Modeled Network Examples

This chapter provides examples of typical optical networks you can model using the Cisco Transport Planner.

This chapter contains the following section:

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5.1 Supported Cisco Transport Planner Topologies

The Cisco Transport Planner supports the following topologies:

- Linear (5.1.1.1 Single-Span Topology or 5.1.1.2 Multispan Topology)
- Ring (5.1.2.2 Hubbed Ring Topology or 5.1.2.1 Closed Ring Topology)
- 5.1.3 Mesh Topology

An example of each topology is given in this chapter.

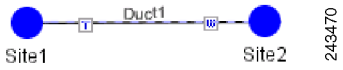
5.1.1 Linear Topologies

In a linear topology, the nodes are arranged in a line and are connected to two other adjacent nodes. However, the first and last node are not connected. There are two types of linear topologies, single-span and multispan.

5.1.1.1 Single-Span Topology

Figure 5-1 shows an example of a single-span topology. This topology is characterized by a single span link. It can support only two terminal sites (full terminal or flexible channel-count terminal) without any intermediate line amplifier or optical add/drop multiplexing (OADM) sites.

Figure 5-1 Single-Span Topology Example



5.1.1.2 Multispan Topology

Figure 5-2 shows an example of a multispan topology. This configuration is characterized by the presence of two terminal sites (full terminal or flexible channel-count terminal) with intermediate OADM or line amplifier nodes. In a multispan configuration, specific wavelengths are terminated at different points in the span and only unprotected traffic can be provisioned.

Figure 5-2 Multispan Topology Example

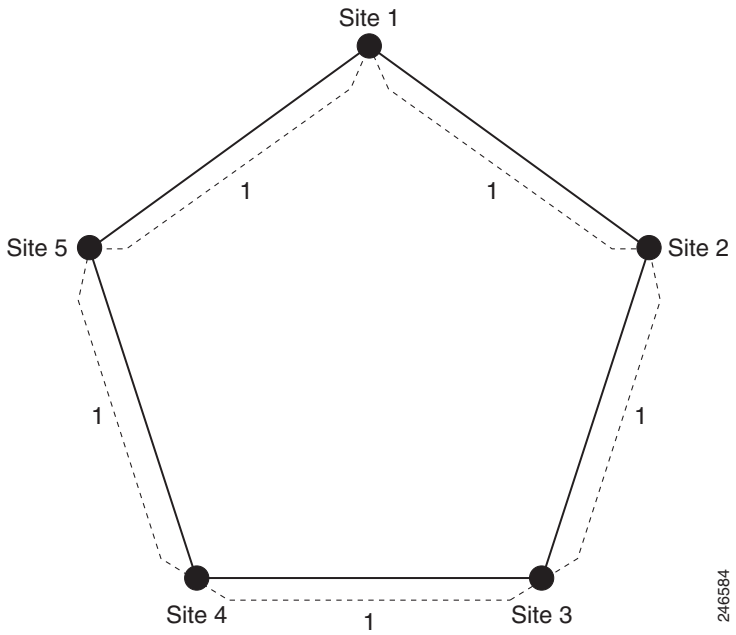
5.1.2 Ring Topology

In a ring topology, each node is connected to exactly two other nodes, forming a circular configuration. It requires at least three nodes to form a ring. There are two types of ring topologies—closed ring and hubbed ring.

5.1.2.1 Closed Ring Topology

Figure 5-3 shows an example of a closed ring configuration. Here the traffic flows in a circular manner across the network.

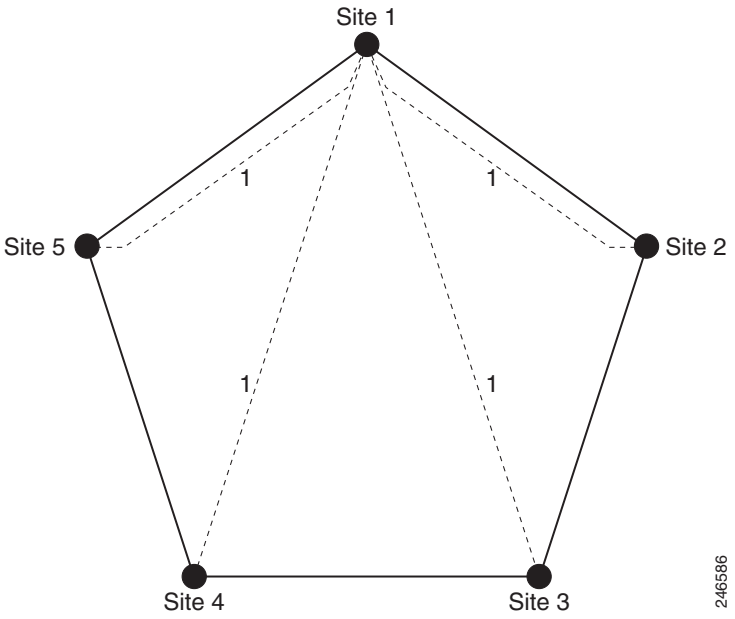
Figure 5-3 Closed Ring Topology Example



5.1.2.2 Hubbed Ring Topology

Figure 5-4 shows an example of a hubbed ring topology, also knows as an open ring. In this configuration, at least one of the sites must be a hub site, where all channels are terminated. At the hub site, no traffic is expressed from one side to another, hence forming a break in the ring.

Figure 5-4 Hubbed Ring Topology Example



5.1.3 Mesh Topology

Figure 5-5 shows an example of a mesh topology where each node is connected to one or more nodes. This configuration provides maximum redundancy to the network.

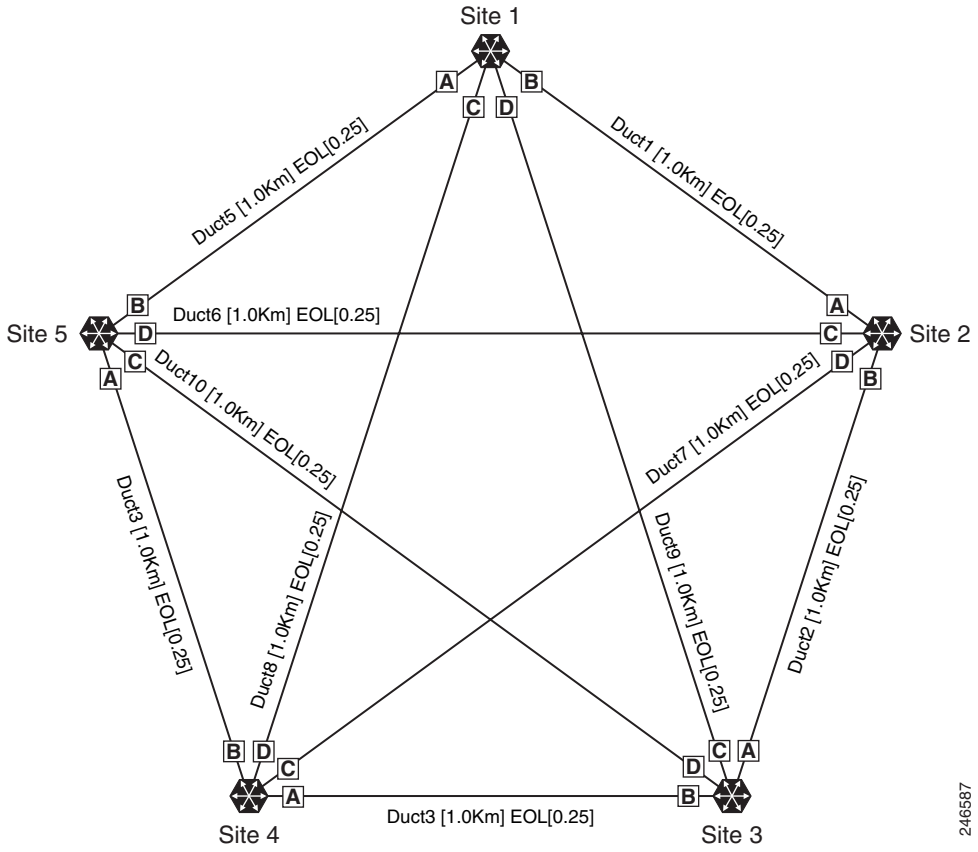



Figure 5-5 Mesh Ring Topology Example