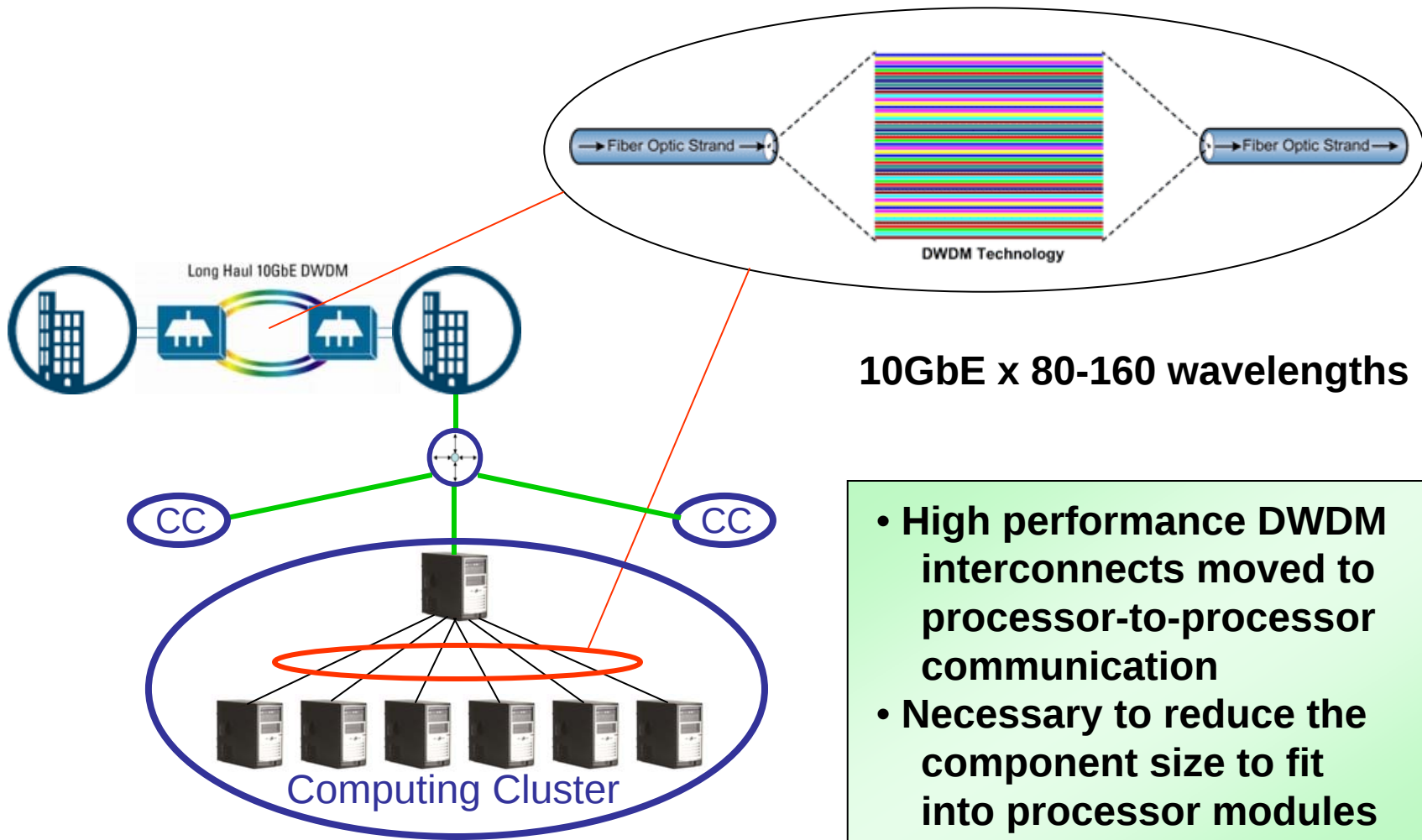




Use of Dense Wavelength Division Multiplexing (DWDM) Optical Interconnects to Improve Processing Architecture Connectivity





Air Force Research Laboratory Highly Integrated Photonics (HIP) Program



Three Phase Program Overview

	Phase I	Phase II	Phase III
Length	12 Months	33 Months	42 Months
Scope	Architecture Formulation/ Core Technology Demo	Functional Prototype Devices	System Application Development
# Tech. Suppliers	1	2	4
Network	Backbone & Bus: Broadcast and Select	Bidirectional Bus: Broadcast and Select	WDM Star: Broadcast and Select
Outcome	Test Chips	Functional Chips/ Lab Functional Demo	Qualifiable Demonstration in Application Form Factor
			

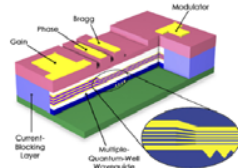
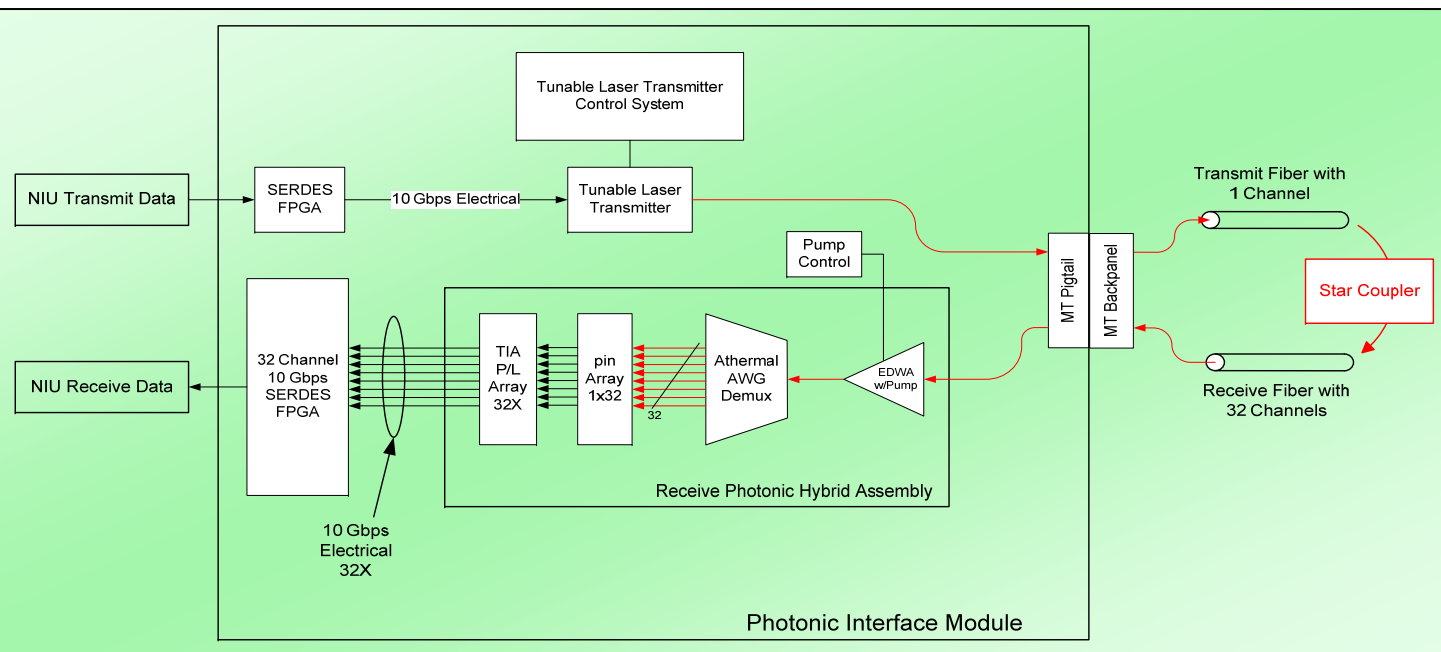


Air Force Research Laboratory Highly Integrated Photonics (HIP) Program

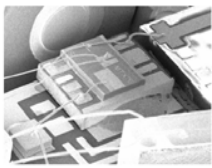


Phase III Component Overview

- Optically transparent network
- Fault tolerant passive star
- Broadcast and select pushes packet routing to edges.



TEML schematic diagram:
DBR laser + EA modulator



SEM micrograph of a TEML chip
fabricated at Multiplex

