

Configure ONS 15454 M6 UDC Ports on ECU

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Introduction

This document describes the use of User Data Channel (UDC) ports, which are available on the External Connection Unit (ECU) of the Cisco ONS 15454 M6.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics

- Multi-Service Transport Platform (MSTP) systems, concepts, and hardware
- Cisco Transport Controller (CTC)

Component Used

The information in this document is based on these hardware and software versions:

- ONS 15454 M6, ONS 15454 M6 ECU, and ONS 15454 M TNC
- Optical card combining/splitting Optical Supervisory Channel (OSC)
- CTC

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Background Information

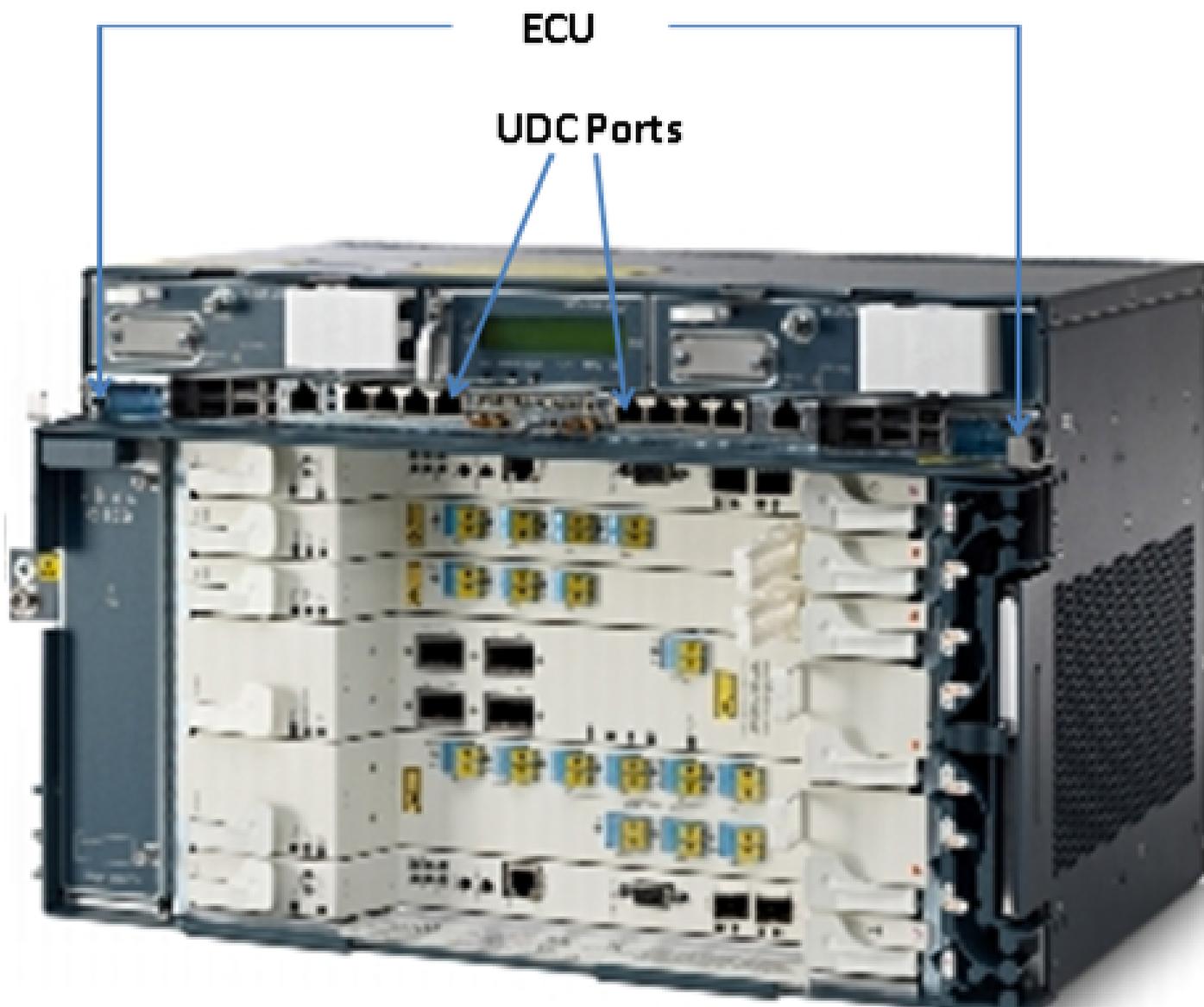
The ECU is a replaceable module placed on top of the ONS 15454 M6 shelf. The ECU module discovers and manages the inventory of the external shelf units. It also handles the multi-shelf management connections and timing synchronizations.

There are three types of ECU modules available for the ONS 15454 M6 shelf, namely ECU (Part Number (PN): 15454-M6-ECU=), ECU2 (PN: 15454-M6-ECU2=), and ECU-60V (PN: 15454-M6-ECU-60=).

 **Note:** Reference Section 5.7 of the [Cisco ONS 15454 Hardware Installation Guide](#) for additional information about this module.

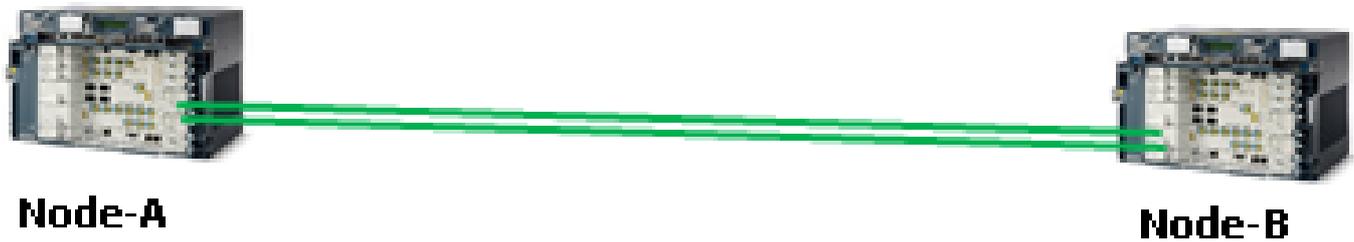
There are two UDC ports available on the ECU module. Each port is managed and configured by different Transport Node Controller (TNC) cards. The port on the left side is related to the TNC at slot-1. Another port on the right side is related to the TNC at slot-8.

The position of the ports is as shown here:



Dense Wavelength Division Multiplexing (DWDM) Setup

In order to understand the application of UDC ports, imagine an example of two M6 nodes connected with each other, located at a distance. Suppose the name of these nodes are A and B.



These two nodes shown in the image are typical DWDM nodes; they are connected with each other with the use of two optical fiber strands. For their management, these nodes use the OSC.

OSC is an optical channel used in order to transport overhead bytes that are only used for management of DWDM networks. OSC is always a separate optical signal at 1510-nm wavelength. Before it is transmitted over optical fiber, it is combined with other channels that carry actual traffic, and then it is separated at the far end. In the image, the OSC is combined at Node-A and is separated at Node-B and vice-versa.

The overhead bytes that OSC uses are of STM-1 or OC-3 based on the type of setup. D1 to D3 bytes of Regenerator Section Overhead are used by OSC in order to provide communication between DWDM nodes. The rest of the bytes and payload of STM-1 or OC3 are not used by the OSC and can be used for other purposes.

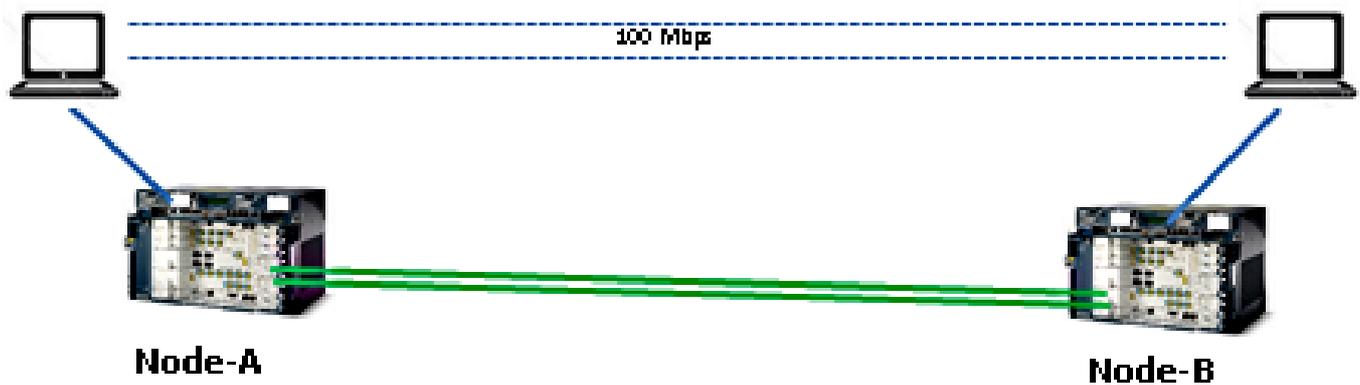
Application

UDC ports that are available on the ECU use a payload of STM-1 or OC-3 in order to provide a tunnel between the two nodes. The tunnel has a bandwidth capacity of 100Mbps.

Here are some examples to help you better understand the application of UDC.

Example 1

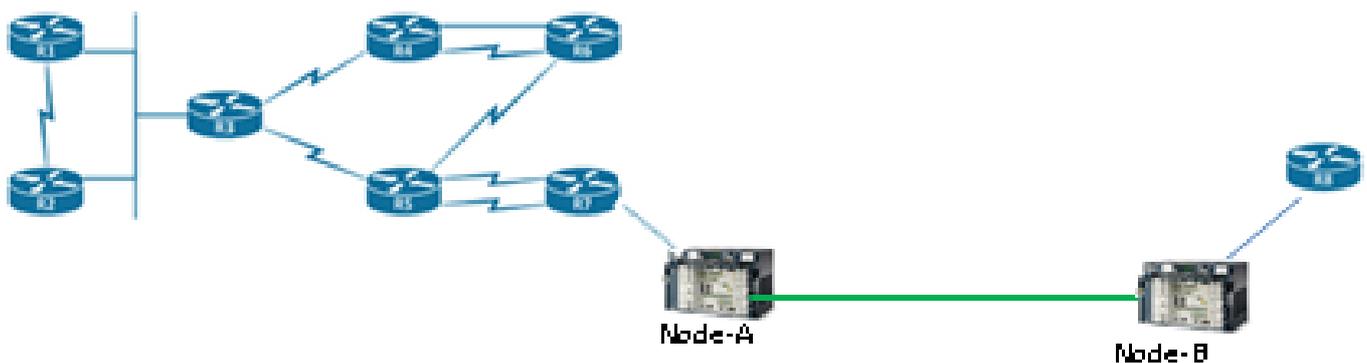




As shown in this topology, two computers are connected on the UDC port on ECU of each Node-A and Node-B. Both computers connect with each other via a tunnel that provides a bandwidth of 100Mbps. Since this tunnel is transparent, it is the same as if the two computers were connected with each other. This setup is the same way two servers can be connected with each other.

In this example, you get 100Mbps from payload bytes of STM-1 and OC-3 of OSC.

Example 2



As shown in this topology, two routers are connected with each other with the use of UDC ports of an ONS 15454 M6 chassis. Through this UDC tunnel, even though the router is located at a far distance, it is managed and connected.

Example 3

Switch ports can be connected with each other via UDC in the same way as shown in Example 2's topology.

Limitation

VLAN-tagged traffic is not supported on UDC or VoIP ports that are present on the ECU. This means that when two switch ports configured as a trunk are connected with each other via the UDC ports of the ECU, they are not able to pass any VLANs that are configured on trunk interfaces.

 **Note:** Refer to the **G.23 Interface Ports** section of the [Cisco ONS 15454 DWDM Configuration Guide, Release 9.8](#).

Configuration

There are two UDC ports on the ECU of ONS 15454 M6. The UDC port of the left-hand side is always configurable from the TNC card in slot-1, and the UDC port of the right-hand side is always configurable from TNC card in slot-8.

 **Note:** Related TNC cards must be in use. Patching from TNC Small Form-Factor Pluggable (SFP) ports is done and it must be in the UP state.

UDC configurations are supported only when the OSC is provisioned on the SFP ports of the TNC card.

Complete these steps in order to provision:

1. In node view (single-shelf mode) or shelf view (multishelf view), double-click the TNC card where you want to configure UDC and VoIP.
2. Click the **Provisioning > UDC / VOIP** tabs.
3. From the Service Type drop-drop list, choose UDC.

 **Note:** You can configure UDC or VoIP on only one SFP port at a time per TNC card. If you want to configure UDC or VoIP on the second SFP port, choose NONE from the Service Type drop-down list for the first port, and then choose UDC or VoIP for the second port.

4. Click **Apply**.

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

For further queries, contact the Cisco Technical Assistance Center (TAC).

 **Note:** Log into the [Cisco Technical Support Website](#) for more information or access the [Cisco Worldwide Contacts](#) web page in order to obtain a directory of toll-free Technical Support numbers for your country.

Related Information

- [Using UDC port on ONS 15454 M6](#)
- [Technical Support & Documentation - Cisco Systems](#)