Cisco Remote-PHY Solution Deployment

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Design Considerations

This section helps you prepare for deploying the Cisco Remote-PHY solution.

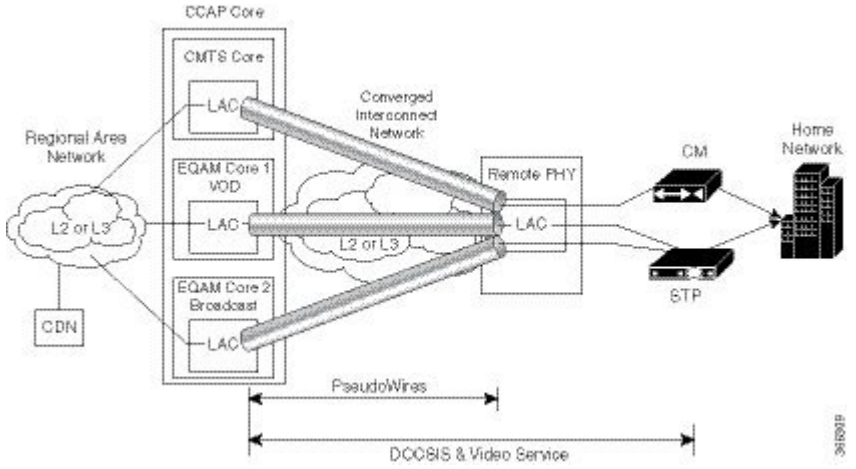
Prerequisites

- Ensure that a digital optical network is deployed between the Cisco GS7000 node and Cisco CMTS. The supported digital optical network is Metro Ethernet.
- Ensure that the data path is guaranteed between the Cisco CMTS and the Cisco GS7000 node.
- Reserve sufficient bandwidth for the DOCSIS traffic.
- Network must support IPv4 multicast forwarding.
- Ensure that the maximum latency is as low as possible.
- Based on the input type in the network, deploy or use the appropriate type of R-PHY device. For optical input, deploy the Cisco GS7000 node with the FRx.

Network Architecture

The Cisco Remote-PHY solution supports the *Single Controller Sharing* architecture. In this architecture, multiple Cisco GS7000 equipments share the downstream and upstream channels of a Cisco RF line card in a cisco cBR chassis.

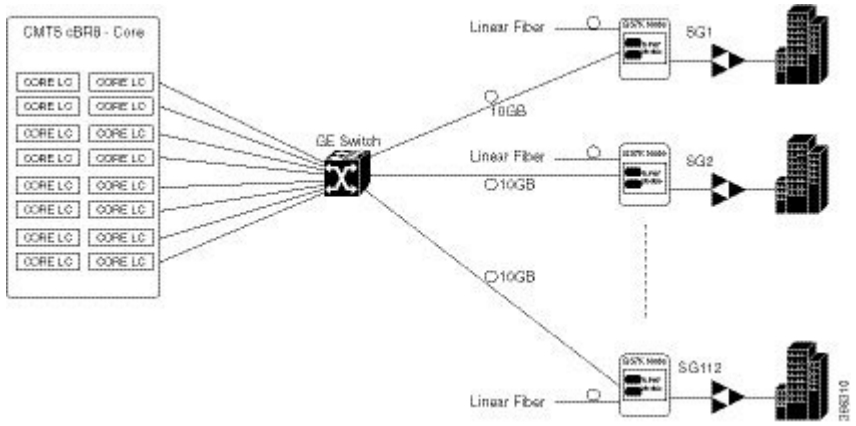
Figure 1: Single Controller Sharing Architecture



Network Topologies

The Cisco Remote-PHY solution supports Ethernet Based Networking topology.

Figure 2: Standard Deployment



Network Cables

Table 1: Cable Types Supported for the Cisco Remote-PHY Solution

Originating Device	Target Device	Cable Type	Connector Type
CMTS (Ten Gigabit Ethernet SFP+ module on the Cisco CCAP line card)	Switch	Ethernet cables	RJ-45 connector
		Copper cables	RJ-45 connector
		Optical fiber	LC Fiber-Optic connector
Switch	Cisco GS7000	Optical fiber	LC Fiber-Optic connector