Deployment Topologies

This chapter describes examples of deployment topologies that utilize the Routed Optical Networking architecture.

Routed Optical Networking supports the following deployment topologies.

- Metro/Regional–This topology is used for shorter reach metro use cases and longer regional use cases.

- Long Haul–This topology is used for distances greater than 400 km. The QDD-400G-ZR-S optic has a maximum reach of 120 km. Longer distances require the use of QDD-400G-ZRP-S optics.

The Routed Optical Networking solution architecture or network design is the same for in network (core, aggregation, or DCI). The only differentiating factor is the hardware that is used for any deployment. The following topologies are examples of specific hardware deployments.
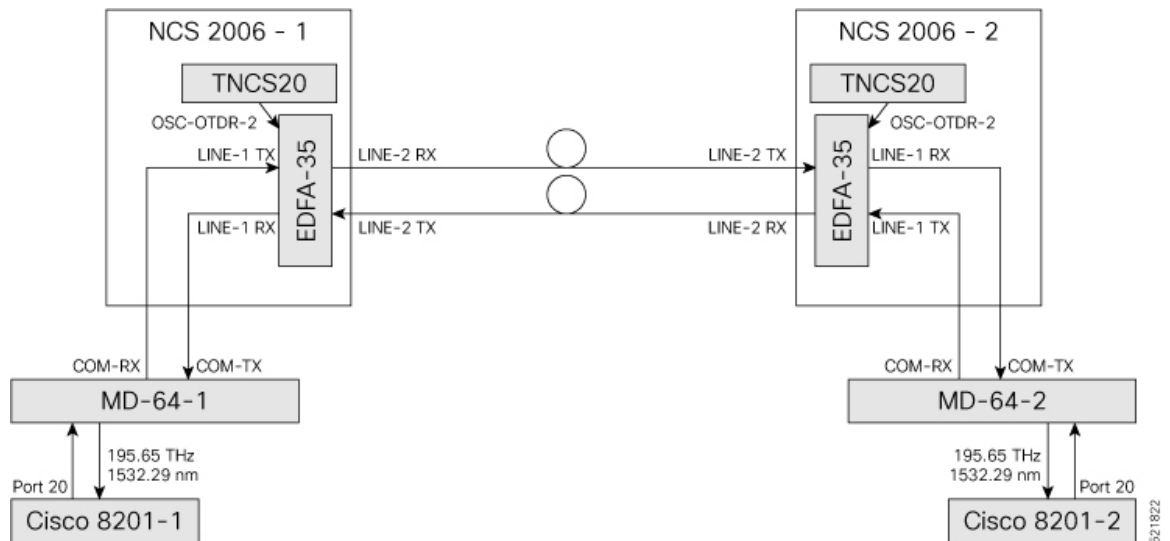
Metro/Regional Topology

Figure 1: 400G-ZR P2P Short Haul Applications with Cisco NCS 2006

This diagram displays the wiring diagram for the metro/regional topology:

Figure 2: Wiring Diagram for a Metro/Regional Topology

In this sample topology, we assume that Cisco 8201-1 is the source router and Cisco 8201-2 is the destination router.

Topology Components

To build this topology, you need the following hardware:

- Cisco 8200 Series Routers

- NCS1K-MD-64-C Modules

- Cisco NCS 2006

- TNCS-2O Cards

- OPT-EDFA-35 Cards

- QDD-400G-ZR-S transceiver

- LC/LC cables

For more information, see Hardware Components.

Port Connections

To build this topology, connect the cables in the following sequence:

1. On the Cisco 8201-1 and Cisco 8201-2 routers:

   a. Align the QDD-400G-ZR-S transceiver module in front of the transceiver socket opening in Port 20. Then, carefully slide the transceiver into the socket until the transceiver comes in contact with the socket electrical connector.

   b. Holding the pull-tab, seat the transceiver in the module's transceiver socket fully until it clicks.

   c. Attach an LC/LC fiber immediately to the QDD-400G-ZR-S transceiver module.

    d. Connect the other end of the LC/LC fiber to the corresponding bulkhead adapter on the front panel of the NCS1K-MD-64-C (MD-64-1) module. In this sample topology, we use channel ID 7, which corresponds to a frequency of 195.65 THz (a wavelength of 1532.29 nm).

2. Connect an LC/LC fiber from the COM-RX port of the MD-64-1 module to the LINE-1-TX port of the EDFA 35 amplifier in NCS 2006-1.

3. Connect an LC/LC fiber from the COM-TX port of the MD-64-1 module to the LINE-1-RX port of the EDFA 35 amplifier in NCS 2006-1.

4. Connect an LC/LC fiber from the OSC-OTDR-2 port on the TNCS-2O card to the OSC port on the EDFA 35 card (NCS 2001-1).

5. Connect an LC/LC fiber from the LINE-2-RX port of the EDFA-35 card (NCS 2006 -1) to the outside plant fiber that is connected to the LINE-2-TX port of EDFA-35 card (NCS 2006 -2).

6. Connect an LC/LC fiber from the LINE-2-TX port of the EDFA-35 card (NCS 2006 -1) to the outside plant fiber that is connected to the LINE-2-RX port of EDFA-35 card (NCS 2006 -2).

7. Connect an LC/LC fiber from the OSC-OTDR-2 port on the TNCS-2O card to the OSC port on the EDFA 35 card (NCS 2006-2).

8. Connect an LC/LC fiber from the LINE-1-RX port of the EDFA-35 (NCS 2006 -2) to the COM-TX port of the MD-64-2 module.

9. Connect an LC/LC fiber from the LINE-1-TX port of the EDFA-35 (NCS 2006 -2) to the COM-RX port of the MD-64-2 module.
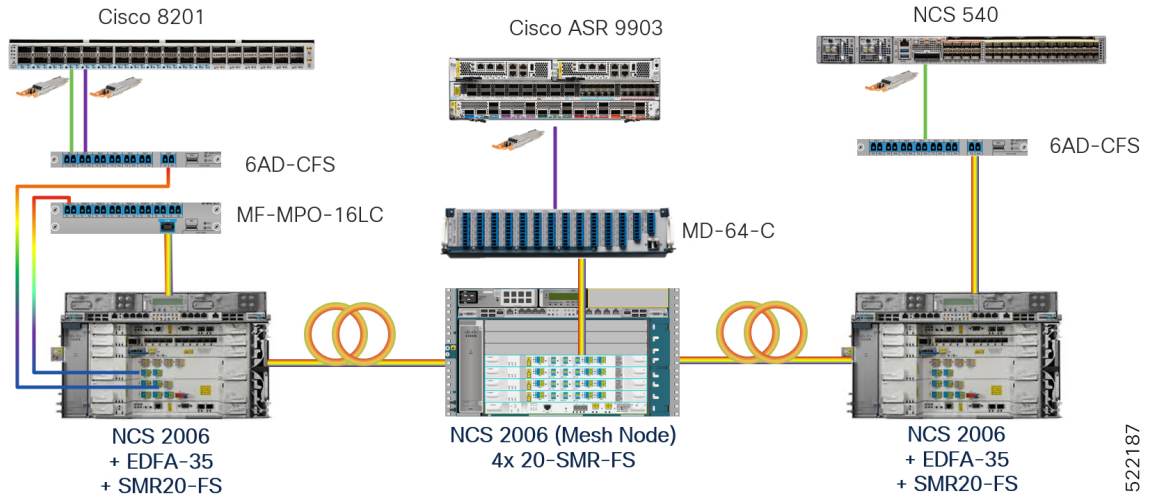
Next Steps

After you complete building the topology, perform the following steps:

- Import the Cisco ONP Configuration File into SVO.
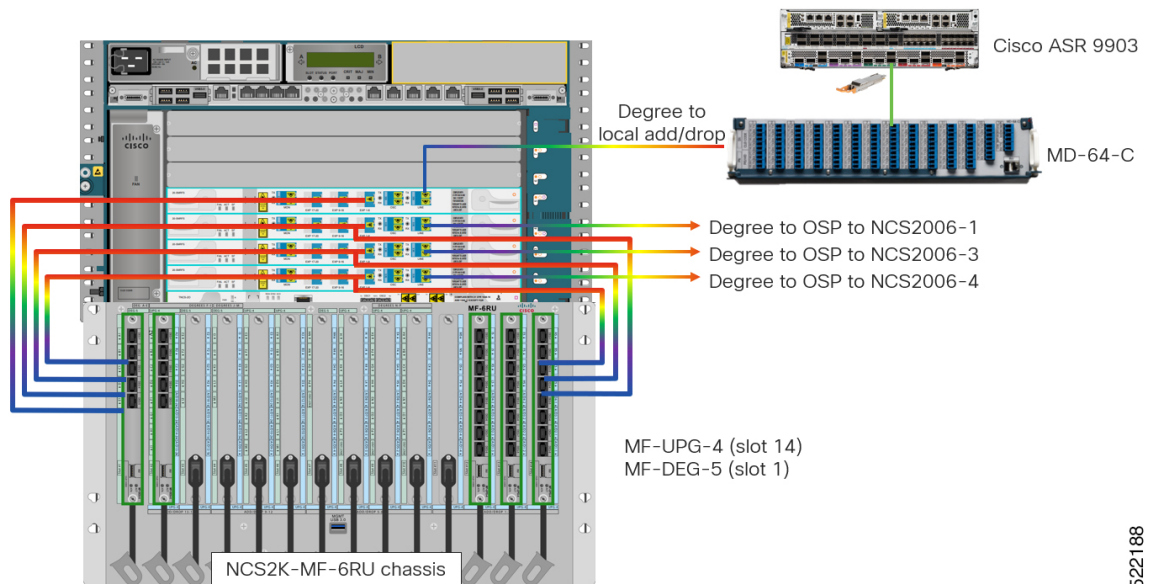
- Manage Expected Input Power

Mesh Topology

Figure 3: Optical Bypass with Colorless Add/Drop and 4-Degree ROADM Node

This figure displays the NCS 2006 mesh node in detail with mesh panels:

Figure 4: 4-Degree Mesh Node Configuration

This diagram displays the wiring diagram for the mesh topology:

Figure 5: Wiring Diagram for a Mesh Topology
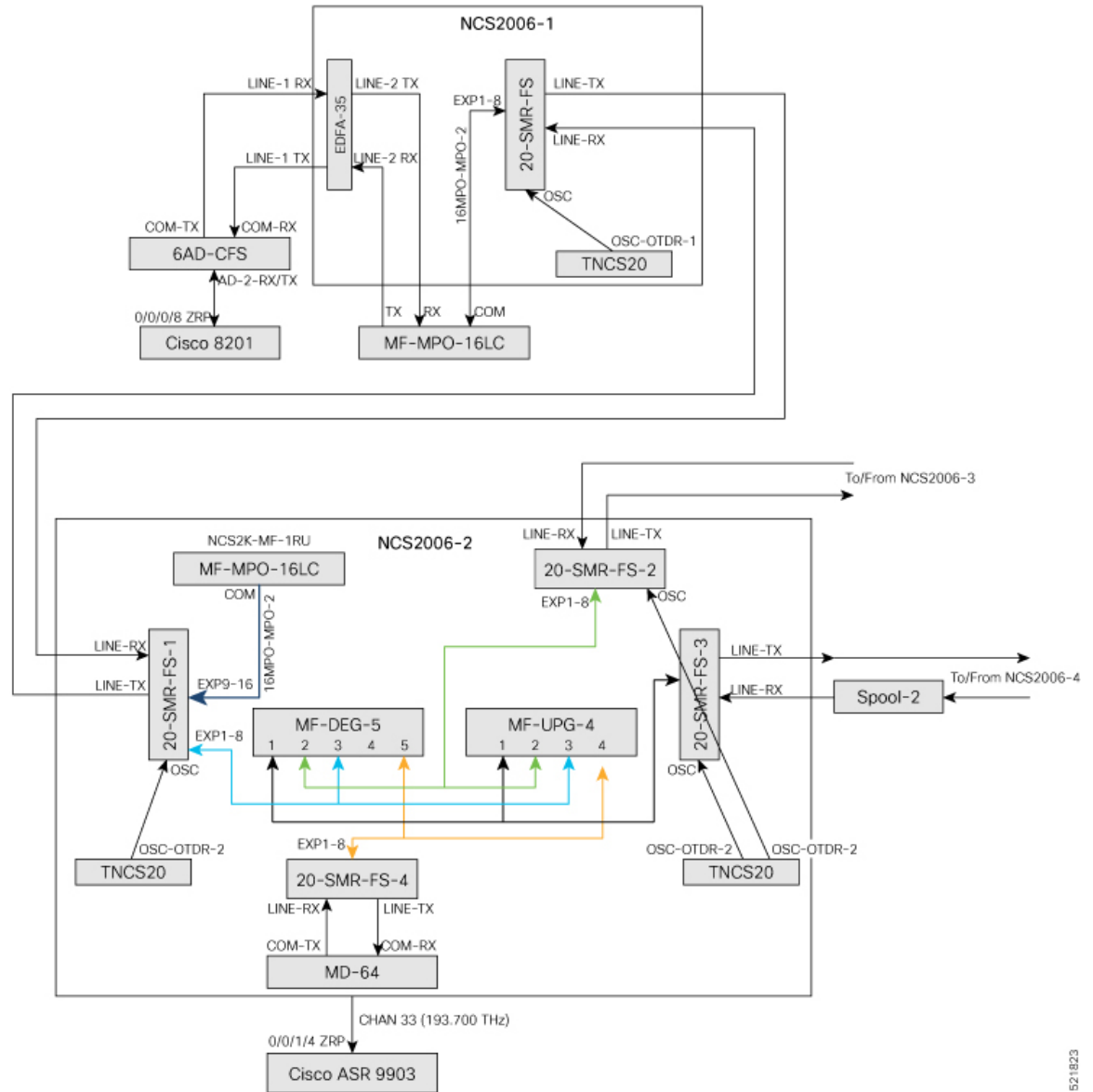
In this sample topology, we assume that Cisco 8201 is the source router and Cisco ASR 9903 is the destination router. This example uses a four-degree node. Nodes with lesser or more degrees are also supported. NCS2006-2 is a four-degree mesh node that drops a colored wavelength on the Cisco ASR 9903 router. In this example, the MD-64 unit is used as a fixed channel muxponder but other options can also be connected to the 20-SMR-FS card. The other degrees are connected to NCS 2000 nodes in the network.

Topology Components

To build this topology, you need the following hardware:

- Cisco 8200 Series routers
- Cisco ASR 9903 routers

- NCS1K-MD-64-C modules

- 6-AD-CFS units

- MF-DEG-5 units

- MF-UPG-4 units

- MF-MPO-16LC units

- Cisco NCS 2006 shelves

- TNCS-2O Cards

- OPT-EDFA-35 Cards

- 20-SMR-FS cards

- QDD-400G-ZR-S transceivers

- LC/LC cables

- 16MPO-MPO-2 cables

- ONS-MPO16-2x8-2 cables

For more information, see Hardware Components.

Port Connections

To build this topology, connect the cables in the following sequence:

1. On the Cisco 8201 router:

   a. Align the QDD-400G-ZR-S transceiver module in front of the transceiver socket opening in Port 4. Then, carefully slide the transceiver into the socket until the transceiver comes in contact with the socket electrical connector.

   b. Holding the pull-tab, seat the transceiver in the module's transceiver socket fully until it clicks.

   c. Attach an LC/LC fiber immediately to the QDD-400G-ZR-S transceiver module.

   d. Connect the other end of the LC/LC fiber to the corresponding bulkhead adapter on the front panel of the 6AD-CFS module (AD-2 RX/TX port). In this sample topology, we use channel ID 33, which corresponds to a frequency of 193.700 THz.

2. Connect an LC/LC fiber from the COM-RX port of the 6AD-CFS module to the LINE-1-TX port of the EDFA 35 amplifier in NCS 2006-1.

3. Connect an LC/LC fiber from the COM-TX port of the 6AD-CFS module to the LINE-1-RX port of the EDFA 35 amplifier in NCS 2006-1.

4. Connect an LC/LC fiber from the LINE-2-RX port of the EDFA-35 card (NCS 2006 -1) to the TX port of the MF-MPO-16LC unit.

5. Connect an LC/LC fiber from the LINE-2-TX port of the EDFA-35 card (NCS 2006 -1) to the RX port of the MF-MPO-16LC unit.

6. Connect an 16MPO-MPO-2 fiber from the EXP1-8 port of the 20-SMR-FS card (NCS 2006 -1) to the COM port of the MF-MPO-16LC unit.

7. Connect an LC/LC fiber from the OSC-OTDR-2 port on the TNCS-2O card to the OSC port on the 20-SMR-FS card (NCS 2006 -1).

8. Connect an LC/LC fiber from the LINE-TX port of the 20-SMR-FS card (NCS 2006 -1) to the LINE-RX port of the 20-SMR-FS-1 card (NCS 2006 -2).

9. Connect an LC/LC fiber from the LINE-RX port of the 20-SMR-FS card (NCS 2006 -1) to the LINE-TX port of the 20-SMR-FS-1 card (NCS 2006 -2).

10. Connect an LC/LC fiber from the OSC-OTDR-2 port on the TNCS-2O card to the OSC port on the 20-SMR-FS-1 card (NCS 2006-2).

11. Connect an 16MPO-MPO-2 fiber from the EXP9-16 port of the 20-SMR-FS-1 card (NCS 2006 -2) to the COM port of the MF-MPO-16LC unit.

12. Connect one end of the ONS-MPO16-2x8-2 cable to the EXP1-8 port of the 20-SMR-FS-1 card (NCS 2006 -2). Connect the other two ends to port 3 of the MF-DEG-5 unit and MF-UPG-4 unit respectively.

13. Connect one end of the ONS-MPO16-2x8-2 cable to the EXP1-8 port of the 20-SMR-FS-2 card (NCS 2006 -2). Connect the other two ends to port 2 of the MF-DEG-5 unit and MF-UPG-4 unit respectively.

14. Connect one end of the ONS-MPO16-2x8-2 cable to the EXP1-8 port of the 20-SMR-FS-3 card (NCS 2006 -2). Connect the other two ends to port 1 of the MF-DEG-5 unit and MF-UPG-4 unit respectively.

15. Connect one end of the ONS-MPO16-2x8-2 cable to the EXP1-8 port of the 20-SMR-FS-4 card (NCS 2006 -2). Connect the other end to port 5 of the MF-DEG-5 unit only.

16. Connect an LC/LC fiber from the OSC-OTDR-2 port on the TNCS-2O card to the OSC port on the 20-SMR-FS-2 card (NCS 2006-2).

17. Connect an LC/LC fiber from the OSC-OTDR-2 port on the TNCS-2O card to the OSC port on the 20-SMR-FS-3 card (NCS 2006-2).

18. Connect LC/LC fibers from the LINE-TX and LINE-RX ports of 20-SMR-FS-2 card (NCS 2006-2) to the ports of NCS2006-3.

19. Connect LC/LC fibers from the LINE-TX and LINE-RX ports of 20-SMR-FS-3 card (NCS 2006-2) to the ports of NCS2006-4.

20. Connect an LC/LC fiber from the LINE-RX port on the 20-SMR-FS-4 card (NCS 2006-2) to the COM-TX port of the MD-64 unit.

21. Connect an LC/LC fiber from the LINE-TX port on the 20-SMR-FS-4 card (NCS 2006-2) to the COM-RX port of the MD-64 unit.

22. Connect one end of the LC/LC fiber to the corresponding bulkhead adapter on the front panel of the NCS1K-MD-64-C (MD-64-1) module. Connect the other end of the fiber to the QDD-400G-ZR-S transceiver module installed in port 4 of the ASR 9903 router.

Next Steps

After you complete building the topology, perform the following steps:

- Import the Cisco ONP Configuration File into SVO.

- Manage Expected Input Power

Long Haul Topology

This diagram displays the architecture that is used for long-haul networks. This topology uses several regular amplifier nodes (ILA) along with DGE nodes. The ILA nodes span from 80 to 120 km. The DGE nodes allow gain equalization in long haul networks over 1200 km.
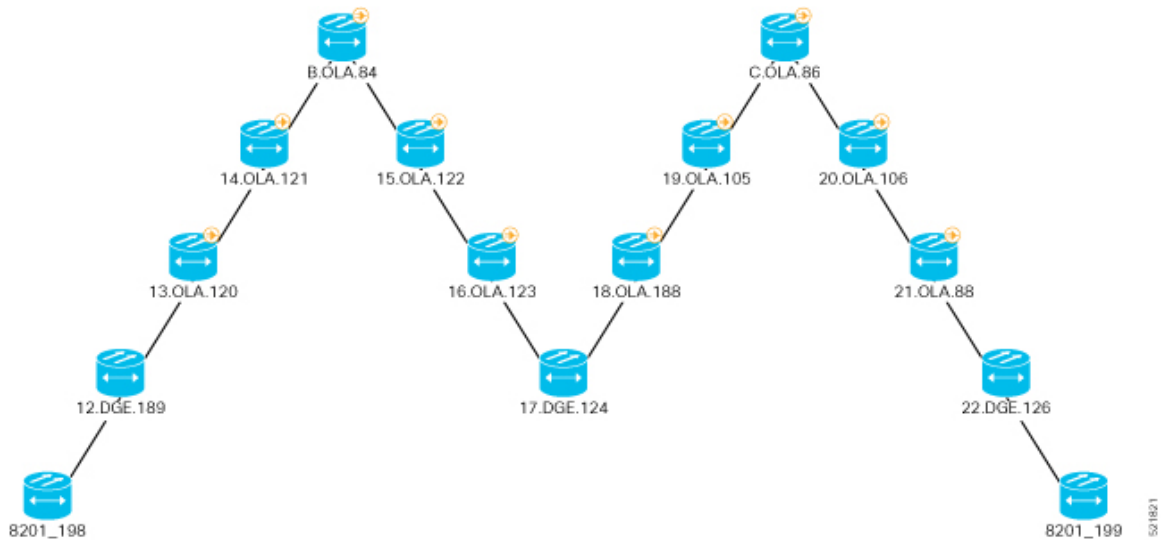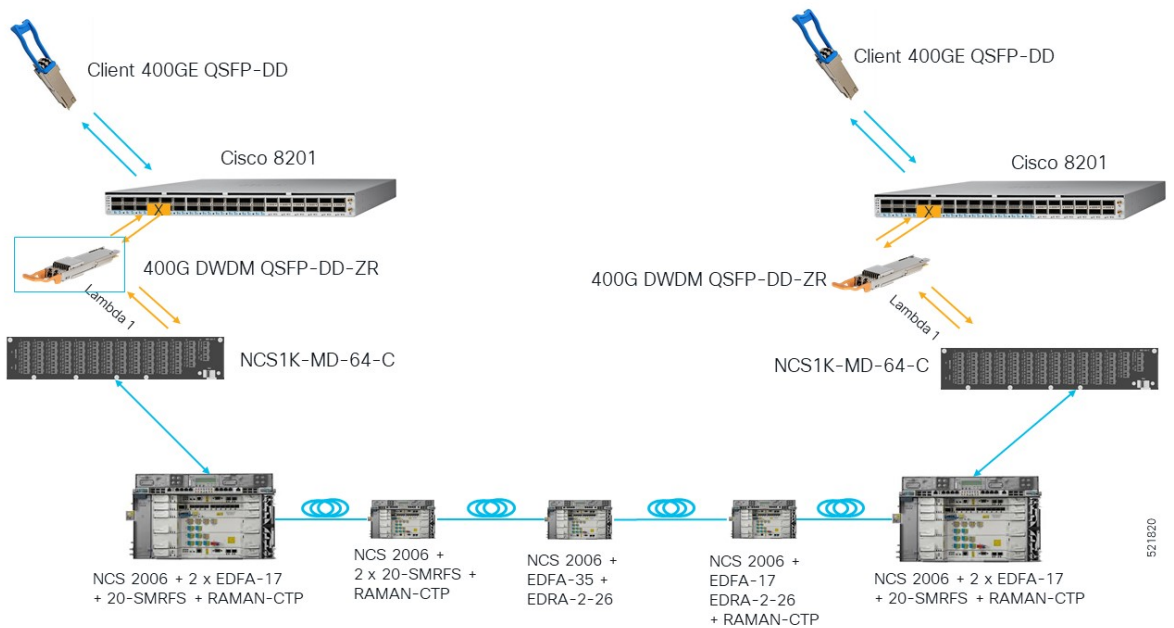
This topology uses terminal, OLA, and DGE nodes.

Figure 6: 400G-ZR P2P Long Haul Applications with Cisco NCS 2006

This diagram displays the wiring diagram for the long haul topology:

Figure 7: Wiring Diagram for a Long Haul Topology
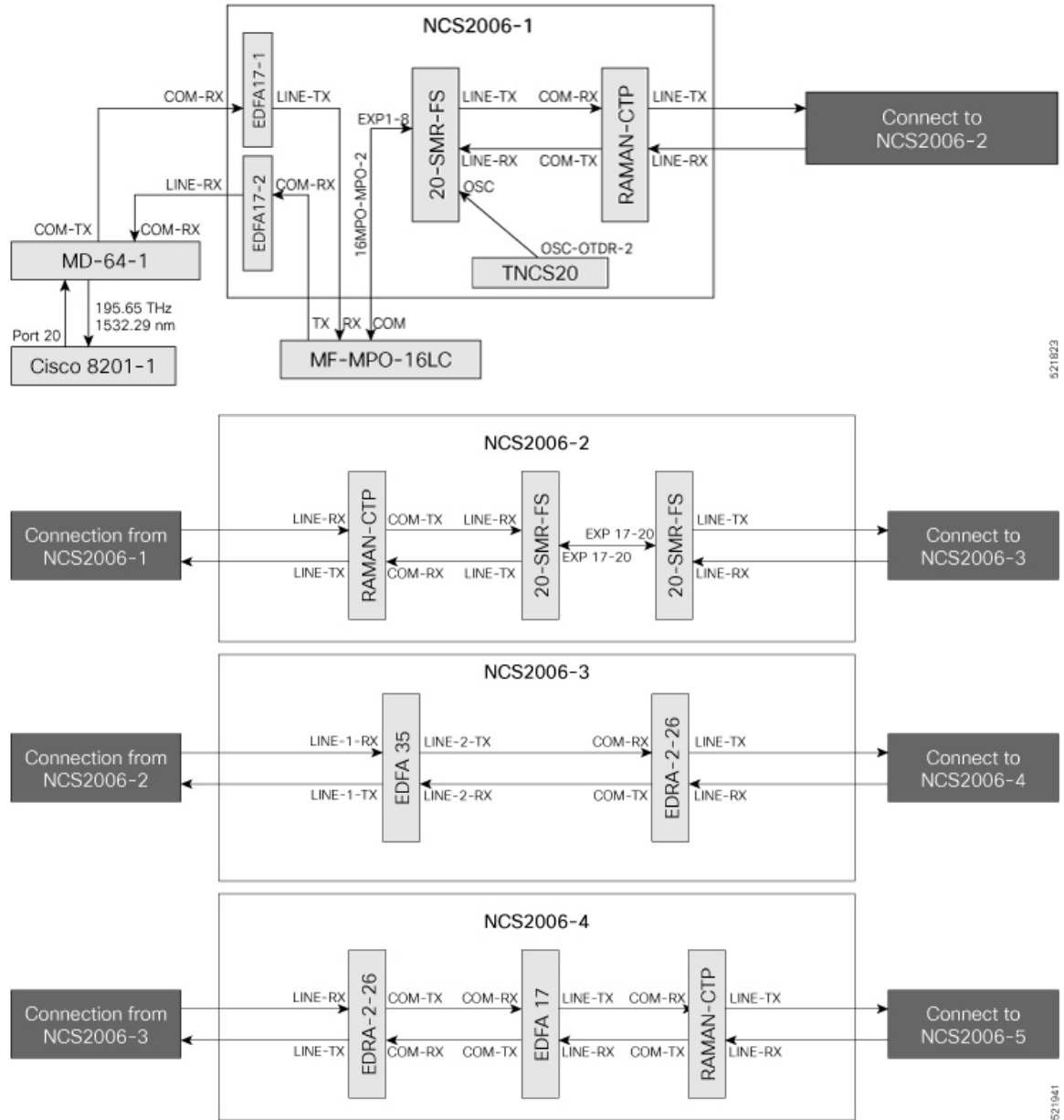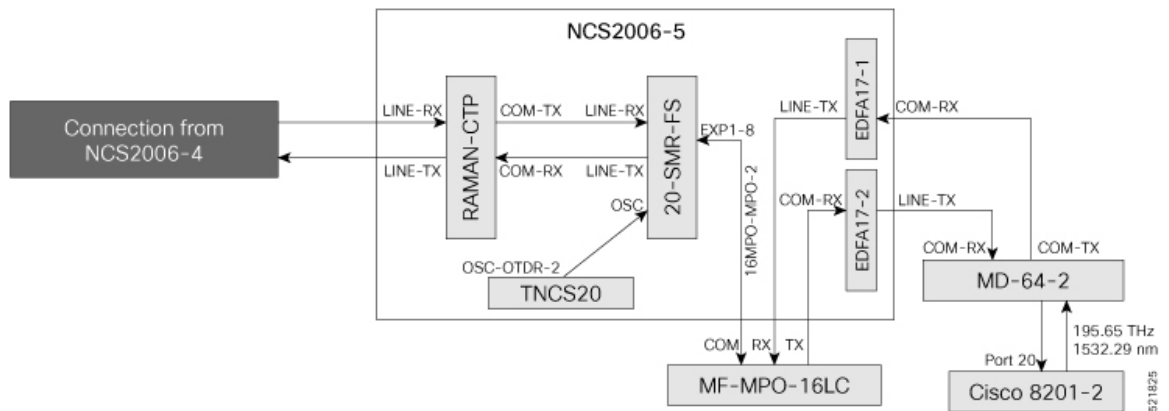
In this sample topology, Cisco 8201–1 is the source router, and Cisco 8201–2 is the destination router.

Topology Components

To build this topology, you need the following hardware:

- Cisco 8200 Series Routers

- NCS1K-MD-64-C Modules

- Cisco NCS 2006

- TNCS-2O Cards

- OPT-EDFA-17 Cards

- EDRA-2-26 cards

- RAMAN-CTP Cards

- SMR20 FS Cards

- MF-MPO-16LC passive modules (seated in an NCS2K-MF-1RU mechanical frame)

- QDD-400G-ZR-S transceiver

- LC/LC cables

- 16MPO-MPO-2 cables

For more information, see Hardware Components.

Port Connections

To build this topology, connect the cables in the following sequence:

1. On the Cisco 8201–1 and Cisco 8201–2 routers:

   a. Align the QDD-400G-ZR-S transceiver module in front of the transceiver socket opening in Port 20. Then, carefully slide the transceiver into the socket until the transceiver comes in contact with the socket electrical connector.

   b. Holding the pull-tab, seat the transceiver in the module's transceiver socket fully until it clicks.

   c. Attach an LC/LC fiber immediately to the QDD-400G-ZR-S transceiver module.

      d. Connect the other end of the LC/LC fiber to the corresponding bulkhead adapter on the front panel of the NCS1K-MD-64-C (MD-64-1) module. In this sample topology, we use channel ID 7, which corresponds to a frequency of 195.65 THz (a wavelength of 1532.29 nm).

2. Connect an LC/LC fiber from the COM-TX port of the MD-64-1 module to the COM-RX port of the EDFA-17-1 amplifier (NCS 2006-1).

3. Connect an LC/LC fiber from the COM-RX port of the MD-64-1 module to the LINE-TX port of the EDFA-17-2 amplifier (NCS 2006-1).

4. Connect an LC/LC fiber from the LINE-TX port of the EDFA-17-1 amplifier (NCS 2006-1) to the RX port of the MF-MPO-16LC module.

5. Connect an LC/LC fiber from the COM-RX port of the EDFA-17-2 amplifier (NCS 2006-1) to the TX port of the MF-MPO-16LC module.

6. Connect a 16MPO-MPO-2 cable from the COM port of the MF-MPO-16LC module to the EXP1-8 port of the 20 SMR-FS card (NCS 2006-1).

7. Connect an LC/LC fiber from the LINE-TX port of the SMR20 card (NCS 2006-1) to the COM-RX port of the RAMAN-CTP card (NCS 2006-1).

8. Connect an LC/LC fiber from the LINE-RX port of the SMR20 card (NCS 2006-1) to the COM-TX port of the RAMAN-CTP card (NCS 2006-1).

9. Connect an LC/LC fiber from the OSC-OTDR-2 port of the TNCS-2O card ((NCS 2006 -1) to the OSC-TX port of the SMR20 card (NCS 2006 -1).

10. Connect an LC/LC fiber from the LINE-TX port of the RAMAN-CTP card (NCS 2006-1) to the LINE-RX port of RAMAN-CTP card (NCS 2006-2).

11. Connect an LC/LC fiber from the LINE-RX port of the RAMAN-CTP card (NCS 2006-1) to the LINE-TX port of RAMAN-CTP card (NCS 2006-2).

12. Connect an LC/LC fiber from the COM-TX port of the RAMAN-CTP card (NCS 2006-2) to the LINE-RX port of the 20-SMR-FS card (NCS 2006 -2).

13. COM-RX port of the RAMAN-CTP card (NCS 2006-2) to the LINE-TX port of the 20-SMR-FS card (NCS 2006 -2).

14. Connect an LC/LC fiber from the EXP 17–20 port of the 20-SMR-FS card (NCS 2006-2) to the EXP 17–20 port of the 20-SMR-FS card (NCS 2006-2).

15. Connect an LC/LC fiber from the LINE-TX port of the 20-SMR-FS card (NCS 2006-2) to the LINE-1-RX port of the EDFA–35 card (NCS 2006 -3).

16. Connect an LC/LC fiber from the LINE-RX port of the 20-SMR-FS card (NCS 2006-2) to the LINE-1-TX port of the EDFA–35 card (NCS 2006 -3).

17. Connect an LC/LC fiber from the LINE-2-TX port of the EDFA-35 card (NCS 2006 -3) to the COM-RX port of the EDRA-2-26 card (NCS 2006 -3).

18. Connect an LC/LC fiber from the LINE-2-RX port of the EDFA-35 card (NCS 2006 -3) to the COM-TX port of the EDRA-2-26 card (NCS 2006-3).

19. Connect an LC/LC fiber from the LINE-TX port of the EDRA-2-26 card (NCS 2006-3) to the LINE-RX port of the EDRA-2-26 card (NCS 2006 -4).

20. Connect an LC/LC fiber from the LINE-RX port of the EDRA-2-26 card (NCS 2006-3) to the LINE-TX port of the EDRA-2-26 card (NCS 2006 -4).

21. Connect an LC/LC fiber from the COM-TX port of the EDRA-2-26 card (NCS 2006-4) to the COM-RX port of the EDFA-17 card (NCS 2006 -4).

22. Connect an LC/LC fiber from the COM-RX port of the EDRA-2-26 card (NCS 2006-4) to the COM-TX port of the EDFA-17 card (NCS 2006 -4).

23. Connect an LC/LC fiber from the COM-RX port of the EDRA-2-26 card (NCS 2006-4) to the COM-TX port of the EDFA-17 card (NCS 2006 -4).

24. Connect an LC/LC fiber from the LINE-TX port of the EDFA-17 card (NCS 2006-4) to the COM-RX port of RAMAN-CTP card (NCS 2006-4).

25. Connect an LC/LC fiber from the LINE-RX port of the EDFA-17 card (NCS 2006-4) to the COM-TX port of RAMAN-CTP card (NCS 2006-4).

26. Connect an LC/LC fiber from the LINE-TX port of the RAMAN-CTP card (NCS 2006-4) to the LINE-RX port of RAMAN-CTP card (NCS 2006-5).

27. Connect an LC/LC fiber from the LINE-RX port of the RAMAN-CTP card (NCS 2006-4) to the LINE-TX port of RAMAN-CTP card (NCS 2006-5).

28. Connect an LC/LC fiber from the COM-TX port of the RAMAN-CTP card (NCS 2006-5) to the LINE-RX port of the 20-SMR-FS card (NCS 2006-5).

29. Connect an LC/LC fiber from the COM-RX port of the RAMAN-CTP card (NCS 2006-5) to the LINE-TX port of the SMR20 card (NCS 2006-5).

30. Connect an LC/LC fiber from the OSC-OTDR-2 port of the TNCS-2O card (NCS 2006 -5) to the OSC-TX port of the 20-SMR-FS card (NCS 2006 -5).

31. Connect a 16MPO-MPO-2 cable from the EXP1-8 port of the 20-SMR-FS card (NCS 2006-5) to the COM port of the MF-MPO-16LC module.

32. Connect an LC/LC fiber from the LINE-TX port of the EDFA-17-1 card (NCS 2006-5) to the RX port of the MF-MPO-16LC module.

33. Connect an LC/LC fiber from the COM-RX port of the EDFA-17-2 card (NCS 2006-5) to the TX port of the MF-MPO-16LC module.

34. Connect an LC/LC fiber from the COM-RX port of the EDFA17-1 card (NCS 2006-5) to the COM-TX port of the MD-64-2 module.

35. Connect an LC/LC fiber from the LINE-TX port of the EDFA-17-2 card (NCS 2006-5) to the COM-RX port of the MD-64-2 module.
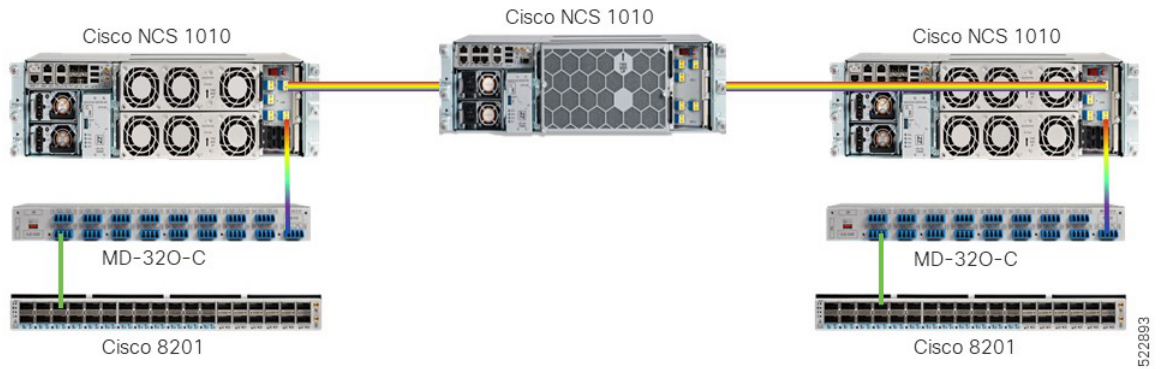
Next Steps

After you complete building the topology, perform the following steps:

- Import the Cisco ONP Configuration File into SVO.
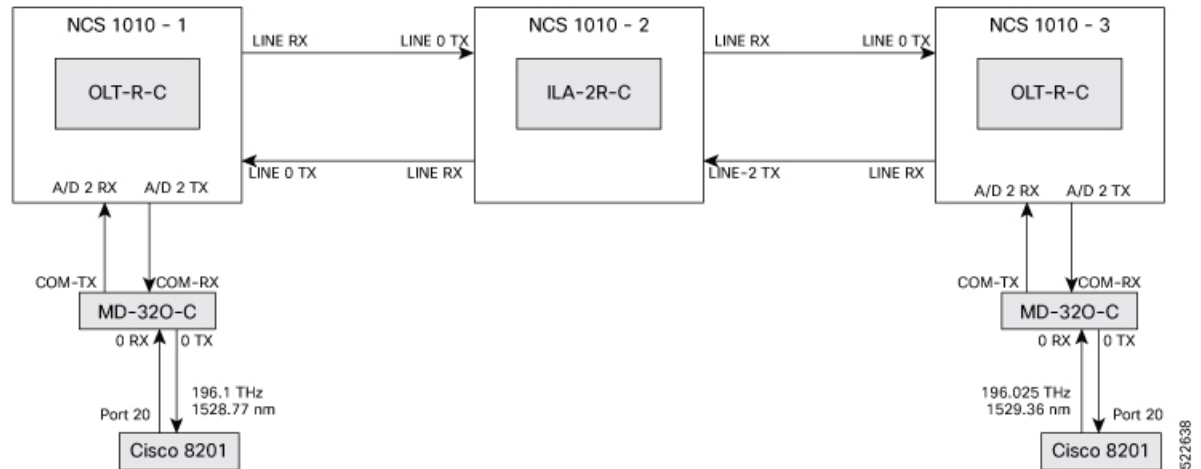
- Manage Expected Input Power

Point-to-point Topology (with NCS 1010 Nodes)

Figure 8: Point-to-point Topology with NCS 1010 Nodes

This diagram displays the wiring diagram for the point-to-point topology that uses NCS 1010 nodes.

Figure 9: Wiring Diagram for Point-to-point Topology

Topology Components

To build this topology, you need the following hardware:

- Cisco NCS 1010 devices
- NCS1K-MD-32O-C modules
- QDD-400G-ZR-S transceivers
- LC/LC cables
- Cisco 8201 routers

For more information, see Hardware Components.

Port Connections

To build this topology, connect the cables in the following sequence:

1. On the Cisco 8201 routers:

   a. Align the QDD-400G-ZR-S transceiver module in front of the transceiver socket opening in Port 20. Then, carefully slide the transceiver into the socket until the transceiver comes in contact with the socket electrical connector.

   b. Holding the pull-tab, seat the transceiver in the module's transceiver socket fully until it clicks.

   c. Attach an LC/LC fiber immediately to the QDD-400G-ZR-S transceiver module.

   d. Connect the other end of the LC/LC fiber to the corresponding bulkhead adapter on the front panel of the NCS1K-MD-32O-C (MD-32-O-C) module. In this sample topology, we use a frequency of 196.1 THz (1528.77 nm).

2. Connect an LC/LC fiber from the COM-TX port of the MD-32-O-C module to the A/D 2 RX port of the OLT-R-C module in NCS 1010–1.

3. Connect an LC/LC fiber from the COM-RX port of the MD-32-O-C module to the A/D 2 TX port of the OLT-R-C module in NCS 1010–1.

4. Connect an LC/LC fiber from the LINE RX port of the OLT-R-C module in NCS 1010–1 to the LINE 0 TX port of the ILA-2R-C module in NCS 1010–2.

5. Connect an LC/LC fiber from the LINE-0 TX port of the OLT-R-C module in NCS 1010–1 to the LINE 0 LINE RX port of the ILA-2R-C module in NCS 1010–2.

6. Connect an LC/LC fiber from the LINE 2 LINE RX port of the ILA-2R-C module in NCS 1010–2 to the LINE 0 TX port of the OLT-R-C module in NCS 1010–3.

7. Connect an LC/LC fiber from the LINE-2 TX port of the ILA-2R-C module in NCS 1010–2 to the LINE RX port of the OLT-R-C module in NCS 1010–3.

8. Connect an LC/LC fiber from the A/D 2 RX port of the OLT-R-C module in NCS 1010–3 to the COM-TX port of the MD-32-O-C module.

9. Connect an LC/LC fiber from the A/D 2 TX port of the OLT-R-C module in NCS 1010–3 to the COM-RX port of the MD-32-O-C module.
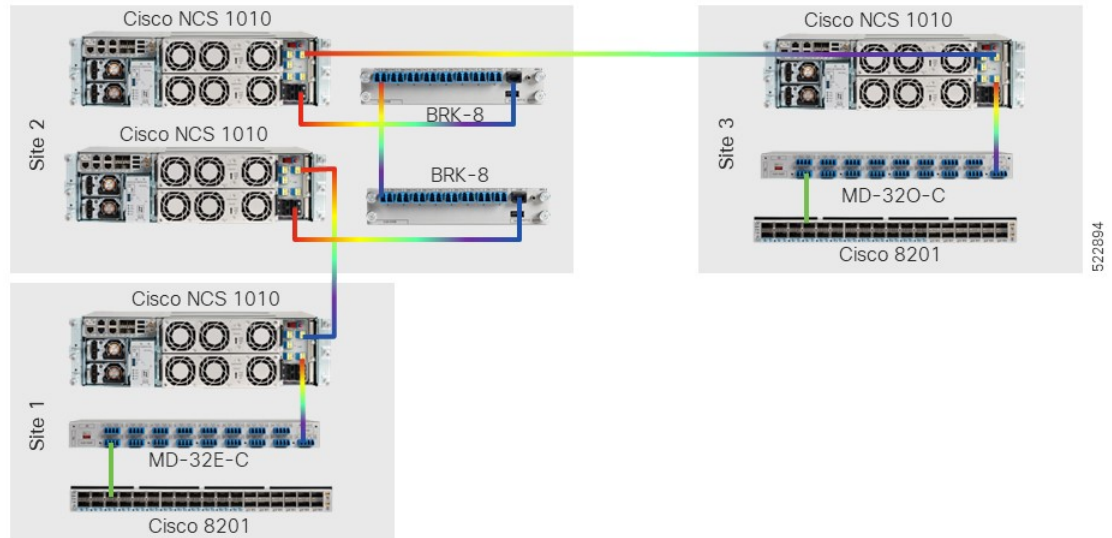
Next Steps

After you complete building the topology, perform the following steps:

- Manage Expected Input Power

Multi-Degree Topology (with NCS 1010 Nodes)
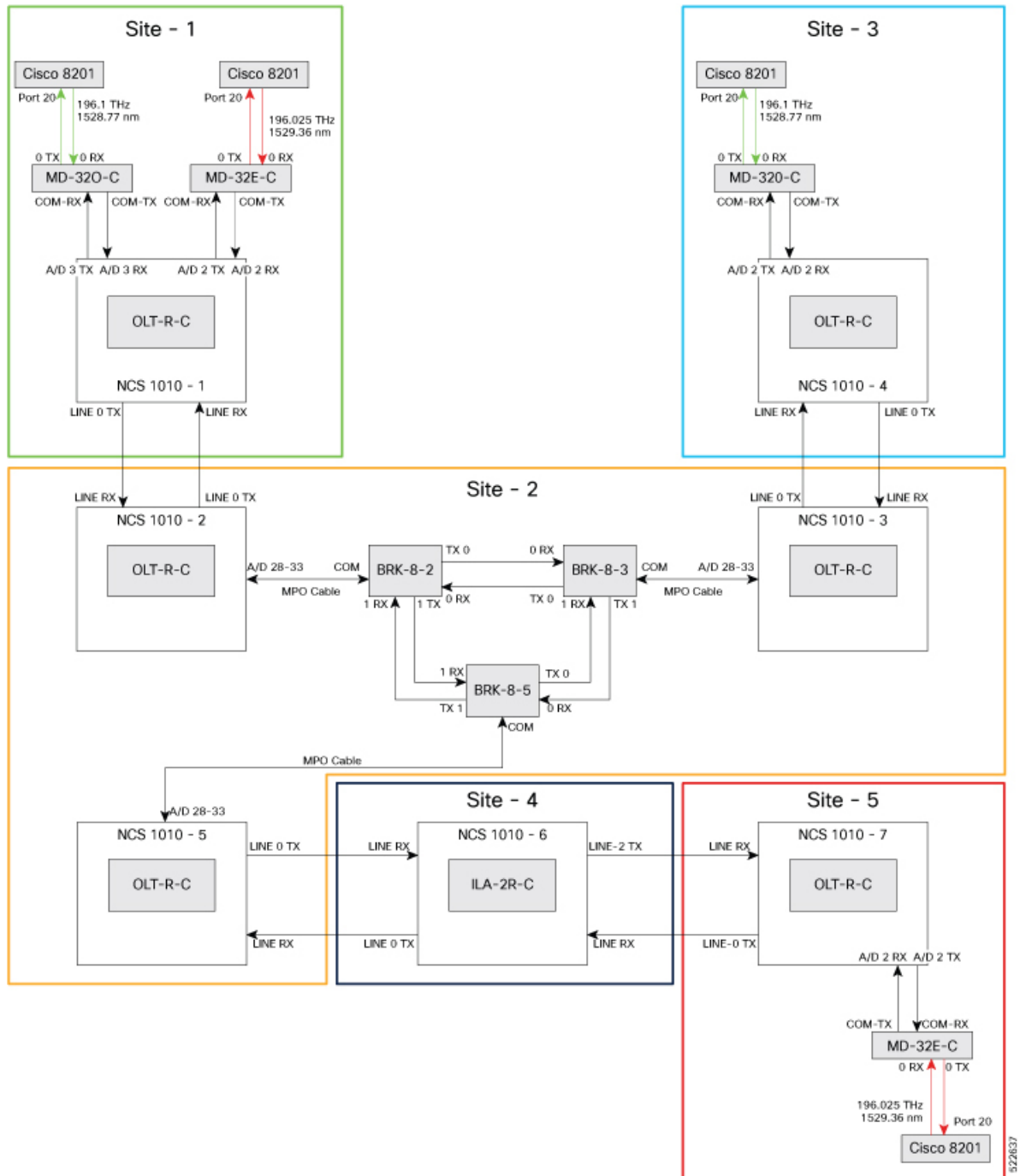
Figure 10: Multi-degree Topology with NCS 1010 Nodes

This diagram displays the wiring diagram for the multi-degree topology that uses NCS 1010 nodes.

Figure 11: Wiring Diagram for Multi-degree Topology

Topology Components

To build this topology, you need the following hardware:

- Cisco NCS 1010 devices
- NCS1K-MD32E-C modules

- NCS1K-MD32O-C modules

- NCS1K-BRK-8 modules

- Cisco 8201 routers

- QDD-400G-ZR-S transceivers

- LC/LC cables

- MPO cables

For more information, see Hardware Components.

Port Connections

To build this topology, connect the cables in the following sequence:

1. On the Cisco 8201 routers:

    a. Align the QDD-400G-ZR-S transceiver module in front of the transceiver socket opening in Port 20. Then, carefully slide the transceiver into the socket until the transceiver comes in contact with the socket electrical connector.

    b. Holding the pull-tab, seat the transceiver in the module's transceiver socket fully until it clicks.

    c. Attach an LC/LC fiber immediately to the QDD-400G-ZR-S transceiver module.

    d. Connect the other end of the LC/LC fiber to the corresponding bulkhead adapter on the front panel of the NCS1K-MD-32O-C (MD-32-O-C using frequency 196.1 THz) module or the NCS1K-MD-32E-C (MD-32-E-C using frequency 195.025 THz) module as seen in the wiring diagram.

2. Connect an LC/LC fiber from the COM-TX port of the MD-32-O-C module to the A/D 3 RX port of the OLT-R-C module in NCS 1010–1.

3. Connect an LC/LC fiber from the COM-RX port of the MD-32-O-C module to the A/D 3 TX port of the OLT-R-C module in NCS 1010–1.

4. Connect an LC/LC fiber from the COM-TX port of the MD-32-E-C module to the A/D 2 RX port of the OLT-R-C module in NCS 1010–1.

5. Connect an LC/LC fiber from the COM-RX port of the MD-32-E-C module to the A/D 2 TX port of the OLT-R-C module in NCS 1010–1.

6. Connect an LC/LC fiber from the LINE RX port of the OLT-R-C module in NCS 1010–1 to the LINE 0 TX port of the OLT-R-C module in NCS 1010–2.

7. Connect an LC/LC fiber from the LINE 0 TX port of the OLT-R-C module in NCS 1010–1 to the LINE RX port of the OLT-R-C module in NCS 1010–2.

8. Connect an MPO fiber from the A/D 4–11 port of the OLT-R-C module in NCS 1010–2 to the COM port of the BRK-8-2 module.

9. Using LC/LC fibers, interconnect the BRK-8-2, BRK-8-3, and BRK-8-5 modules.

10. Connect an MPO fiber from the COM port of the BRK-8-3 module to the A/D 4–11 port of the OLT-R-C module in NCS 1010–3 .

11. Connect an LC/LC fiber from the LINE RX port of the OLT-R-C module in NCS 1010–3 to the LINE 0 TX port of the OLT-R-C module in NCS 1010–4.

12. Connect an LC/LC fiber from the LINE 0 TX port of the OLT-R-C module in NCS 1010–3 to the LINE RX port of the OLT-R-C module in NCS 1010–4.

13. Connect an LC/LC fiber from the COM-TX port of the MD-32-O-C module to the A/D 2 RX port of the OLT-R-C module in NCS 1010–4.

14. Connect an LC/LC fiber from the COM-RX port of the MD-32-O-C module to the A/D 2 TX port of the OLT-R-C module in NCS 1010–4.

15. Connect an MPO fiber from the COM port of the BRK-8-5 module to the A/D 4–11 port of the OLT-R-C module in NCS 1010–5 .

16. Connect an LC/LC fiber from the LINE 0 TX port of the OLT-R-C module in NCS 1010–5 to the LINE 0 LINE RX port of the ILA-2R-C module in NCS 1010–6.

17. Connect an LC/LC fiber from the LINE RX port of the OLT-R-C module in NCS 1010–5 to the LINE 0 TX port of the ILA-2R-C module in NCS 1010–6.

18. Connect an LC/LC fiber from the LINE-2 TX port of the ILA-2R-C module in NCS 1010–6 to the LINE RX port of the OLT-R-C module in NCS 1010–7.

19. Connect an LC/LC fiber from the LINE 2 LINE RX port of the ILA-2R-C module in NCS 1010–6 to the LINE 0 TX port of the OLT-R-C module in NCS 1010–7.

20. Connect an LC/LC fiber from the COM-TX port of the MD-32-E-C module to the A/D 2 RX port of the OLT-R-C module in NCS 1010–7.

21. Connect an LC/LC fiber from the COM-RX port of the MD-32-E-C module to the A/D 2 TX port of the OLT-R-C module in NCS 1010–7.

Next Steps

After you complete building the topology, perform the following steps:

- Manage Expected Input Power