

# Distributed Path Control in WSON Networks

## —Experimental Proof at Field Trial—

Mitsubishi Electric demonstrated automatic operations and fault recovery of wavelength paths in all-optical core/metro networks by extending GMPLS.

- Optical impairments are monitored, managed as routing constraints, and compensated to establish wavelength paths automatically.
- Extended GMPLS protocols enable chromatic dispersion compensation control using optical supervisory channels.
  - Automatic measurement of dispersion using enhanced LMP.
  - Advertisement of impairment constraints by extended OSPF-TE.
  - Route selection and resource assignment based on the constraints.
  - Establishment of wavelength paths by extended RSVP-TE.
  - Dynamic dispersion compensation by electronic pre-equalization.
- Field trial on the JGN2plus optical testbed confirmed establishment of wavelength paths with compensation control of pre-equalization transponders.

