Configure a Network

This chapter describes the various ways of configuring the network designed through Cisco ONP.

Configure a Network for Contentionless Functionality

Use the following procedure to configure the contentionless functionality in a network:

Before you begin

Log in to Cisco ONP Web Interface

Step 1 Create a network design. See Design a Network Using Cisco ONP .

Step 2 Add contentionless sides to the required sites. See Add Contentionless Side to a Site.

Step 3 Set the channel type for the demands:

a) In the **Entity Editor** window, click the **Services** tab.

b) Click the service connecting the site and set the **Src Channel Type** property as *Auto* or *Contentionless*. Similarly, click the trail under the wave (for non-SSON) or Media Channel (for SSON) and set the **Src Channel Type** property as *Auto* or *Contentionless*.

Note Contentionless is the default option when you select *Auto*.

c) Click **Update**.

Step 4 Analyze the network by choosing **Network** > **Analyze.**

Configure a Network for Colorless Functionality

Use the following procedure to configure the colorless functionality in a network:

Before you begin

[Log in to Cisco ONP Web Interface](#).

Step 1   Create a network design. See [Design a Network Using Cisco ONP](#) .

Step 2   Set the channel type for the demands:

a) In the **Entity Editor** window, click the **Services** tab.

b) Click the service connecting the site and set the **Src Channel Type** property as *Colorless*. Similarly, click the trail under the wave (for non-SSON) or Media Channel (for SSON) and set the **Src Channel Type** property as *Colorless*.

c) Under the **Site > Side** properties, choose the Line type side from which you want to create the colorless demand, and enter the number of **Colorless Ports**.

The number of colorless ports for *MF-6AD-CFS* depends on the **Scalable Upto Degree** property. The following table explains the same.

Table 1: Colorless Ports for SSON and Non-SSON Networks

Site Type	Scalable Upto Degree	Maximum Number of Colorless Ports for SSON	Maximum Number of Colorless Ports for Non-SSON
SMR-20	4	72	72
SMR-20	8	72	72
SMR-20	12	24	24
SMR-20	16	24	24
SMR-20	Line	96	96
SMR-20	Terminal	120	96
SMR-9	4	5	5

d) Click **Update**.

Step 3   Under the **C-Band** properties, choose *MF-6AD-CFS* or *Direct SMR* as the **Colorless Add/Drop**.

Step 4   Click **Update.**.

Step 5   Analyze the network by choosing **Network** > **Analyze.**

You can see the colorless Add/Drop unit getting added in the layout and BOM.

Configure a Network for Colored Functionality

Use the following procedure to configure the colored functionality in a network:

Before you begin

[Log in to Cisco ONP Web Interface](#).

Step 1 Create a network design. See Design a Network Using Cisco ONP .

Step 2 Set the channel type for the demands:

a) In the **Entity Editor** window, click the **Services** tab.

b) Click the service connecting the site and set the **Src Channel Type** property as *Colored*. Similarly, click the trail under the wave (for non-SSON) or media channel (for SSON) and set the **Src Channel Type** property as *Colored*.

c) Click **Update**.

Step 3 For SSON network, perform the following:

a) Under the **C-Band** properties, choose *MD-64-C* as the **Colored Add/Drop**.

Note MD-64-C is supported from NCS 2000 Release 12.x.

b) Click **Update.**.

For non-SSON network, by default, *MD-48-ODD* or *MD-48-EVEN* is added as the **Colored Add/Drop** when **Share SMR Port** is not enabled.

Note If you choose *MD-48-EVEN* or *MD-48-ODD*, make sure to select an even wavelength for the **Wavelength** property under **Trail**.

Step 4 When **Share SMR Port** port is enabled, you can select the **Colored Add/Drop** by using the following steps:

a) Under the **C-Band** properties, choose *MD-48-ODD*, *MD-48-EVEN*, or *MD-48-ODD+MD-48-EVEN* as the **Colored Add/Drop**.

Note The above mentioned Add/Drop units are supported from NCS 2000 Release 11.x.

b) Click **Update**.

Step 5 Analyze the network by choosing **Network** > **Analyze**.

You can see the colored Add/Drop unit getting added in the layout and BOM.

Configure a Network with Mixed Add/Drop Multiplexers and Demultiplexers

Use the following procedure to configure mixed wavelengths in a network:

Table 2: Feature History

Feature Name	Release Information	Feature Description
Support for Mixed Add/Drop Configuration	Cisco ONP Release 4.2	You can configure different functionalities in the network created in Cisco ONP. Mixed wavelengths such as colorless and contentionless, colored and contentionless, can be added/dropped on the same side or direction. The following mixed configurations are supported: • Colored (MD-48-ODD/MD-48-EVEN) and Contentionless (16-AD-CCOFS) without shared SMR port • Colored and Contentionless (MD-64-C and 16-AD-CCOFS) • Colored (MD-64-C) and Colorless (Direct SMR) • Colored (MD-48) and Contentionless (16-AD-CCOFS) with Shared SMR Port • Colorless and MD-48-ODD/MD-48-EVEN • Colorless and 16-AD-CCOFS

Before you begin

Log in to Cisco ONP Web Interface.

Step 1   Create a network design. See Design a Network Using Cisco ONP .

Step 2   Set the properties of the network under the **Entity Editor** for different combinations of the functionalities, as described in the following table:

Table 3: Supported Mixed Configurations

Supported Network Type	Possible Mixed Configurations	Properties to be Set
Non-SSON	Colored (MD-48-ODD/MD-48-EVEN) and Contentionless (16-AD-CCOFS) without shared SMR port	• Add required number of contentionless sides. • **Channel Type**—Set the **Src Channel Type** and **Dst Channel Type** to be *Colored* for one wave. Set the **Src Channel Type** and **Dst Channel Type** to be *Contentionless* for the second wave created on the same site. Both wavelengths must add/drop in the same side or direction. • By default, MD-48-ODD or MD_48-EVEN is added as the Colored Add/Drop in the BOM and layout, when you set the **Channel Type** as *Colored* and when **Shared SMR Port** is disabled. By default, 16-AD-CCOFS is added in the BOM and layout, when you set the **Channel Type** as *Contentionless*.
SSON	Colored and Contentionless (MD-64-C and 16-AD-CCOFS)	• Add required number of contentionless sides. • **Channel Type**—Set the **Src Channel Type** and **Dst Channel Type** to be *Colored* for one media channel. Set the **Src Channel Type** and **Dst Channel Type** to be *Contentionless* for the second media channel created on the same site. Both channels must add/drop in the same side or direction. • **Colored Add/Drop**—MD-64-C under the side.
SSON	Colored (MD-64-C) and Colorless (Direct SMR)	• **Channel Type**—Set the **Src Channel Type** and **Dst Channel Type** to be *Colored* for one media channel. Set the **Src Channel Type** and **Dst Channel Type** to be *Colorless* for the second media channel created on the same site. Both channels must add/drop in the same side or direction. • Enter the number of **Colorless Ports** under the **Line Side** properties. • **Colored Add/Drop**—MD-64-C **Colorless Add/Drop**—Direct SMR

Supported Network Type	Possible Mixed Configurations	Properties to be Set
Non-SSON	Colored (MD-48) and Contentionless (16-AD-CCOFS) with Shared SMR Port	• Add required number of contentionless sides. • **Channel Type**—Set the **Src Channel Type** and **Dst Channel Type** to be *Colored* for one wave. Set the **Src Channel Type** and **Dst Channel Type** to be *Contentionless* for the second wave created on the same site. Both wavelengths must add/drop in the same side or direction. • Check the **Shared SMR Port** check box, under the **Site** properties. • **Colored Add/Drop**—MD-48-ODD, MD-48-EVEN, or MD-48-ODD and MD-48-EVEN If you choose *MD-48-EVEN*, make sure to select an even wavelength for the **Wavelength** property under **Trail**.
Non-SSON	Colorless and MD-48-ODD/MD-48-EVEN	• **Channel Type**—Set the **Src Channel Type** and **Dst Channel Type** to be *Colorless* for the wave. • Enter the number of **Colorless Ports** under the **Line Side** properties. • By default, MD-48-ODD/MD-48-EVEN is added as colored Add/Drop in the BOM and layout, when any colored demand is added in the non-SSON network.
SSON	Colorless and Contentionless (16-AD-CCOFS)	• Add required number of contentionless sides. • **Channel Type**—Set the **Src Channel Type** and **Dst Channel Type** to be *Colorless* for the wave or media channel. • **Channel Type**—*Colorless* for one wave and *Contentionless* for another wave created on the same site. Both wavelengths must add/drop in the same side or direction.

Note   MF-6AD-CFS colorless configuration cannot be mixed with any other configurations.

The following is the list of mixed configurations that are not supported by Cisco ONP.

Table 4: Unsupported Mixed Configurations

Network Type	Mixed Configurations
SSON	Colored (MD-64-C) and Colorless (MF-6AD-CFS)
SSON	Contentionless and Colorless (MF-6AD-CFS)
SSON	Colored (MD-64-C), Contentionless, and Colorless (MF-6AD-CFS)
SSON	Colored (MD-64-C) and Layer-2 Contentionless
Non-SSON	Contentionless and Colorless (MF-6AD-CFS)
Non-SSON	Colored (MD-48) and Colorless (MF-6AD-CFS)
Non-SSON	Colorless (Direct SMR) and Colorless (MF-6AD-CFS)
Non-SSON	Colored, Contentionless, and Colorless (MF-6AD-CFS)