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## Regarding category-5e versus category-6 cabling

- ❖ Kray's general rule-of-thumb is to recommend installing category-5e if the network life and/or facility lease are less than three to five years.
- ❖ If the network life and/or lease are greater than three to five years, then category-6 will provide significant benefits over the long term, assuming all network components are gigabit speed.
- ❖ Properly installed category-6 cable will deliver up to 250 MHz of bandwidth, which is more than double category-5e cable 100 MHz bandwidth.
- ❖ Bandwidth determines the amount of information that can be carried at a given point in time, similar to the number of highway lanes determining the number of vehicles that can be on the road at the same time, regardless of speed, or similar to size of conduit determining the amount of water flow. More bandwidth allows more information to be carried per unit of time.
- ❖ More bandwidth is used when downloading videos, sending and/or receiving data intensive files and other large data applications. High resolution video images require a large amount of bandwidth.
- ❖ The difference in access speed between category-6 and category-5e is noticeable for users who receive and send applications that can take advantage of larger bandwidth, allowing data to transfer at the speed limits of the network equipment and cable.
- ❖ Category-5e can support gigabit speeds; category-6 is certified to handle gigabit and generally performs at higher speeds. Category-6 is better suited for environments that have interference from lights, electrical power or other equipment.
- ❖ Category-5e is more economical; the cable is less expensive and somewhat easier to install.
- ❖ *Category-6 cable is a more expensive and highly engineered precision cable which is craft intensive to install and/or service correctly.*