

OPTIWAVE INNOVATION HIGHLIGHT

Optiwave

COMPANY OVERVIEW

Optiwave provides innovative, high-guality design automation software for the entire spectrum of the photonics industry, including fibre optic networks. They aid in the development and growth of a new global Photonics Design Automation Established in 1994, sector. Optiwave Systems Inc currently has a community of over one thousand users in over than eighty countries. Optiwave's advanced services offer clients distinct competitive advantages, quality, productivity, and cost-effectiveness to improve their time to market.

LOCATION: OTTAWA, ON

TECHNOLOGY



Network Transport

Ahmad Atieh, VP Optical Systems Optiwave ahmad.atieh@optiwave.com optiwave.com



CENGN rick.penwarden@cengn.ca cengn.ca/projects

THE NETWORK TRANSITION TO FIBRE OPTICS

Traditional copper and coaxial cables are still used in the network service provider industry, but the transition to fibre optic cables is becoming more common due to its enhanced speed and optimization of bandwidth. However, planning, testing, and simulating fibre optical network configurations is required before a company can properly assess the most effective way to deploy a fibre optic network that addresses the current and future needs. Advance modulation schemes are explored to enhance the transmitted capacity. The proper modulation scheme choice is a challenge that need to be considered in the deployment of fibre optic systems.

OPTISYSTEM: SOFTWARE DESIGN FIBRE NETWORK SIMULATOR

To satisfy this problem, Optiwave offers OptiSystem: a powerful software design tool that enables users to plan, test, characterize and simulate nearly all types of optical links in the transmission layer of a broad spectrum of optical networks. As fibre optic technology continues to evolve, so does OptiSystem, adding new feature sets and network tools to keep its simulations accurate and current. Optiwave provides companies with the ability to simulate their networks and test new configurations and functions, so when their clients are ready to deploy or modify their fibre optic networks, they can do so with ease and confidence.

TESTING OPTISYSTEM WITH GPU

Optiwave leveraged the CENGN Testbed to test OptiSystem's GPU compute capabilities, running extensive optical system simulations and comparing them for accuracy to true fibre optic network results. Numerous performance measures were tested to improve OptiSystem's platform and to develop market materials and specifications. Working with CENGN allowed Optiwave to identify improvements in their simulation models, helping them outperform their competitors and guarantee upcoming success.

"The testing allowed Optiwave to provide realistic and valuable recommendations to customers on using GPU and multithreading in OptiSystem software for their applications."

> **Ahmad Atieh** VP, Optiwave