



Configure a Network

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

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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:
- In the **Entity Editor** window, click the **Services** tab.
 - 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*.
- Click **Update**.
- Step 4** Analyze the network by choosing **Network > Analyze**.
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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.](#)

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- Step 1** Create a network design. See [Design a Network Using Cisco ONP](#) .
- Step 2** Set the channel type for the demands:
- In the **Entity Editor** window, click the **Services** tab.
 - 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*.
 - Click **Update**.
- Step 3** For SSON network, perform the following:
- 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.
- 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:
- 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.
- 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.
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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	<p>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:</p> <ul style="list-style-type: none"> • 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.](#)

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- 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	<ul style="list-style-type: none"> • Add required number of contentionless sides. • Channel Type—Set the Src Channel Type and Dst Channel Type to be <i>Colored</i> for one wave. Set the Src Channel Type and Dst Channel Type to be <i>Contentionless</i> 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 <i>Colored</i> and when Shared SMR Port is disabled. <p>By default, 16-AD-CCOFS is added in the BOM and layout, when you set the Channel Type as <i>Contentionless</i>.</p>
SSON	Colored and Contentionless (MD-64-C and 16-AD-CCOFS)	<ul style="list-style-type: none"> • Add required number of contentionless sides. • Channel Type—Set the Src Channel Type and Dst Channel Type to be <i>Colored</i> for one media channel. Set the Src Channel Type and Dst Channel Type to be <i>Contentionless</i> 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)	<ul style="list-style-type: none"> • Channel Type—Set the Src Channel Type and Dst Channel Type to be <i>Colored</i> for one media channel. Set the Src Channel Type and Dst Channel Type to be <i>Colorless</i> 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	<ul style="list-style-type: none"> • Add required number of contentionless sides. • Channel Type—Set the Src Channel Type and Dst Channel Type to be <i>Colored</i> for one wave. Set the Src Channel Type and Dst Channel Type to be <i>Contentionless</i> 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 <i>MD-48-EVEN</i>, make sure to select an even wavelength for the Wavelength property under Trail.
Non-SSON	Colorless and MD-48-ODD/MD-48-EVEN	<ul style="list-style-type: none"> • Channel Type—Set the Src Channel Type and Dst Channel Type to be <i>Colorless</i> 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)	<ul style="list-style-type: none"> • Add required number of contentionless sides. • Channel Type—Set the Src Channel Type and Dst Channel Type to be <i>Colorless</i> for the wave or media channel. • Channel Type—<i>Colorless</i> for one wave and <i>Contentionless</i> 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)
