Release Notes for Cisco Automated Subsea Tuning, Release 2.1

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Cisco Automated Subsea Tuning Overview

During field installations, the manual optimization of submarine optical links for maximum spectral efficiency is a cumbersome and time-consuming process. The process involves a manual tuning of the line cards by searching for an optimal combination of line rates, BPS, and channel spacing. The Cisco Automated Subsea Tuning (Cisco AST) overcomes this challenge.

Cisco AST is a cloud hosted microservices-based software application. Cisco AST automatically tunes the NCS 1004 transponder that is connected to any DWDM line system by using real-time performance information, to optimally use the subsea cable capabilities. Cisco AST collects network data, analyses, executes the tuning algorithm, and deploys the configuration in the system. This solution is beneficial for customers who use Cisco's optical submarine network systems.

Software and Hardware Requirements

Cisco AST Server Installation Requirements

To install the Cisco AST application, you must have the following:

- VM with minimum 24 GB RAM, eight Core CPU with CentOs v7.6, and a storage of at least 50 GB
- Docker version 19.03.2, build 6a30dfc The install script installs this version of docker if it is not found on the VM).
- Docker-compose version 1.24.1, build 4667896b (The install script installs this version of docker compose if it is not found on the VM).
- Check the firewall rules on the VM or server where you install the Cisco AST, to ensure that HTTPS port 443 is open.

Table 1: Supported Browser Versions

Browser	Latest Version	Minimum Browser Version
Google Chrome	81.0.4044.122	72.0.3626
Mozilla Firefox	75.0	68.6.0esr version
Microsoft Edge	81.0.416.64	44.18362.449.0

What's New in Cisco Automated Subsea Tuning, Release 2.1

Cisco is continuously enhancing the product with every release and this section covers a brief description of key features and enhancements. It also includes links to detailed documentation, where available.

Feature	Description
Support to display margin values in the preview panel	In the Tune page, the SNR margin and Q margin values are displayed for channels that are tuned, based on the project granularity.
Support for user confirmation before reading the SNR margin after channel equalization	After the tuning workflow is complete, if SNR and Q margin values are lower than the target margin value, then these values are displayed in red and the whole line item is denoted with a red dot.
Support for warning message when user exceeds the bandwidth allocation	In the Properties page, when the values for parameters such as mapping granularity, start frequency, stop frequency, and so on, exceed the allocated bandwidth, an error message displays. Ensure that you enter the correct values.
Export Project Baseline Configuration Using Template	You can export the baseline configuration of a successfully tuned project in Excel format as a template.
Import Project Baseline Configuration Using Template	You can import a project baseline configuration in Excel format (for example, *project.xlsx*) using a template. The Excel sheet contains near-end and far-end router details such as hardware and controller configuration, project properties, and blocking spectrum start and end positions.
Support for 100G and 150G data rate	Cisco AST supports 100 and 150 Gbps for maximum line rate for optimization (max data rate). The minimum value that is supported for the max data rate parameter is reduced to 100 Gbps.
Change in default value support for Carrier Phase Recovery Window Mode (cpr-win-mode)	The default value that is supported for the Carrier Phase Recovery Window Mode is increased from 1 to 4.

Caveats

Open Caveats

The following table lists the open caveats:

Caveat ID Number	Description
CSCvz25739	The imported file is accepted although the start frequency is greater than the first channel center frequency.
CSCvz25751	Crosstalk and TX power issue may occur when granularity is equal to 3, for line rates starting from 100G.
CSCvz25761	Sequence of blocking Spectrum slices depends on the sequence of the operation.

Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.