

# Raisecom OPCOM600 Series CWDM/DWDM Typical Solution



OPCOM600 product family is a cost-efficient and exceptionally flexibly solution for optimizing the utilization of existing fiber optics. This family is capable of operating on both dual-strand fiber and single-strand fiber to organize point-to-point, hub-and-spoke and ring topologies for various applications. OPCOM600 also can be equipped with channel or path/line protection, allowing the automatic switching of the operations to secondary line in case the primary line is interrupted. This enables the most uptime for critical data transmission. Other enhanced features include 3R function, remote

management, fault propagation, line-in/line-out loop back, fault pass through, rate-limiting and etc. on the CWDM/DWDM wavelength cards.

OPCOM600 family basically consists of three parts: CWDM/DWDM wavelength converter for the media conversion of normally used optical/electrical signal to CWDM/DWDM colored wavelength, MUX/DEMUX for the multiplexing/de-multiplexing of CWDM/DWDM specific wavelengths and protection modules for channel, path/line protection.

## Raisecom Solution

Solution 1: Point to Point Application by using CWDM system

services requirement: There are Node A and Node B with Point to Point Application. The distance Between A and B is 50km; 8 CWDM wavelength passageways need to be used to transmit 16 services between Node A and Node B. The line side supports 1+1 protection. The services need to be transmitted from Node A to Node B are: (1\*FE, 10\*GE, 1\*10GE, 1\*STM-1, 1\*STM-4, 1\*STM-16, 1\*STM-64)



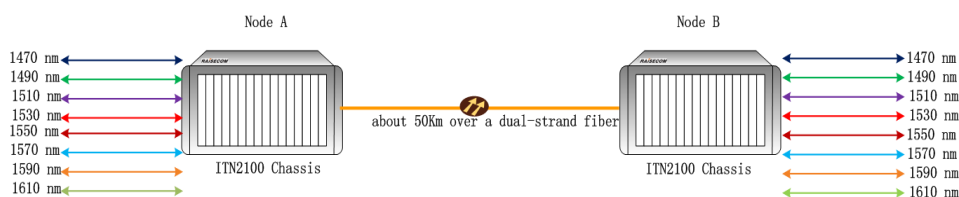
Wavelength assignment table:

Service list	Wavelength
1*FE	1471nm
1*STM1	1491nm
1*STM4	1511nm
1*STM16	1531nm
2*GE	1551nm
8*GE	1571nm
1*10GE	1591nm
1*STM64	1611nm

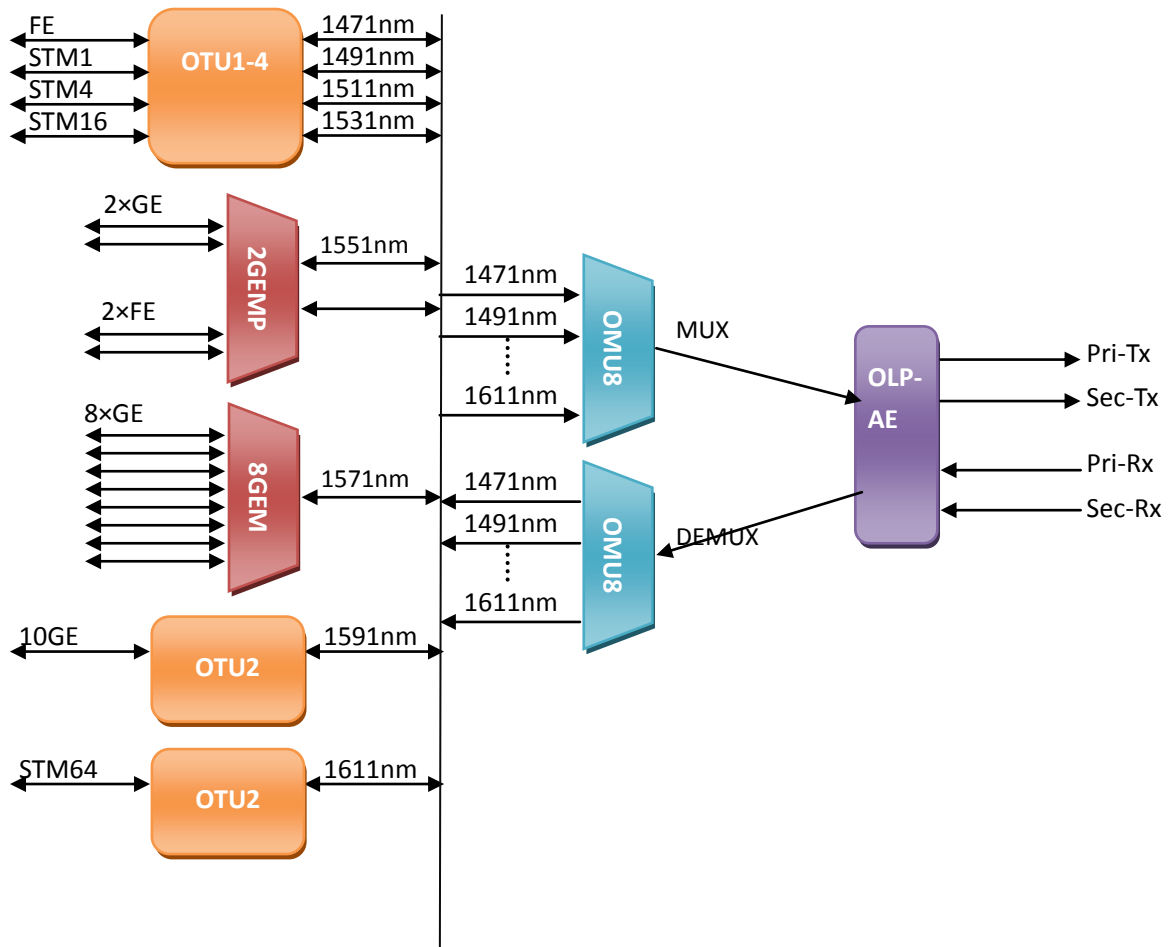
BOM listing:

Device	Node A	Node B
OPCOM600-OTU1-4	1	1
OPCOM600-2GEMP	1	1
OPCOM600-8GEM	1	1
OPCOM600-OTU2	2	2
OPCOM600-OLP-AE	1	1
OPCOM600-OMU8	2	2
CSFP-03/L/47	1	1
CSFP-03/L/49	1	1
CSFP-Gb/L/51	1	1
CSFP-48/L/53	1	1
CSFP-48/L/55	1	1
CXFP-192/L/57	1	1
CXFP-192/L/59	1	1
CXFP-192/L/61	1	1
ITN2100-NMS	1	1
ITN2100 Chassis	1	1
RC006-FANS1	1	1
SUB-PWR11-AC-300	1	1

Typical Topology:



Device assignment diagram of Node A or Node B:



Solution 2: Point to Point Application by using DWDM system

services requirement: There are Node A and B with Point to Point Application. The distance Between A and B is 50km; 16 DWDM wavelength passageways need to be used to transmit 32 services between Node A and Node B. The line side supports 1+1 protection. The services need to be transmitted from Node A to Node B are: (2\*FE, 20\*GE, 2\*10GE, 2\*STM-1, 2\*STM-4, 2\*STM-16, 2\*STM-64)



Wavelength assignment table:

Service list	Wavelength
1*FE	1536.61nm
1*STM1	1538.19nm
1*STM4	1539.77nm
1*STM16	1541.35nm
2*GE	1542.94nm
8*GE	1552.52nm
1*10GE	1554.13nm
1*STM64	1555.75nm
1*FE	1544.53nm
1*STM1	1546.12nm
1*STM4	1547.72nm
1*STM16	1549.32nm
2*GE	1550.92nm
8*GE	1557.36nm
1*10GE	1558.98nm
1*STM64	1560.61nm

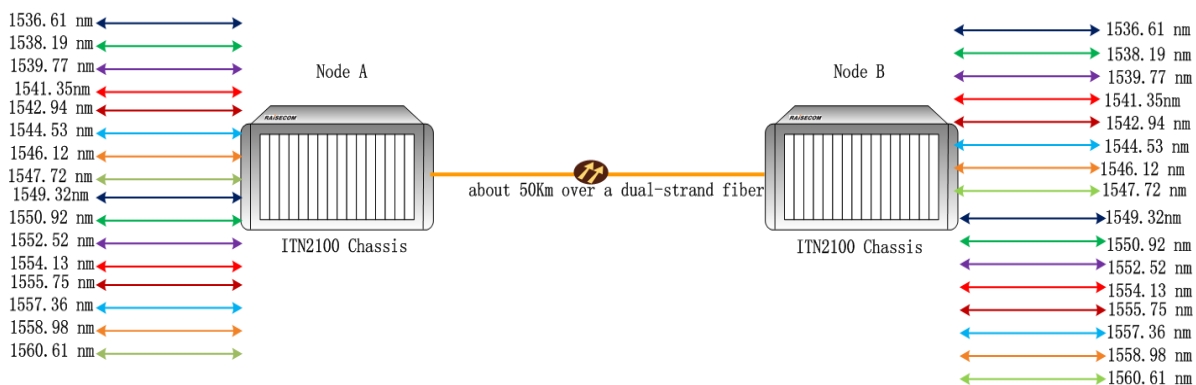
BOM listing:

Device list	Node A	Node B
OPCOM600-OTU1-4	2	2
OPCOM600-2GEMP	2	2
OPCOM600-8GEM	2	2
OPCOM600-OTU2	4	4
OPCOM600-OLP-AE	1	1
OPCOM600-DMU16	2	2
DSFP-48/L/51	1	1
DSFP-48/L/49	1	1
DSFP-48/L/47	1	1
DSFP-48/L/45	1	1
DSFP-48/L/43	1	1
DSFP-48/L/41	1	1
DSFP-48/L/39	1	1

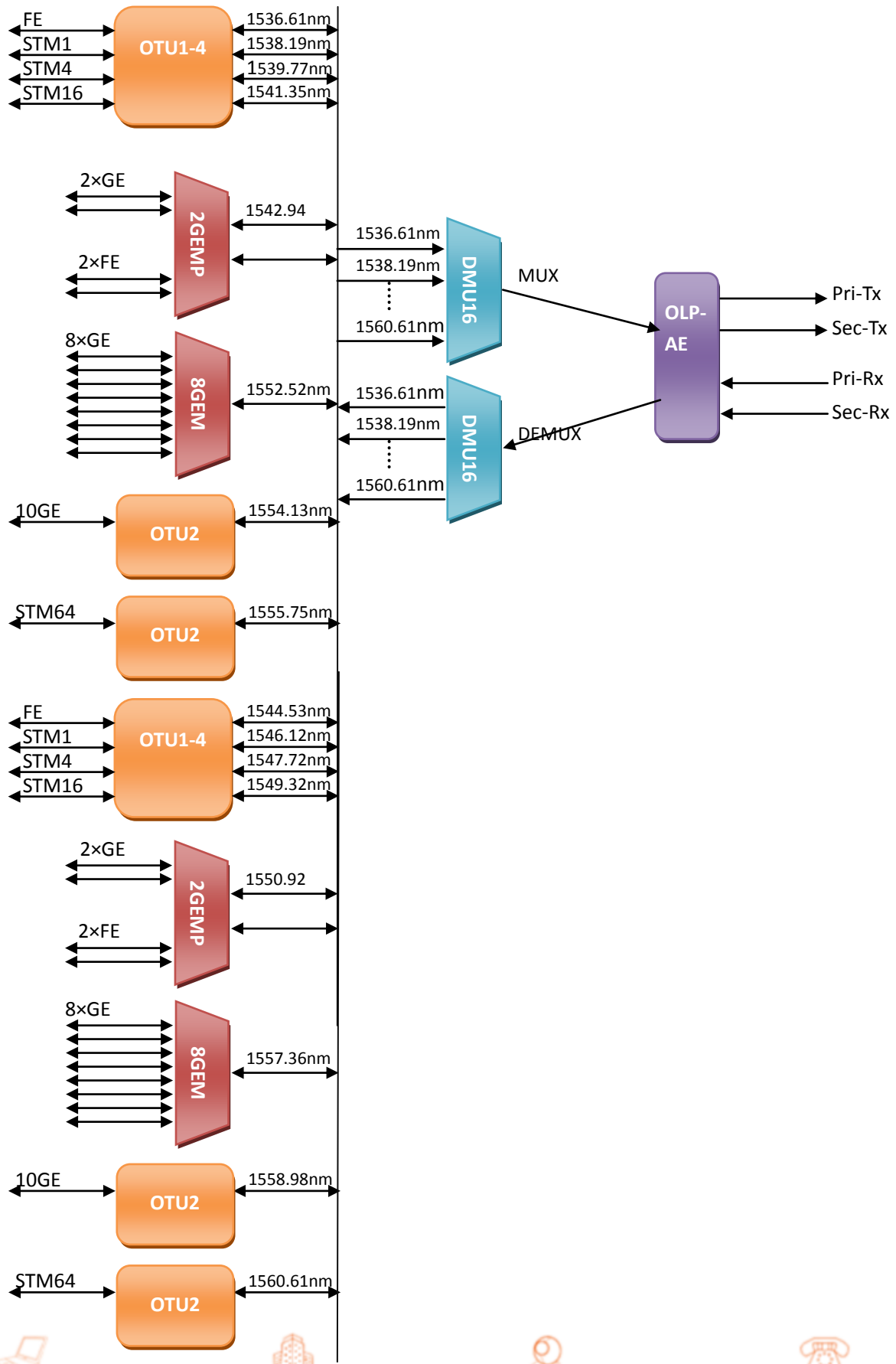


DSFP-48/L/37	1	1
DSFP-48/L/35	1	1
DSFP-48/L/33	1	1
DXFP-192/L/31	1	1
DXFP-192/L/29	1	1
DXFP-192/L/27	1	1
DXFP-192/L/25	1	1
DXFP-192/L/23	1	1
DXFP-192/L/21	1	1
ITN2100-NMS	2	2
ITN2100 Chassis	2	2
RC006-FANS1	2	2
SUB-PWR11-AC-300	2	2

Typical Topology:



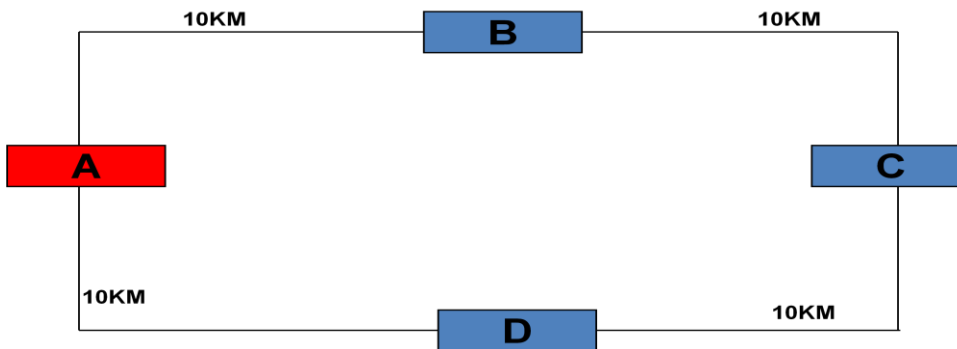
Device assignment diagram of Node A or Node B:



Solution 3: Aggregation Ring Application by using CWDM system

services requirement: There are four Nodes: A, B, C and D with Ring Application. The distance Between A and B, B and C, C and D, A and D are all 10km. Node A is Aggregation Point; the services between B-A are 2\*GE and between C-A is 1\*STM-16. The services between D-A is 1\*10GE. The Application supports Ring Protection.

Typical Topology:



Wavelength assignment table:

Service list	Wavelength	A	B	C	D	A
2*GE	1511nm	←→	←→	←- - -	- - - -	- - - -
1*STM16	1531nm	←→	←→	←- - -	- - - -	- - - -
1*10GE	1551nm	←- - -	- - - -	- - - -	←→	←→
free	1571nm					

Working Path: ←→

Protection Path: ←- - - -

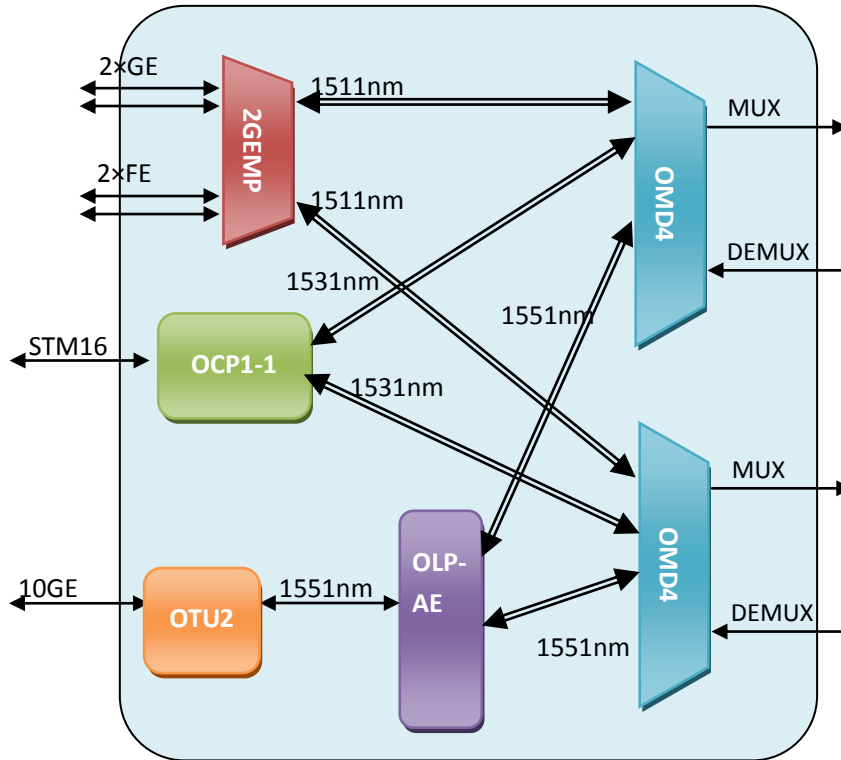
BOM listing:

Device list	A	B	C	D
OPCOM600-OMD4	2	0	0	0
OPCOM600-2GEMP	1	1	0	0
OPCOM600-OCP1-1	1	0	1	0
OPCOM600-OTU2	1	0	0	1
OPCOM600-OLP-AE	1	0	0	1
OPCOM600-OAD1D-51	0	1	0	0
OPCOM600-OAD1D-53	0	0	1	0
OPCOM600-OAD1D-55	0	0	0	1
CSFP-48/L/51	2	2	0	0
CSFP-48/L/53	2	0	2	0
CXFP-192/L/55	1	0	0	1

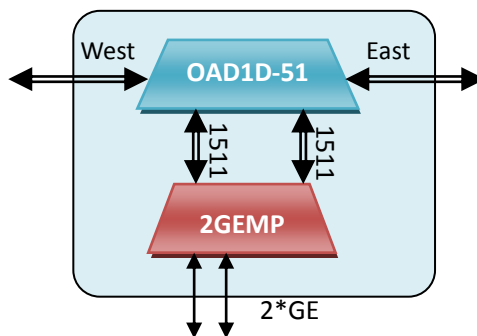


ITN2100-NMS	1	1	1	1
ITN2100 Chassis	1	1	1	1
RC006-FANS1	1	1	1	1
SUB-PWR11-AC-300	1	1	1	1

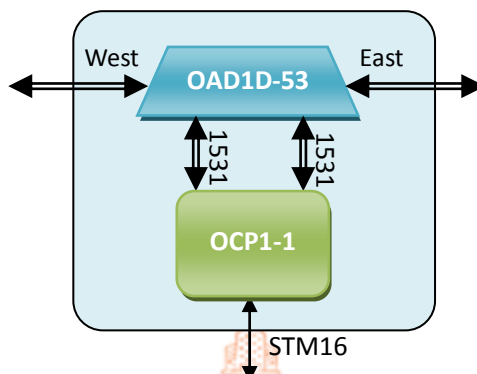
Device assignment diagram of Node A:



Device assignment diagram of Node B:



Device assignment diagram of Node C:



Device assignment diagram of Node D:

