

spotlight_US

US-based Optical Internet Forum helps light up the net

OIF fosters world-wide cooperation to encourage innovation in optical networking. Now it's helping the 100-Gbit/s generation of fiber optic transmission systems become a reality.

By Jeff Hecht

Innovation and interoperability are essential in the global telecommunications network, but a delicate balance must be struck between the two so the net neither fossilizes nor fragments. Maintaining that balance is a central goal of the Optical Internetworking Forum, a nonprofit organization based in Fremont, California that brings companies together to establish frameworks for optical-networking technology.

Founded in 1998, OIF develops common hardware and software interfaces to assure proper network operation without restraining development of new technology. Members include telecommunications carriers, system suppliers, component manufacturers, makers of test equipment and academic researchers. OIF says the whole industry benefits from working together to develop "the building blocks

for highly intelligent, reliable, interoperable networks and services that drive down costs while helping to globalize network access." In other words, everybody wins by establishing ground rules that prevent costly format wars like those between high-density video disc standards, yet encourage competition in producing compatible equipment.



OIF, located in the US, provides a platform for worldwide cooperation to encourage innovation in optical networking.

Although physically based in the US, OIF welcomes international members. Two of its seven board members are

from European companies, and its president is from the US branch of the multinational Alcatel-Lucent. Half of its corporate members come from North America, a quarter is from Europe, and another quarter are from Asia and the Pacific. Special reduced-rate memberships are available for academics and small companies.

OIF doesn't just talk; it demonstrates interoperability. In 2009, it demonstrated the interoperability of Ethernet delivered through various signal-transmission optics, and of resilient services for restoring network operation. Like optical networks, OIF is not just about network optics. It also develops interfaces for network operating software, and for electronic input to optical systems. Past successes include common electrical interfaces used by all 300-pin optical transponders operating at 10 gigabits per second.

OIF is working to aid deployment of systems transmitting 100 Gbit/s. "Much of our focus the last couple of years has been on projects related to 100 Gig," says Jim Jones, an Alcatel-Lucent engineer just named OIF President. "By picking a modulation scheme for DP-QPSK [dual-polarization quadrature-phase-shift keying], we were able to facilitate companies moving forward" with investment in photonics development, says Dave Stauffer, an IBM engineer who heads OIF's Physical and Link Layer working group. Another important project is shrinking 100-Gbit/s module size and cost by shifting the electronic interfaces from 10 inputs at 10 Gbit/s to four delivering 25 Gbit/s.

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