

What is data worth to you?

The answer depends on just how much it costs an organization to move all of their information from one location to another.



Having just passed the midway mark of 2007, this is a good time to reflect on where we are today and where we are going. For example, I was pleasantly surprised to find a flyer

advertising flash memory for sale at my local drug store for \$14.99 for 1 GB plus a five-dollar mail-in rebate.

I bought two at that price. It is a very affordable to pay for memory in a small package that can easily get lost among the keys in your pocket.

There is more to this than the cost of the hardware. What about the data itself? How much is that worth to you?

A friend of mine has an impressive collection of music on his I-Pod, all catalogued by artist, genre of music and favorite song list. There is 80 GB of data stored on that I-Pod that can contain thousands of songs, music video clips, TV episodes and movies in a compressed format.

Today, you can download the songs from I-Tunes for 99 cents a song or \$1.99 for a television episode. The soft cost of all that data, such as the creative content and the time and effort to compile the information, is worth a lot more than the cost of the hardware.

When it comes to new digital storage technology for HDTV movies, the highest quality large screen digital TVs can display a resolution of 1920x1080p (progressive), which is twice the resolution of conventional HDTV that displays a 1080i (interlaced) format.

The new 1080p HDTV movies are recorded on a Blu-ray DVD disc with a capacity of up to 50 GB in dual layer format for a 2 1/2 hour movie at 40 Mb/s.

These DVD players are just coming on the market and are still very expensive. It will not be long before they become commonplace and priced at a point that the average consumer can afford.

Moving costs

That leads to another question, namely how much does it cost to move all of that data around?

It is not unusual at work to generate large test files in the laboratory when testing cabling for internal and external (alien crosstalk) parameters.

The server can quickly fill up with hundreds of GB of data. As an example, how much time do you think it takes to transfer 50 GB of data, which is equivalent to

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400,000,000,000 bits of information? Assuming an efficiency of 67% for the networking protocol, one minute at 10 Gb/s compared to 10 minutes at 1 Gb/s and 1 hour and 40 minutes at 100 Mb/s.

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What type of cabling is required to support a data transfer rate of 10 Gb/s? For new installations, there are four choices: 10GBASE-LR over single mode optical fiber for distances up to 10 km, 10GBASE-SR over laser optimized multimode optical fiber for distances up to 300 metres, 10GBASE-T over

Category 6A balanced twisted-pair copper for distances up to 100 metres and 10GBASE-CX4 over twin-ax cable for distances up to 15 metres.

The choice comes down to economics and is dependent on the cost of network interface cards and network switch port costs. 10GBASE-T copper switch ports and NIC cards are just coming on the market and will be more widely available later this year.

The cost per port for 10GBASE-T equipment is projected to cost about half the cost of 10GBASE-SR, and significantly less than 10GBASE-LR.

In discussions I have had with leading chip vendors, they are excited about the potential that 10GBASE-T offers for a low cost and a lower power solution as the next generation of networking technology becomes more widely deployed in the market.

Likewise, the cabling vendors are meeting the challenge with innovative 10G cabling products in the market that offer higher density while exceeding the demanding requirements of Cat 6A performance.

Cat 6A cabling is required in order to support the next generation of Ethernet. Most of all it comes back to the fundamental question, how much is that Gigabyte of data worth to you?

It will not be long before today's high-speed server will be tomorrow's desktop computer and 10 Gb/s will be an essential reality to support the operating systems and applications designed to work with terabytes of data for high resolution imaging, high definition video and high speed data processing.

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