VTC OSI Model
**OSI Model**

To understand how or why the Open Systems Interconnection (OSI) Model works as a Network Technician is not as apparent as it may seem to be. All Network Technicians should have a strong understanding how each layer; all seven of them interact with each other and what each layers purpose is. Understanding this will help troubleshoot any problems that may occur in a network. There are tools such as websites to help learn what each function does and the website (www.vtc.com) does an excellent job of this.

There were a total of eight video presentations to watch which covered the subject material of OSI, some of which were very informative including the layers of; Data Link, Network and the Session Layer.

**Data Link Layer**

Not only did this video just instruct, it talked about some of the technical terminology that will be used in the field, such as when someone talks about layer two routing, they are talking about networking that involves the data link layer. Again the way the process was explained was not only easy to follow, it was very informative, especially when discussing the steps of receiving the raw bits being of 1’s and 0’s from the Physical Layer. Once received, it would check for any errors such as missing data. Once everything checked out, the Data Link Layer would then convert the bits of raw data into more useful data to be sent upstairs to the Network guys for further work.

Nothing is complete until there is an end statement, and the end state in this video was that the main purpose of the Data Link Layer is to organize all the bits of information into packets for preparation to go upstairs to the Network Layer. Once the packets are sent the Data Link Layer would be idle until either receiving data back from the Network Layer or the Physical Layer.

**Network Layer**

The Network Layer is one of the most important layers in the OSI, it not only receives the packets for the Data Link Layer, but is concerned with the Addressing issues within the network itself. This layer reads the packets from the Data Link Layer, checks the packets for its destination IP address and then compares that to its own IP address.

This layer is where a lot of switching and routing occurs due to the fact that this layer is where all the IP address functionality takes place. Once the Network Layer has done its job, it will then send the data upstairs to the Transport Layer to take over, and then to the Session Layer.

**Session Layer**

The way the video started out visualizing the Session Layer to that of the Bridge on the U.S.S. Enterprise from Star trek automatically made this layer the brains of the operation. Just like Captain Kirk, who manages the entire flow of the starship, the Session layer is managing the transportation process of the first four layers.

The Session Layer is responsible for making sure there is a connection to another computer, basically managing the dialog between the two computers, the same way a mediator will manage a
Session Layer

debate, in some sort make sure they are debating the same subject matter. The way the video mentioned how the Session Layer complete everything with a handshake, what language are we going to speak was an excellent analogy.

Of the seven layers, these three were the most informative and probably the most important in the OSI Model, not taking away from the other layers, it just seem these three have the most responsibility, and were Once a network technician understands how these layers incorporated each other, the troubleshooting procedures will become second nature, and just like a good car mechanic who can tell what's wrong with an engine just by listening to it, a good network tech will be able to figure out what is wrong with the network from looking at the symptoms.