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Just A Moment…
IT Commentary

The Rainbow Connection?

by Leon A. Enriquez

In the information age, networks connect people regardless of geographical distances. Just stop and consider the communications network operations of today, and you'll be dazzled by the complexity involved.

What this means is that the amount of data traversing the normal telephone cabling infrastructure from end-to-end is phenomenal. And obviously, there are limits to the amount of data that the predominant copper wires can carry before such conduits become saturated. What follows is that bandwidth limitation is becoming more and more of an issue here.

Fortunately, there's a solution in place but it has been very expensive to implement to complement and enhance the existing cabling infrastructure. Called fibre optic cables, these represent the special area where the spectrum of light waves are deployed to transport data by means of what is generically known as the rainbow connection.

The communications networks of the new millennium are simple to highlight. What we now have are the highways of light that circle the globe to enable the information superhighway. These are capable of transmitting massive amounts of information though the use of optical technologies. And the speed is only as slow as the speed of light.

For instance, the equivalent of millions of telephone calls can be transmitted on a single fibre optic cable that is thinner than a human hair. Yet, more is in store even as current advances in optical technologies appear astounding in their capabilities. And this is just the tip of the iceberg of optical innovation, if the emerging results coming out of the research labs are anything to go by.

There is presently an explosion in the amount of traffic surging through the global information pipelines. This significant proliferation is evidence of the rapid rate of adoption of newer and better communication technologies. And regardless of the applications that are generating more network traffic, it is safe to say that most of these will be carried by the underlying optical network infrastructure.

Industry observers note that as the various transactions migrate to the online world, it appears that the entire socio-economic fabric is undergoing a profound change. Consider the case of e-mail. Can you imagine life without it? Though this option did not exist a few years ago, one certainly cannot imagine working without e-mail in today's context.

We are truly at the start of a communications revolution with optical networking. Surely increase in capacity, variety of applications, and quality of service requirements are placing enormous demands on the existing networks. To rise to the challenges of meeting the needs of increasing bandwidth, we will continually explore new technologies such as better fibre optics, selective bandwidth management, new generation data equipment, and increasing system integration so that the optical network will exceed such demanding expectations.

Suffice to say that the optical technologies such as DWDM (Dense Wave Division Multiplexing) will be the means where the information conduit will be borne by the rainbow connection more efficiently and effectively.

There is compelling reason to believe that bandwidth will get cheaper, and this in turn will fuel and spur even more innovative ways to exploit the communication infrastructure. Ultimately, the optical revolution -- which is only now beginning – will advance quickly towards an always-connected world where bandwidth is not only cheap but reliable and unlimited.

One thing is for certain, we will continue to have surging appetites for even more bandwidth. And the rainbow connection will be the way to create a lasting impact.

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