NCS 1010 Overview and Optical Applications

This chapter gives a brief overview of the optical apps on NCS 1010. See NCS 1010 Overview for the product overview.

NCS 1010 software has multiple optical applications to help bring up the link and maintain traffic on the link.

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Document Objective

Cisco Network Convergence System (NCS) 1010 platform has the following configuration guides.

- The *Cisco NCS 1010 System Setup and Software Installation Guide* describes how to bring up the NCS 1010 system and perform the required software installation.
- The *Cisco NCS 1010 Datapath Configuration Guide* describes how to configure various datapaths on NCS 1010.
- The *Cisco NCS 1010 Optical Applications Configuration Guide* describes multiple optical applications on NCS 1010, that help to bring up the link and maintain traffic on the link.

Document Organization

This document is organized into the following chapters:

Chapter	Description
Internode Topology Discovery and Communication	NCS 1010 uses OSPF for topology discovery.
Span Loss	Span Loss application measures span loss between two nodes for a given direction and verifies if span loss is within the configured range.
Raman Tuning	Raman Tuning application sets Raman pump powers for optimum gain and spectral gain flatness.

Chapter	Description
Gain Estimator	Gain Estimator computes power that is transmitted from the upstream node, analyzes incoming span loss, sets the gain mode of the EDFA amplifier, and provides the initial target gain for the amplifier.
Link Tuner	Link Tuner uses actual optical measurements like span loss to compute and configure the target PSD (power spectral density) for each span.
Automatic Power Control	Automatic Power Control configures amplifier and attenuator setpoints to achieve target PSD across the link.
Band Failure Recovery	BFR compensates for the dynamic power when upgrading from C-band to the C+L band network and handles band failure with a minimum impact on the traffic.
Automatic Network Turn Up	All the optical applications work together to bring up the DWDM link. This chapter describes the link bring up process and how the applications working together.
Configure OTDR	OTDR application scans and determines loss in signal power and location on the fiber path where the loss occurs.