

Posted to the Gilder forum - December 8, 2000

## Optical Vision

John Foskett posted an interesting article about the optical Telecosm

Deep Ignorance on the Optical Front

by Steve Steinke, Editor-in-Chief

Network Magazine

12/05/00, 12:47 p.m. ET

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My reply:

This writer starts out with an interesting proposition and quickly gets totally lost. The interesting proposition is:

>>>It's true that a single fiber suddenly carrying 160 channels where it previously only carried one is 99 percent less costly per bit. It's true that the extra capacity doesn't require new trenches and rights of way. However, the multiplexers, switch and router ports, lasers, amplifiers, and regenerators that are required for each wavelength aren't negligible expenses.

This is only partly correct: the multiplexers, switch and router ports and some lasers are required for each individual lambda. Not so the erbium doped amplifiers and the regenerators (PowerShaper) which work on the whole set of lambdas in the fiber as a single unit. This error places the writer in the age of electronic regeneration and it shows that he has little vision for the future. let me explain.

Steve Steinke is assuming that there will be no innovation beyond a speeding up of the present state of the art and he uses the Microcosm as his model. It is true that, after the transistor was invented, nothing really new has come out of the Microcosm except that everything has been made smaller, closer together and connected with wider busses. This is the essence of Moore's Law. The paradigm shift was from vacuum tubes to solid state. Nothing much else has changed since. We are still using von Neumann's computers and software development with Java is not too different from the code we wrote 40 years ago. If you don't believe me, ask the guys who are trying to solve the MWM problem right here.

What Steve Steinke says about DWDM being restricted to the core is true while we don't find adequate means of connecting the users to each other and to the servers. (Read Connectivity is King). At this stage, users are connected to caches at the edge with slow hookups. The only way to achieve true "connectivity" is by getting rid of the costly switching gear and by this I do not mean replacing expensive SONET with cheap Ethernet. I mean getting rid of the switches altogether! And this is what Cao's law is all about.

>>>What makes me the maddest when nonspecialists write about network technology is the cheerleading element.

I wonder if this guy is mad a Jules Verne as well? Verne invented (or at least wrote about) television, submarines and space travel and he was not a technician in any one of these fields.

GG gives us the vision available only in the Field of Dreams which he collects by talking to the most advanced scientists and entrepreneurs who are building it and then presents it to us in his characteristic GilderSpeak. Thank you George for having the flight of vision that allows you to go beyond the conventional wisdom available from most technocrats.

Denny

"Demand creates queues. Supply gets rid of them."