

Networking Basics – Expected Networking Costs

Hardware:

The most significant cost of networking will be a fileserver. It is often hard to convince customers that this single device should cost so much money. A common customer response is “Why should I spend so much money on a computer that no one uses?” The key in serving the customer best in this scenario is to explain that EVERYBODY uses the fileserver and money invested in this device benefits the entire population of the network.

There are actually formal calculations for how much disk space and memory a file server will require but they are dependent on a number of factors and will not be discussed here. As a very general rule of thumb you can assume 32 MB of Ram for the fileserver operating system (Novell or NT) and an additional 4 MB of Ram for every Gigabyte of hard drive space on the fileserver.

Add to that another 4 MB for every major application running on the fileserver all the time. Take that total and round up to the closet number/size combination of memory chips your server will hold. Most motherboards will hold 4 memory chips. Memory chips commonly come in 8, 16, 32, and 64 MB sizes and are normally added two at a time.

A reasonable fileserver, hardware and installed operating system, will cost between five and ten thousand dollars.

Network interface cards can run anywhere from \$25 to \$125 each. They are cheapest if purchased in bulk and are usually available in 10-packs.

Wiring will be cheapest is purchased by the spool. CAT5/UTP wire comes in 1,000’ spools and runs about 10 cents per. foot. Coax will come in 500’ spools (or larger) and costs about 13 cents per foot. Shielded wire comes in several types and is easily two to three times as expensive as the UTP wire.

Software

After installing a network, a company will typically want to upgrade existing software packages from a stand-alone version to a network version. Upgrading the existing software licenses to buy the network version is much less expensive than purchasing the network version outright.

Even if the users have a mixture of software this is still possible. Most vendors will allow competitive upgrades. In a competitive upgrade, you essentially trade in your license on vendor A’s product for a license on vendor B’s product. This is in vendor B’s best interest since, in theory, you agree to stop using vendor A’s product and destroy your copy of it. That in turn leave one less user in the market with vendor A’s product and one less copy of vendor A’s product to generate the sale of the upgraded version of vendor A’s product.

The licensing game should be played honestly and carefully. Many companies who play loose with licensing have been forced to pay outrageous penalties, fines, and damages to software vendors. All it takes is one disgruntled employee to report the firm to the software police.

Networking Basics – Expected Networking Costs

Training

There are several approaches to the training process:

- Buy just the hardware and software and make some poor soul on staff learn to install it and teach themselves (and everybody else) how to use it in addition to handling their existing workload. This typically involves spending long hours waiting on hold for free tech support.
- Hire a new person and have them follow the same steps listed in the first example. The difference here is that they will not have the pre-existing workload of the person in the first example.
- Hire someone knowledgeable in networking and make the installation of the network and user training their priority. After the network is up and running move them over to some accounting functions to keep them busy until the network breaks. Historically, the MIS functions grow out of the accounting department since they tend to be the initial users of computers and networks in an organization.
- The mid-range solution is to take an existing person knowledgeable in how the company already operates and send them to some network training. This is the best of both worlds since this person can in theory help integrate the network into the existing operation with minimal disruption. This also saves the significant cost of hiring consultants or solution providers.
- Hire a trainer to come in and teach some or all of the staff. If work duties don't allow everyone to attend at once, those who do attend might be assigned to pass the knowledge on to those that didn't. Otherwise, you can keep the trainer for a day and have separate morning and afternoon sessions. It is generally a bad idea to hold this training after hours since workers are thinking about where they would rather be.

Training can be included in a 'package' of hardware and software purchased from a vendor. It is best to specify in writing with the vendor exactly what type of training and how many hours of each type will be provided.

If you don't have it in writing, you will usually end up not getting as much training as you expected. This is often because the customer and consultant have different perceptions of how much training is needed.

Large authorized resellers, value added reseller, (VARs), will often have training centers and scheduled classes. Training at one of these centers typically runs \$100-\$300 per. full day (depending on the course). The network administration courses are normally 3-4 days long and priced in the \$300/day range.

Networking Basics – Expected Networking Costs

Consultants

Like any other profession, there are good consultants and bad consultants. Please keep in mind that there are a lot of consultants running around with ‘certifications’ for products or operating systems who have never done a customer installation.

There is also a difference between 20 years of experience and 1 year of experience lived over 20 times. If you can find a consultant who has both experience and certification in the product he recommends, this is wonderful. It is not uncommon to find a consultant that has installed and maintained 20, 30, or 40 networks but never bothered to sit for the certification exams. In short, get references!

Consultants range in price depending on the area of the country and the number of products they are authorized to resell. The more products a company represents as a VAR, the greater their annual expenses and the more they must charge. Consultants are a bargain at any price, just ask one!

Typical hourly rates for consultants range from \$65/hr. to \$125/hr.

The Cardinal Rules of Consulting

1. The consultant is a bargain at any price.
2. If the customer is not complaining, you are not charging enough.
3. If you can't fix it, it must be a hardware problem.
4. If it's a hardware problem, the customer must have broken something.
5. The key to any profitable consulting relationship is being able to tell the customer that you've always been right and they've always been wrong and getting them to thank you for it.