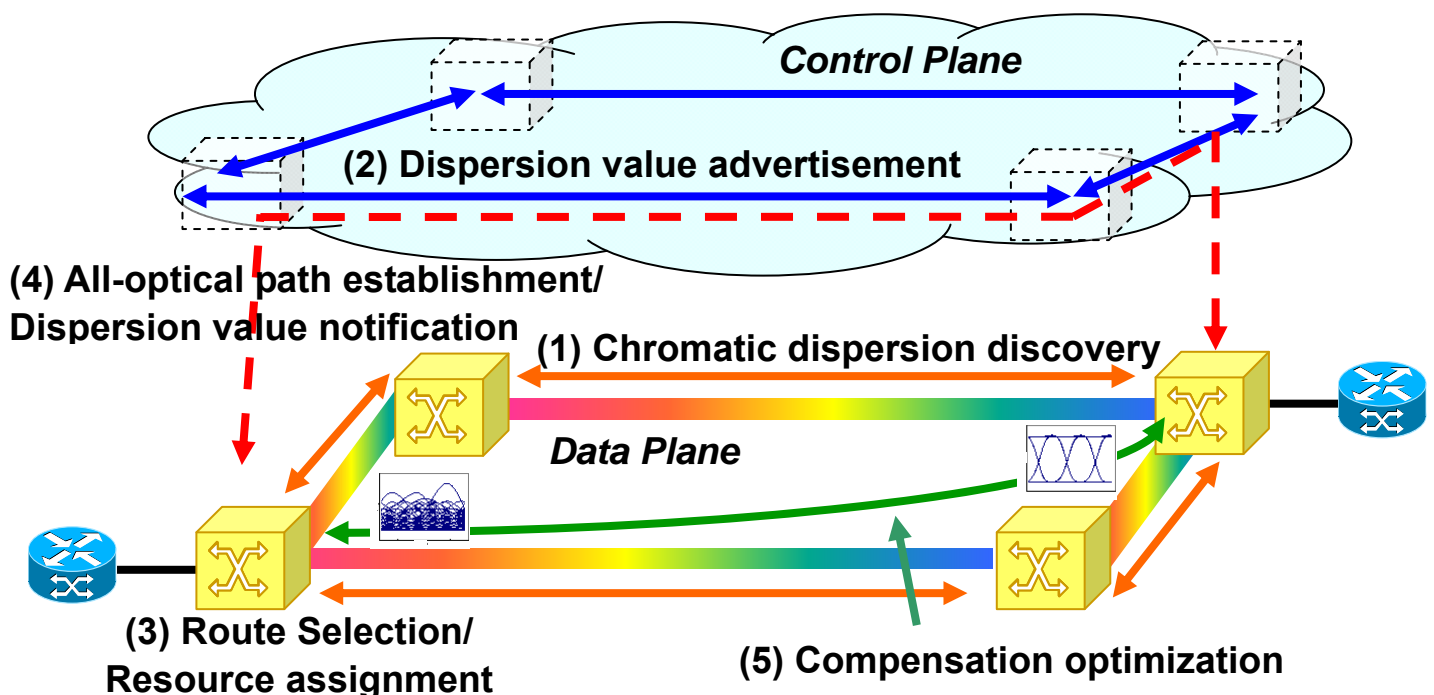


Distributed Path Control in WSON Networks

—Experimental Proof at Field Trial—

- Enabling automatic operations and fault recovery in large all-optical networks by extending GMPLS.
- Optical impairments are monitored, managed as routing constraints, and compensated to establish all-optical paths automatically.
- On-line chromatic dispersion compensation control using optical supervisory channels.
 - Automatic measurement of dispersion using enhanced-LMP.
 - Extended OSPF-TE distributes impairment constraints.
 - Route selection and resource assignment.
 - Extended RSVP-TE signaling establishes all-optical paths.
 - Electronic pre-distortion dynamically compensates the dispersion.
- Succeeded in switching wavelength paths with GMPLS-based compensation control of pre-distortion transponders at field trial on JGN2plus optical testbed.

Enhanced GMPLS Procedures and Architecture

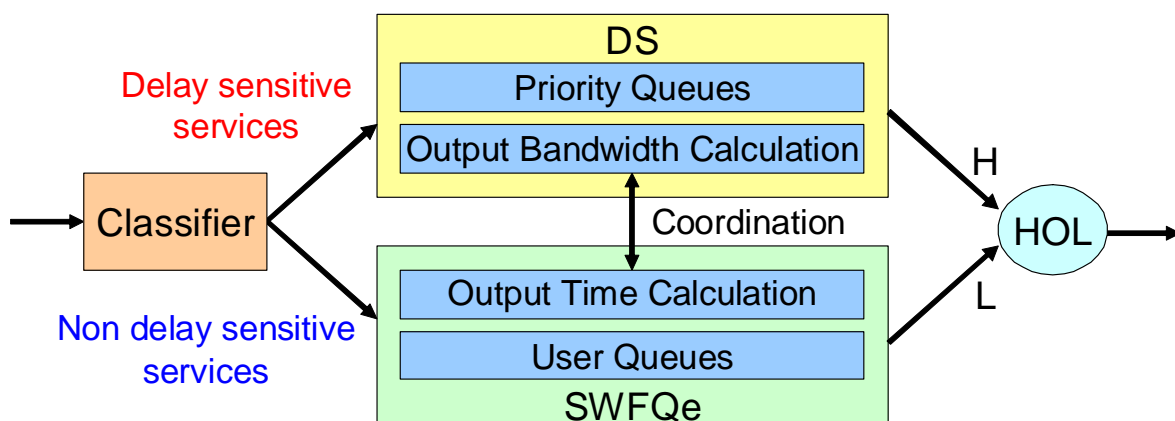


High Speed Packet Aggregation Technology

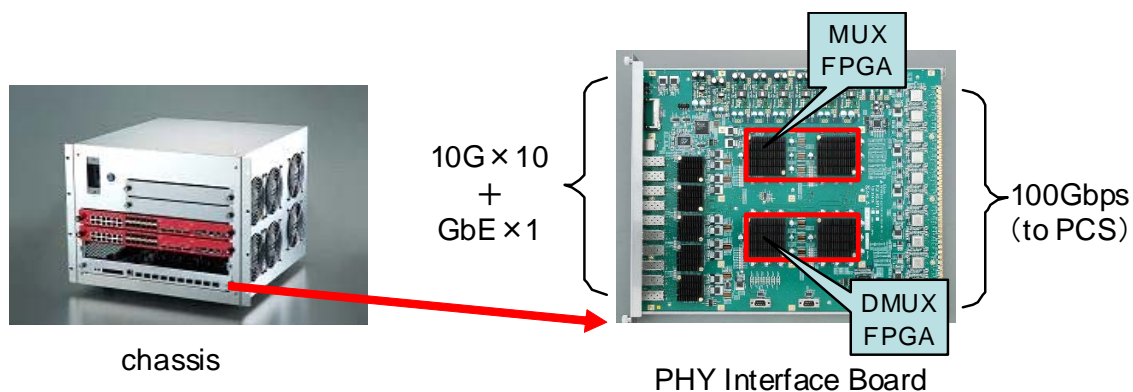
— DS-SWFQe* Scheduling Algorithm —

- DS-SWFQe is applied for Layer 2 and 3 Switches to aggregate a large number of flows for high speed interfaces.
- Features :
 - Guarantee both minimum bandwidth per user and small latency for delay sensitive services
 - Small hardware circuit size less than 1/30 compared to conventional WFQ
 - Low power consumption by reducing clock rate

* Delay Sensitive - Simplified Weighted Fair Queuing enhancement



DS: Delay Sensitive, SWFQe: Simplified Weighted Fair Queuing enhancement, HOL: Head of the Line scheduling
DS-SWFQe Configuration



DS-SWFQe Evaluation Board