



# F10-A 10G AGGREGATOR MODULE

For the 4200 Family

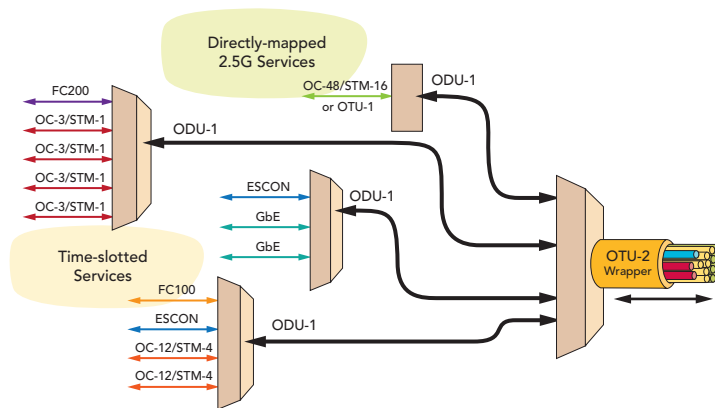
## Features and Benefits

- Aggregates any mix of services, up to 10G payload on a single OTU-2 stream
- Provides flexible grooming solutions via any-to-any distributed switch
- Promotes scalability and flexibility; eases maintenance
- Supports a variety of pluggable SFP interfaces, from 10 Mb/s to 2.7 Gb/s on the same module
- Provides complete non-blocking switching using dedicated any card-to-any card connectivity
- Integrates electronic network protection switching for vital 2.5G services; offers optional 10G network optical protection switch
- Provides superior optics capabilities resulting in extended transport distances for regional applications up to 1500 km
- Prevents errors to existing services running on the same module via hitless service provisioning
- Resolves ODU-1 timeslot assignments for optimal bandwidth utilization

The F10-A is a service aggregation and grooming module for the 4200 Series that can combine 2.5G services such as OTU-1 and OC-48/STM-16, with time-slotted services like Gigabit Ethernet (GbE) and 2G Fibre Channel.

Acting as the second stage of the Optical Transport Network (OTN) multiplexing process initiated by Ciena's M3S and M6S multiservice modules, the F10-A improves bandwidth utilization and frees valuable network capacity by efficiently combining multiple services from the M3S or M6S modules into a single G.709 OTU-2 (10.7G) wavelength with complete service transparency, meaning that each client bit is delivered at the far end exactly as it was received at the near end.

The F10-A optimizes the bandwidth utilization of a given service mix using a timeslot interchanger. The M3S and M6S first multiplex time-slotted and 2.5G services directly into 2.5G ODU-1 streams that are then switched across the backplane to the F10-A. The F10-A then combines up to four ODU-1 streams to form a single ODU-2 stream at 10G, which is then appended with OTU-2 overhead and Forward Error Correction (FEC) and transmitted as an OTU-2 wavelength at 10.7 Gb/s. Operators can use the



The F10-A module supports any mix of 2.5G and time-slotted services. ODU-1 payloads are remapped during ODU-2 aggregation to optimize bandwidth utilization.