://www.register.com>. A domain name can make it easier to accede to a website. It is much easier to remember a short address like "www.mon-valley.org" than a long one like "www.geocities.com/mvpc".

### **Benchmarks**

Here are two benchmark that indicate the level MVPC should reach after the LAN installation. Not reaching these benchmarks would mean that the computers are used inefficiently. Therefore it is important to ensure that MVPC's office satisfies this benchmark after the network installation.



### **Technology Use – Organization Networks & Internal Communications**

2. Agencies with more than 5 staff members have the ability to share information electronically as well as the ability to share computer resources among themselves.
3. Agencies with more than 10 staff in one location have a computer network with a dedicated server.
4. Agencies have mechanisms in place to prevent data loss of automated business systems, staff PCs and any Network Servers.
5. Agencies with a computer network have mechanisms in place to ensure data security.
6. Agencies with a computer network use virus protection software to protect against network wide viruses.
7. Agencies with more than 5 staff members have electronic mail capabilities.

### **Technology Use – External Communication**

1. Every organization should have the capacity to access the Web, use Internet e-mail, and subscribe to appropriate listserves, bulletin boards and other online services.
2. The organization maintains a web site on the Internet that is part of its overall communication strategy and regularly updates it.
3. The organization collects and tracks e-mail addresses of its members, donors, funders, clients, in the same way it tracks other contact information.

## **Resources**

The following resources may be of assistance in implementing these recommendations and in sustaining the efforts achieved during the consulting period.

### **Antivirus**

Here are the URL of the two best Antivirus software. There you can find information about their features and price. You can also order them online. These addresses can also be used for upgrading the virus database.

-**Norton Antivirus** [http://www.symantec.com/nav/nav\\_9xnt/](http://www.symantec.com/nav/nav_9xnt/)

-**McAfee Antivirus** <http://www.mcafee.com/shopping/default.asp>

### **CD-Catalog software**

To implement the backup solution, a software that can catalogue CDs is needed. There are a lot of shareware for this task. Here are the URL of two good shareware. You can download them and try them for free during 30 day. After this period, if you decide to keep them, you have to register.

-**DiskCats:** <http://home.t-online.de/home/cranesoft/homesec.htm> A license only cost \$25

-**Pro-File:** <http://www.1-pro.com/index.html>. The full software cost \$29.95.

### **Price reference and product review**

In order to make a good technology plan, it is often useful to have information about the cost of the material. Here are some URL where you can find the current prices of computer hardware and software. However these addresses are not recommended to shop online, because most of the material they sell is delivered without documentation.

- <http://www.pricewatch.com> : However this address is not recommended to shop online, because most of the material it sells is delivered without documentation.

- <http://www.cnet.com>

- <http://www.webshopper.com>

- <http://www.buy.com> is a general online store. It is a good reference to see the price of software and hardware.

Before buying a new product, it is good to have an objective opinion on it. Here are some URL of sites that review computer material :

- <http://www.zdnet.com>
- <http://www.pcworld.com>

### **Finding shareware programs**

Shareware programs are often good and cheap product. They allow the user to try it for a while, before purchasing the license. <http://www.hotfiles.com> is a very good site to find all kind of shareware. There, you can find for example internal communication program, etc.

### **Search engines**

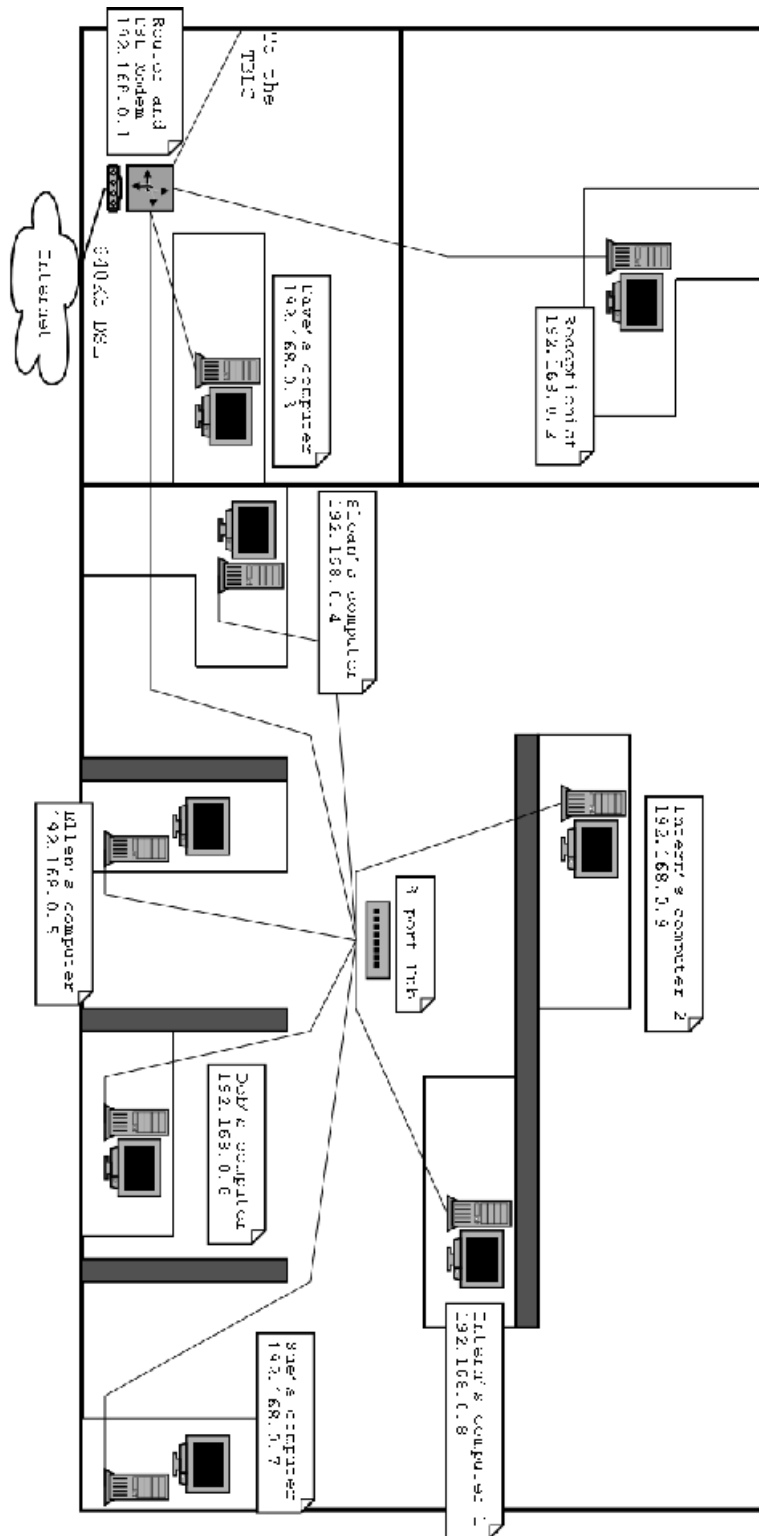
When looking for a specific topic on the web, search engines are the best place to start. These sites can quickly find thousand of sites related to some keywords.

- <http://www.altavista.com> is good general search engine
- <http://www.google.com> is the fastest search engine.

### **Web Host**

MVPC is going to have a new website. Their actual host offers 5MB of disk space. This probably won't be enough for the new site. <http://www.trfn.org> is a free web host for non-profit organizations. It could be interesting for hosting the new MVPC's web site.

# Appendix A – Plan of the network



## Appendix B – Cost estimation

<b>MVPC Networking project</b>				
<b>Material</b>	<b>Unit Price</b>	<b>Number</b>	<b>Price</b>	<b>Remark</b>
10/100T Base Fast Ethernet Card	\$15.00	8	\$120.00	PCI or ISA depend on the computer
RJ-45 Ethernet Cable			\$50.00	about 265 feet
Hub	\$80.00	1	\$80.00	8 ports 10/100
DSL router	\$200.00	1	\$200.00	4 ports with firewall
<b>Total</b>			<b>\$450.00</b>	
DSL connection 640Kb/s			\$50.00	per month
<b>Storage accessories</b>				
<b>Material</b>	<b>Unit Price</b>	<b>Number</b>	<b>Price</b>	<b>Remark</b>
CD-RW	\$250.00	1	\$250.00	
CD Catalog software	\$25.00	1	\$25.00	
<b>Total</b>			<b>\$275.00</b>	