The benefits of twisted pair cable

Environment, Air

The Benefits of Twisted Pair Cable By: James Hawkins Existing Office Network Environment Ocper Incorporated currently has 20 Microsoft/Windows computers connected via a ThinNet Ethernet network in a peer-to-peer client configuration. Ocper Incorporated has plans to increase 100% over the next two years requiring the network to expand as well. Ocper Incorporated currently does not have dedicated IT personnel to maintain the current network environment. Ocper has also indicated a concern for drastically changing the computing environment. Recommended Network Changes In your present network configuration of coax cabling and given the fact that you will be expanding over the next two years NCF proposes that Ocper change their network configuration to Unshielded Twisted Pair (UTP) Cat5E cabling and reconfigure your current network structure to a Star network configuration utilizing port switches for your existing peer-to-peer client connectivity. This configuration is relatively inexpensive, easy to install, configure and will give you the best cost benefit to expand, incrementally or rapidly. The Cat5 cabling allows for greater speeds, up to 1000 Mbps, and greater distance from switch to computer connection, around 200 meters. Cat5e cabling is also the most widely used type of cable and has a high resistance to cross talk and electrical interference. The proposed network configuration will allow for greater network throughput over your existing configuration. The proposed network configuration will also have much less network collisions and bottlenecks over your existing configuration. In fact expanding your existing network configuration will increase your broadcast domain and decrease your network data through put. Coax cabling is also more expensive then the Cat5 cable. Alternative Network Changes Another

possible type of network cabling for your network configuration to consider would be Fiber Optic. This type of network cabling has many advantages over your current configuration and the proposed Cat5 cabling. Fiber Optic cable allows for much great distances from the network connection devices. Fiber Optic cable is not susceptible to electrical interference at all and has a higher rate of network data throughput than UTP and coax. Fiber Optic is also the most secure type of cabling because it cannot be tapped. The downside to connecting your computers using the Fiber Optic technology is that it will cost quite a bit more than the Cat5 UTP cabling. Pricing For the proposed Cat5 UTP cabling along with the Network switch and updated computer NIC's, is estimated at around $180. 00 per computer connection for 20 computers. However, this price will vary slightly if additional computer connections are added or when you decide to expand incrementally over the next two years. The Cat5 UTP cabling will give Ocper the highest benefit for the lowest cost. For about the same price as a fully equipped desktop computer Ocper Inc. can upgrade their network infrastructure for better reliability and increasing their network throughput 10 fold. The highest benefit however will be the increase in Opcer's productivity. For the proposed alternative Fiber Optic cabling along with the Network switch and updated computer NIC's, is estimated at around $600. 00 per computer connection for 20 computers. However, this price estimate will vary slightly if additional computer connections are added or when you decide to expand incrementally over the next two years.