



# About Cisco Crosswork Optimization Engine

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## Audience

This guide is for experienced network administrators who want to use Cisco Crosswork Optimization Engine in their network. This guide assumes that you are experienced and familiar with using the following technologies:

- Networking technologies and protocols (BGP-LS, IGP (OSPF and IS-IS), PCEP, model-driven telemetry, and so on)
- Traffic Engineering (TE) tunnels:
  - RSVP-TE tunnel provisioning
  - Segment Routing Traffic Engineering (SR-TE) policy provisioning
- Cisco Segment Routing Path Computation Element (SR-PCE)
- Point to Multi Point Tree (Tree-SID)
- Flexible Algorithms

## Overview of Cisco Crosswork Optimization Engine

Cisco Crosswork Optimization Engine is part of the Cisco Crosswork Network Automation suite of products and provides the ability to preserve network intent with proactive network monitoring, network visualization, and closed loop automation. It also provides real-time network optimization allowing operators to effectively maximize network utilization and increase service velocity.

Crosswork Optimization Engine is offered as an individual application and is also a component of Cisco Crosswork Network Controller (see [Crosswork Network Controller Solution and Crosswork Optimization Engine, on page 2](#)).

Crosswork Optimization Engine provides the following:

- A topology map that gives valuable real-time network visualization of the following:
  - devices
  - links and link utilization
  - SR-TE policies
    - SR-MPLS and SRv6
    - Tree-SID
    - Flexible Algorithms
    - Circuit-Style Segment Routing (CS-SR) policies
  - RSVP-TE tunnels
- A UI that allows the network operator to perform the following tasks:
  - Provision SR policies and RSVP-TE tunnels and modify or remove them using an intuitive workflow
  - Preview an SR policy or RSVP-TE tunnel before deploying it to the network
  - Continuously track SR policy dynamic path computations to maintain SLA objectives (with correct licensing)
  - Provision static Point to Multi Point (Tree-SID) policies.
- APIs that extend Crosswork Optimization Engine functions to other Crosswork applications and third party applications.

This guide covers all the Crosswork Optimization Engine capabilities. However, either due to licensing or the configuration of the role that is associated with your user account, you may not be able to access the features and functions. For licensing and ordering information, work with your Cisco Partner or Cisco account representative.

## Crosswork Network Controller Solution and Crosswork Optimization Engine

Cisco Crosswork Network Controller is a turnkey network automation solution for deploying and operating IP transport networks that delivers increased service agility, cost efficiency, and optimization for faster time-to-customer value and lower operating cost. The solution combines intent-based network automation to deliver critical capabilities for service orchestration and fulfillment, network optimization, service path computation, device deployment and management, and anomaly detection and automatic remediation. For more information, see [Cisco Crosswork Network Controller](#).

Cisco Crosswork Optimization Engine is offered as an individual application and is also a component of Cisco Crosswork Network Controller where its functionality is integrated into Cisco Crosswork Network Controller's UI.

Throughout this document, when using the Crosswork Optimization Engine as part of the Crosswork Network Controller solution, some options are not available or are slightly different. For example, to navigate to the Traffic Engineering UI, instead of **Traffic Engineering > Traffic Engineering**, the navigation within the Crosswork Network Controller solution is **Services & Traffic Engineering > Traffic Engineering**.

## Bandwidth Feature Packs

Crosswork Optimization Engine feature packs (available with certain licensing) are tools that tackle congestion mitigation and the management of SR-TE policies to find and maintain intent based bandwidth requirements. Users can define the optimization intent and the tools implement the intent, while continuously monitoring, tracking, and reacting to maintain the original intent. To learn more about these feature packs, see the following topics:

- [Local Congestion Mitigation \(LCM\)](#)
- [SR Circuit Style Manager \(CSM\)](#)
- [Bandwidth on Demand \(BWoD\)](#)

## Crosswork Optimization Engine APIs

Advanced users can integrate other Crosswork applications and third-party applications with Crosswork Optimization Engine functions by using application programming interfaces (APIs) delivering new capabilities into their network operations.

For more information, see the [Cisco Crosswork Network Automation API Documentation on Cisco DevNet](#).

