Moore’s Law Meets Shannon’s Law:
The Evolution of the Communication’s Industry

Lee Harrison
General Manager
Optical Ethernet Operation
Intel Corporation

Abstract

The insatiable demand for data and connectivity at the user level, driven primarily by the ever-increasing horsepower of the desktop computer, has dramatically impacted the evolution of the communications market. In a period of 20 years we have progressed from 300 baud modems to multi-terabit fiber backbones. However, the downside to rapid evolution is that it often creates industry fragmentation and broad market swings.

The presenter will briefly review the history of the communications industry demonstrating how it has evolved in relation to the desire and need to move vast amounts of data swiftly and cost-effectively. He will also examine the industry today - what new demands and requirements are testing today’s designers, how the current technology constraints are being addressed, and how and where Intel intends to play. Finally, he will discuss the complex requirements of the communications industry moving into the future and the likely direction of potential solutions to meet these rapidly changing demands.

Lee Harrison is general manager for the Optical Ethernet Operation, OEO, within Intel Corporation. OEO is focused on developing components for the 10G Ethernet markets. He joined Level One Communications in 1993 and at the time of their acquisition by Intel, Harrison was Level One’s vice president of operations. Throughout his career at both Intel and Level One, Harrison has been a strong proponent of design for test and manufacturability. He was a member of the SOC (System on Chip) Advisory Committee for the Fabless Semiconductor Association and was recently a keynote speaker at Intel’s annual Design, Test, and Technology Conference speaking on the industry trends in SOC development.

Prior to joining Level One, Harrison worked at Compaq Computer in the materials organization, focusing on ASIC and VLSI testability. He began his career at Advanced Micro Devices within the communications group, evaluating mixed-signal devices. Harrison received an MSEE from the University of Texas at Austin where he specialized in VLSI design. He received his BEE from Georgia Institute of Technology.