



# CHAPTER 5

## CHG Commands

---

This chapter provides change (CHG) commands for the Cisco ONS 15310-MA, Cisco ONS 15454, Cisco ONS 15454 M2, and Cisco ONS 15454 M6.



### Note

All commands supported on the Cisco ONS 15454 platform are also supported on Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms.

---

### 5.1 CHG-ACCMD-<MOD\_TACC>

(Cisco ONS 15310-MA and Cisco ONS 15454) The Change Test Access Mode for the DS1, DS3I, E1, E3, STS1, STS12C, STS192C, STS24C, STS3C, STS48C, STS96C, STS6C, STS9C, T1, T3, VT1, or VT2 (CHG-ACCMD-<MOD\_TACC>) command changes the test access (TACC) mode for the circuit being tested. This can be a change from monitoring the data to inserting data into the synchronous transport signal (STS). For more information about TACC, refer to the *Cisco ONS SONET TL1 Reference Guide*. See [Table 28-1 on page 28-1](#) for supported modifiers by platform.

#### Usage Guidelines

This command can only be applied to an existing test access point (TAP) connection.



### Caution

For this command to be applicable, first create the TAP using the ED-<MOD\_PATH> command. Intrusive test access modes are traffic-affecting. If a facility/path is connected to a TAP in an intrusive test access mode, it is forced to go into the Out of Service, Maintenance (OOS-MT) state. The forced transition could be traffic-affecting. The present state of the facility/path is stored by the network element (NE) and is restored when the TAP connection is terminated. Test access connections are dropped automatically if the TL1 session is terminated or is timed out.

---



### Note

- If there is no TAP connection, a DENY error message is returned.
  - If a requested condition already exists, a SRCN error message is returned.
  - If a requested access configuration is invalid, a SRAC error message is returned.
  - If a requested TAP does not exist, a RTEN error message is returned.
-

**Category** Troubleshooting and Test Access

**Security** Maintenance

**Input Format** CHG-ACCMD-<MOD\_TACC>:[<TID>]:<TAP>: <CTAG>::<MD>;

**Input Example** CHG-ACCMD-STS1:CISCO:8:123::MONE;

|                         |         |   |
|-------------------------|---------|---|
| <b>Input Parameters</b> | <TAP>   | The test access point number. The TAP number must be an integer with a range of 1 to 999. It is a string.<br><br><b>Note</b> This command only supports changing the mode for a single TAP number at a time.  |
|                         | <MD>    | The test access mode. (SPLTE, SPLTF, LOOPE, and LOOPF require an external quasi-random signal [QRS] input signal.) Single facility access digroup (FAD) test access does not support MONEF, SPLTEF, and SPLTAB modes.<br><br>The parameter type is test access mode (TACC_MODE).  |
|                         | • LOOPE | Splits both the A and B paths. Connect the line incoming from the E direction to the line outgoing in the E direction, and connect this looped configuration to the FAD. The line outgoing in the F direction will have a QRS connected, and the line incoming from the F direction will be terminated by the nominal characteristic impedance of the line. Intrusive test access mode. |
|                         | • LOOPF | Splits both the A and B paths. Connect the line incoming from F direction to the line outgoing in the F direction, and connect this looped configuration to the FAD. The line outgoing in the E direction will have a QRS connected, and the line incoming from the E direction will be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.     |
|                         | • MONE  | Indicates that a monitor connection will be provided from the FAD to the A transmission path of the accessed circuit.   |
|                         | • MONEF | Indicates that a monitor connection will be provided for the following: <ul style="list-style-type: none"> <li>• From the FAD1 to a dual FAD (DFAD), or from the odd pair of a facility access path (FAP) to the A transmission path</li> <li>• From the FAD2 of the same DFAD or the even pair of a FAP, to the B transmission path of the accessed circuit</li> </ul>                 |
|                         | • MONF  | Indicates that a monitor connection will be provided from the FAD to the B transmission path of the accessed circuit.   |
|                         | • SPLTA | Indicates that a connection will be provided from both the E and F sides of the A transmission path of the circuit under test to the FAD and split the A transmission path. Intrusive test access mode.   |
|                         | • SPLTB | Indicates that a connection will be provided from both the E and F sides of the B transmission path of the circuit under test to the FAD and split the B transmission path. Intrusive test access mode.   |

|          |   |
|----------|---|
| • SPLTE  | Splits both the A and B paths and connect the E side of the accessed circuit to the FAD. The line outgoing in the F direction will have a QRS connected, the line incoming from the F direction will have a QRS connected, and the line incoming from the E direction will be terminated by the nominal characteristic impedance of the line. Intrusive test access mode. |
| • SPLTEF | Splits both the A and B paths, and connect the E side of the accessed circuit to FAD1 and the F side to FAD2. Intrusive test access mode.   |
| • SPLTF  | Splits both the A and B paths, and connect the F side of the accessed circuit to the FAD. The line outgoing in the E direction will have a QRS connected, the line incoming in the E direction will have a QRS connected, and the line incoming from the E direction will be terminated by the nominal characteristic impedance of the line. Intrusive test access mode.  |

## 5.2 CHG-EQPT

(Cisco ONS 15454) The Change Equipment (CHG-EQPT) command performs an in-service upgrade from low density (LD) electrical cards (DS1 [DS1-14, DS1N-14], DS3 [DS3-12, DS3N-12, DS3NE-12], EC1, and DS3XM-6) to high density (HD) electrical cards (DS1/E1-56, DS3/EC1-48, and DS3XM-12).

### Usage Guidelines

- For Software Release 6.0 and later, only limited upgrades are supported, such as upgrading one LD DS3-12 card to one HD DS3/EC1-48 card.
- Optical (OC-N) card upgrades and downgrades are supported with the limitations of the MRC-12 and MRC-2.5G-4 cards.
- Compatible equipment types for card upgrade:
  - DS3XM-6 to DS3XM-12
  - DS-3/DS3-N/DS3-E/DS3N-E to DS3/EC1-48
  - DS-1/DS1-N to DS1/E1-56
  - DS1-28-DS3-EC1-3
  - DS1-84-DS3-EC1-3
- Provisioning rules for card upgrade:
  - DS1-14 and DS1N-14 cards that are provisioned in Slot 1, 2, 3, 15, 16, or 17 should be upgraded to DS1/E1-56.
  - DS1-14 and DSN-14 cards that are provisioned in Slot 4, 5, 6, 12, 13, or 14 will fail when upgrading to DS1/E1-56.
  - DS3-12, DS3N-12, DS3E-12, and DS3N-12E cards that are provisioned in Slot 1, 2, 3, 15, 16, or 17 can be upgraded to DS3/EC1-48.
  - DS3-12, DS3N-12, DS3E-12, and DS3N-12E cards that are provisioned in Slot 4, 5, 6, 12, 13, or 14 will fail when upgrading to DS3/EC1-48.
  - Two upgradable cards provisioned in a 1:1 protection group cannot be upgraded.

### Category

Equipment

**Security**

Maintenance

**Input Format**

```
CHG-EQPT:[<TID>]:<AID>:<CTAG>::<EQPTTYPE>:[PPMTYPE=PPMTYPE:],
[PPMNUM=<PPMNUM>],[PORTNUM=<PORTNUM>],[PORTRATE=<PORTRATE>];
```

**Input Example**

```
CHG-EQPT::SLOT-14:1::MRC-2.5G-4:PPMTYPE=PPM-1,PPMNUM=1,PORTNUM=1,
PORTRATE=OC48;
```

**Input Parameters**

| Input Parameters   | Description   |
|--|---|
| <SRC>  | The source access identifier from the “26.15 EQPT” section on page 26-37. |
| <EQPTTYPE>   | The equipment type to be upgraded. The parameter type is EQUIPMENT_TYPE.  |
| <ul style="list-style-type: none"> <li>10GE-XP</li> </ul>          | (ONS 15454) 2 x 10 Gbps. muxponder/L2 ethernet switch card                |
| <ul style="list-style-type: none"> <li>15216-MD-40-EVEN</li> </ul> | Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid |
| <ul style="list-style-type: none"> <li>15216-MD-40-ODD</li> </ul>  | Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid  |
| <ul style="list-style-type: none"> <li>15216-MD-ID-50</li> </ul>   | Thermal Interleaver Passive Unit, spaced at 50 GHz grid                   |
| <ul style="list-style-type: none"> <li>40G-MXP-C</li> </ul>        | 40 Gbit/Sec Multirate Muxponder   |
| <ul style="list-style-type: none"> <li>40-SMR1-C</li> </ul>        | The single module 40-channel ROADM on C-band                              |
| <ul style="list-style-type: none"> <li>40-SMR2-C</li> </ul>        | The single module 40-channel ROADM with EDFA on C-band                    |
| <ul style="list-style-type: none"> <li>40G-TXP-C</li> </ul>        | 40 Gigabits per second Multirate Transponder                              |
| <ul style="list-style-type: none"> <li>80-WXC-C</li> </ul>         | 80-channel wavelength cross-connect spaced at 100 GHz grid                |
| <ul style="list-style-type: none"> <li>AD-1B</li> </ul>            | (ONS 15454) Optical add/drop multiplexed (OADM) 1 band filter             |
| <ul style="list-style-type: none"> <li>AD-1C</li> </ul>            | (ONS 15454) Optical add/drop multiplexed (OADM) 1 channel filter          |
| <ul style="list-style-type: none"> <li>AD-2C</li> </ul>            | (ONS 15454) Optical add/drop multiplexed (OADM) 2 channels filter         |
| <ul style="list-style-type: none"> <li>AD-4B</li> </ul>            | (ONS 15454) Optical add/drop multiplexed (OADM) 4 bands filter            |
| <ul style="list-style-type: none"> <li>AD-4C</li> </ul>            | (ONS 15454) Optical add/drop multiplexed (OADM) 4 channels filter         |
| <ul style="list-style-type: none"> <li>ADM-10G</li> </ul>          | (ONS 15454) 16 x OC3/OC12/OC48/GIGE and OC192/Trunk ADM 10 Gbps card      |
| <ul style="list-style-type: none"> <li>AIC</li> </ul>              | (ONS 15454) AIC card  |
| <ul style="list-style-type: none"> <li>AICI</li> </ul>             | (ONS 15454) AICI Card   |
| <ul style="list-style-type: none"> <li>ASAP-4</li> </ul>           | Any service any port (ASAP) carrier card with four PIM slots              |

| Input Parameters   | Description  |
|--------------------|--|
| • CE-1000-4        | (ONS 15454) Modena mapper card   |
| • CE-100T-8        | (ONS 15454 and ONS 15310-MA) Exige/Elise mapper card                           |
| • CE-MR-10         | (ONS 15454, ONS 15454) Lotus20g ce2 card                                       |
| • CE-MR-6          | (ONS 15310 MA) GT3 CE2 Card  |
| • CTX-2500         | (ONS 15310-MA) CTX card  |
| • CXC              | Cross connect card   |
| • DCU              | Dispersion Compensation Unit   |
| • DS1-E1-56        | (ONS 15454) DS1-E1-56 card   |
| • DS3I             | (ONS 15454) DS3I card  |
| • DS3IN            | (ONS 15454) DS3IN card   |
| • E1-42            | (ONS 15454) 42 port E1 card  |
| • E1-21-DS3-E3-3   | (ONS 15310 MA) E1-21-DS3-E3-3 Card   |
| • E1-63-DS3-E3-3   | (ONS 15310 MA) E1-63-DS3-E3-3 Card   |
| • E1000T           | (ONS 15454) E1000T card  |
| • E100T            | (ONS 15454) E100T card   |
| • E3               | (ONS 15454) E3 card  |
| • FC-MR-4          | (ONS 15454) FC-MR-4 card   |
| • FILLER-CARD      | (ONS 15454 and ONS 15310-MA) Blank filler card                                 |
| • FMEC-155E-1TO3   | The equipment type for FMEC STM1E12 card with 1:3 protection                   |
| • FMEC-155E-UNPROT | The equipment type for FMEC STM1E12 card without protection                    |
| • G1000-4          | (ONS 15454) A 4-port G1000 card  |
| • GE-XP            | (ONS 15454) 20 x 1 Gbps muxponder/L2 ethernet switch card                      |
| • MD-4             | (ONS 15454) Four channel optical multiplexer/demultiplexer                     |
| • MESH-PP-SMR      | The passive unit Patch Panel device used to connect up to four 40-SMR2-C cards |
| • ML-100T-8        | (ONS 15454, ONS 15310-MA) Exige/Elise mapper card                              |
| • ML1000-2         | (ONS 15454) Daytona 2-port GigE  |
| • ML100T-12        | (ONS 15454) Daytona 12-port FSTE   |
| • ML100X-8         | (ONS 15454) 8-port 100T card with optical interface                            |
| • MRC-12           | (ONS 15454) Humvee - 12-port multirate optical card                            |
| • MRC-2.5G-4       | (ONS 15454) 4-port MRC 2.5G (Hummer 4 15454-ANSI card)                         |
| • MRC-2.5G-12      | (ONS 15454) 12-port MRC 2.5G (Hummer 12 15454-ETSI card)                       |
| • MXP-2.5G-10E     | (ONS 15454) Monviso 10G (4 * 2.5G) muxponder card with enhanced FEC            |
| • MXP-2.5G-10EX    | (ONS 15454) Cengalo 10G (4 * 2.5G) muxponder with enhanced FEC card            |

| Input Parameters            | Description  |
|-----------------------------|--|
| • MXP-2.5G-10G              | (ONS 15454) Skane 10G (4 * 2.5G) muxponder card  |
| • MXP-MR-2.5G               | (ONS 15454) Bernina multirate 2.5G muxponder unprotected   |
| • MXPP-MR-2.5G              | (ONS 15454) Bernina multirate 2.5G muxponder protected   |
| • MXPP-MR-10DME             | (ONS 15454) Multirate 10Gbps datamux   |
| • MXPP-MR-10DMEX            | (ONS 15454) Multirate 10Gbps datamux with enhanced dispersion  |
| • OC12                      | (ONS 15454) OC12 card  |
| • OC12-4                    | (ONS 15454) A 4-port OC12 card   |
| • OC192                     | (ONS 15454) OC192 card   |
| • OC192-XFP                 | (ONS 15454) Mongoose - 1-port OC192 XFP  |
| • OC192-4/STM64-4           | 4-port OC192 card  |
| • OC192-4-DWDM/STM64-4-DWDM | Leatherneck: 4-port OC192 card with tunable laser for C band   |
| • OC3                       | (ONS 15454) OC3 card   |
| • OC3-8                     | (ONS 15454) 8-port OC3 card  |
| • OC48                      | (ONS 15454) OC48 card  |
| • OC48-16/STM16-16          | 16-port OC48 card  |
| • OPT-AMP-17-C              | (ONS 15454) Optical booster/pre-amplifier for C band 17 dBm  |
| • OPT-AMP-23-C              | (ONS 15454) Optical booster/pre-amplifier for C band 23 dBm  |
| • OPT-AMP-L                 | (ONS 15454) Optical booster/pre-amplifier for L band   |
| • OPT-AMP-C                 | (ONS 15454) Optical booster/pre-amplifier for C band   |
| • OPT-BST                   | (ONS 15454) Optical booster amplifier  |
| • OPT-BST-E                 | (ONS 15454) Optical booster enhanced amplifier for C band  |
| • OPT-BST-L                 | (ONS 15454) Optical booster amplifier for L band   |
| • OPT-PRE                   | (ONS 15454) Optical pre-amplifier  |
| • OPT-RAMP-C                | Raman pump amplifier C-band  |
| • OPT-RAMP-CE               | An extended version of Raman pump amplifier  |
| • OPT-RAMP-E                | Raman pump amplifier E-band  |
| • OSC-CSM                   | (ONS 15454) Optical service channel (OSC) with combiner/separators module (SCM)                        |
| • OSCM                      | (ONS 15454) Optical service channel (OSC) module   |
| • OTU2-XP                   | A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64 |
| • PIM-1                     | 1-port pluggable interface module  |
| • PIM-4                     | 4-port pluggable interface module  |
| • PP-4-SMR                  | Patch-Panel, 4 degrees, for SMR cards  |
| • PP-MESH-4                 | Patch-Panel, 4 degrees   |
| • PP-MESH-8                 | Patch-Panel, 8 degrees   |

| Input Parameters | Description  |
|------------------|--|
| • PPM-1          | (ONS 15454 and ONS 15310-MA) Pluggable port module with one SFP port               |
| • SHELF-M2       | SHELF-M2   |
| • SHELF-M6       | SHELF-M6   |
| • SSXC           | Cross connect card   |
| • STM1E-12       | (ONS 15454 SDH) STM1E-12 card  |
| • TCC            | (ONS 15454) TCC card   |
| • TDC-CC         | Coarse tunable dispersion compensation unit  |
| • TDC-FC         | Fine tunable dispersion compensation unit  |
| • TNC            | Transport Node Controller card   |
| • TSC            | Transport Shelf Controller card  |
| • TXP-MR-10E     | (ONS 15454) Skane 10G multirate transponder card with enhanced FEC                 |
| • TXP-MR-10G     | (ONS 15454) Skane 10G multirate transponder card                                   |
| • TXP-MR-2.5G    | (ONS 15454) Rockwell multirate 2.5G unprotected                                    |
| • TXPP-MR-2.5G   | (ONS 15454) Rockwell multirate 2.5G protected                                      |
| • XC             | (ONS 15454) XC card  |
| • XC10G          | (ONS 15454) XC10G card   |
| • XCVT           | (ONS 15454) XCVT card  |
| • XCVXC-10G      | (ONS 15454) XCVXC-10G card   |
| • XCVXC-2.5G     | (ONS 15454) XCVXC-2.5G card  |
| • XCVXL-10G      | (ONS 15454) XCVXL-10G card   |
| • XCVXL-2.5G     | (ONS 15454) XCVXL-2.5G card  |
| <PPMTYPE>        | Identifies the pluggable port module type. This parameter can take only one value. |
| • PPM-1          | Single-port PPM  |
| <PPMNUM>         | Identifies the pluggable port module number. This parameter is an Integer.         |
| • 1              | PPM No. 1  |
| • 2              | PPM No. 2  |
| • 3              | PPM No. 3  |
| • 4              | PPM No. 4  |
| • 5              | PPM No. 5  |
| • 6              | PPM No. 6  |
| • 7              | PPM No. 7  |
| • 8              | PPM No. 8  |
| • 9              | PPM No. 9  |
| • 10             | PPM No. 10   |
| • 11             | PPM No. 11   |
| • 12             | PPM No. 12   |

| Input Parameters | Description  |
|------------------|--|
| <PORTNUM>        | Identifies the port number, which is used on the entity port with PPM. This parameter is an integer. |
| • 1              | Port No. 1   |
| <PORTRATE>       | Identifies the port rate, which is used to specify the port rate of the multi-rate card.             |
| • STM1           | STM-1 rate   |
| • STM4           | STM-4 rate   |
| • STM16          | STM-16 rate  |