BANDWIDTH USAGE IS ONLY INCREASING. MAXIMUM USABILITY DEMANDS CATEGORY 6A.

Twisted-pair Ethernet: Copper Cabling for High Performance Networking

Real-Time Applications

Today, many of our applications are time sensitive. Voice over IP and Video over IP require that the data packets be sent across an IP network at a particular time and in a particular order. Unlike normal data transfers (e.g., file transfers), if a packet cannot be decoded, these applications cannot ask the transmitter to resend the missing data.

If the problem is bad enough, it can completely interrupt the communications. Therefore, it is recommended to build margin into the network by using minimum Category 6A rated cabling for real-time applications. The two video captures above demonstrate a comparison of streaming video running over a minimally compliant Category 5e cabling versus a Category 6A cabling.

Cabling System	Average Throughput*	Response Time
Category 6A	86.83 Mbps	41.46 seconds
Category 5e	0.454 Mbps	2.20 hours

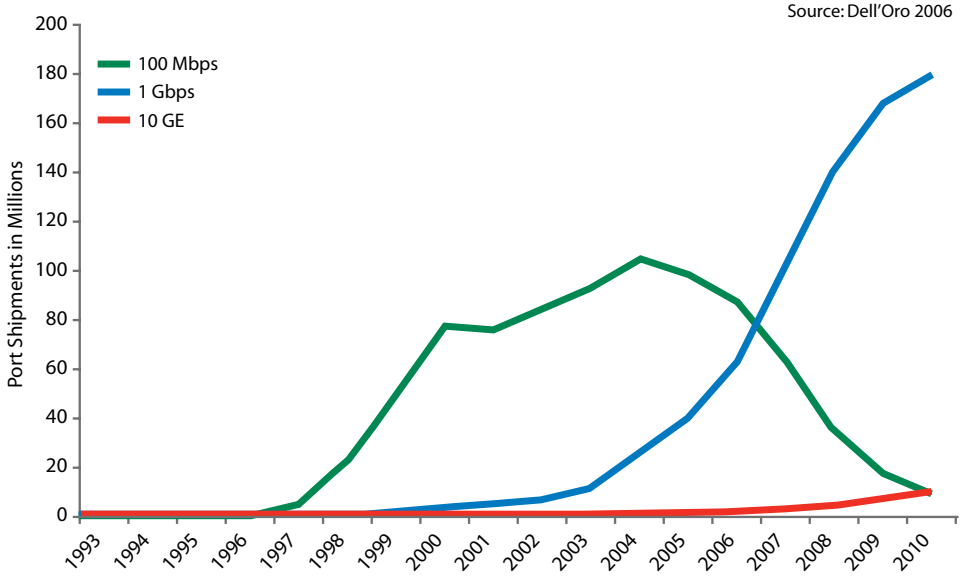
* These frame error rates represent the file transfer of data packets over a 100Base-T Link using a marginal Ethernet adapter and switch port.

Source: Anixter Infrastructure Solutions Lab
Content contributed by Anixter and Solarflare

Using category 5e cabling

Using category 6A cabling

Source: Dell'Oro 2006



Ethernet has become the default network communications protocol and has evolved from first generation 10 Megabits per second (Mbps) speeds that were predominant in the early 1990s to the 10 Gigabits per second (10 Gbps) of today's networks. As illustrated in the chart above, according to Dell'Oro, by the end of 2007, it is expected that one Gbps port shipments will exceed 100 Mbps port shipments.

Click here to view a copy of our white paper or contact your local Anixter representative at 1.800.ANIXTER.

TECHbrief℠