
# CHG Commands

This chapter provides change (CHG) commands for the Cisco NCS 2002 and Cisco NCS 2006.

## 7.1 CHG-ACCMD-<MOD_TACC>

The Change Test Access Mode for DS3I, E1, E3, VC3, VC44C, VC38C, VC464C, VC48C, VC36C, VC4, VC416C, VC42C, VC43C, VC11, or VC12 (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 VC. SeeTable 29-1 on page 29-1 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-VC3:CISCO:8:123::MONE;

*Table 7-1 CHG-ACCMD-<MOD_TACC> Command - Parameter Support*

| Input Parameters | Description |
|---|---|
| <TAP> | The Test Access Path number. The TAP number must be an integer with a range of 1 to 999. TAP is a string<br>**Note** This command supports changing the mode for only 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. The parameter type is TACC_MODE, which is the test access mode. |
| • LOOPE | Indicates to split both the A and B paths. Connect the line incoming from 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 shall have a QRS connected, and the line incoming from the F direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode. |
| • LOOPF | Indicates to split 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 shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode. |
| • MONE | Indicates that a monitor connection is to be provided from the FAD to the A transmission path of the accessed circuit. |
| • MONEF | Indicates that a monitor connection is to be provided from the FAD1 to a DFAD, or the odd pair of a FAP, to the A transmission path and from FAD2 of the same DFAD, or the even pair of a FAP, to the B transmission path of the accessed circuit. |
| • MONF | Indicates that a monitor connection is to be provided from the FAD to the B transmission path of the accessed circuit. |
| • SPLTA | Indicates that a connection is to 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 is to 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 | Indicates to split 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 shall have a QRS connected, and the line incoming from the F direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode. |
| • SPLTEF | Indicates to split 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 | Indicates to split 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 shall have a QRS connected, and the line incoming in the E direction shall have a QRS connected, and the line incoming from the E direction shall be terminated by the nominal characteristic impedance of the line. Intrusive test access mode. |

# 7.2 CHG-EQPT

The Change Equipment (CHG-EQPT) command performs an in-service card upgrade or downgrade.

**Usage Guidelines**

- Optical (STM) card upgrades and downgrades are supported within the limitations of the MRC-12 card.
- 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-12:PPMTYPE=PPM-1,PPMNUM=1,PORTNUM=1,PORTRATE=STM16;

*Table 7-2 CHG-EQPT Command - Parameter Support*

| Input Parameters | Description |
|---|---|
| <SRC> | The source access identifier from the 27.13 EQPT, page 27-21. |
| <EQPTTYPE> | The equipment type to be upgraded. The parameter type is EQUIPMENT_TYPE. |
| • 100G-LC-C | 100G-LC-C card |
| • 100G-CK-C | 100G-CK-C card |
| • 10X10G-LC | 10X10G-LC card |
| • CFP-LC | CFP-LC card |
| • AR-MXP | Any rate muxponder |
| • AR-XP | Any rate xponder |
| • AR-XPE | Any rate enhanced xponder. |
| • 16-WXC-FS | 16-WXC-FS card. |
| • 15216-MD-40-EVEN | Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on even grid |
| • 15216-MD-40-ODD | Thermal Multiplex/Demultiplex Passive Unit, spaced at 50 GHz on odd grid |
| • 15216-MD-ID-50 | Thermal Interleaver Passive Unit, spaced at 50 GHz grid |
| • 15216-FLD4-30-3 | Edge 4-Ch Bi-Directional OADM Module 1530.33 to 1532.68. |
| • 15216-FLD4-33-4 | Edge 4-Ch Bi-Directional OADM Module 1533.47 to 1535.82. |
| • 15216-FLD4-36-6 | Edge 4-Ch Bi-Directional OADM Module 1536.61 to 1538.98. |
| • 15216-FLD4-39-7 | Edge 4-Ch Bi-Directional OADM Module 1539.77 to 1542.14. |

*Table 7-2 CHG-EQPT Command - Parameter Support*

| Input Parameters | Description |
|---|---|
| • 15216-FLD4-42-9 | Edge 4-Ch Bi-Directional OADM Module 1542.94 to 1545.32. |
| • 15216-FLD4-46-1 | Edge 4-Ch Bi-Directional OADM Module 1546.12 to 1548.51. |
| • 15216-FLD4-49-3 | Edge 4-Ch Bi-Directional OADM Module 1549.32 to 1551.72. |
| • 15216-FLD4-52-5 | Edge 4-Ch Bi-Directional OADM Module 1552.52 to 1554.94. |
| • 15216-FLD4-55-7 | Edge 4-Ch Bi-Directional OADM Module 1555.75 to 1558.17. |
| • 15216-FLD4-58-9 | Edge 4-Ch Bi-Directional OADM Module 1558.98 to 1561.42. |
| • 32DMX-L | 3- channel demultiplexer for L-band |
| • 32WSS-L | 32-channel wavelength switch selector for L-band |
| • 40-MXP-C | 40 Gbit/Sec Multirate Muxponder |
| • 40-SMR1-C | The single module 40-channel ROADM on C-band |
| • 40-SMR2-C | The single module 40-channel ROADM with EDFA on C-band |
| • 40-TXP-C | 40 Gigabits per second Multirate Transponder |
| • 80-WXC-C | 80-channel wavelength cross-connect spaced at 100 GHz grid |
| • AD-1B | OADM 1-Band Filter |
| • AD-1C | OADM 1-Channel Filter |
| • AD-2C | OADM 2-Channel Filter |
| • AD-4B | OADM 4-Band Filter |
| • AD-4C | OADM 4-Channel Filter |
| • AICI | AIC-I card |
| • AIP | Alarm Indication Panel |
| • ALM-PWR | Alarm Power |
| • ASAP-4 | ASAP carrier card with four PIM slots |
| • BP | The backplane of the NE |
| • CE-100T-8 | 8-port 100T card |
| • CE-1000-4 | 4-port GIGE mapper card |
| • CRFT-TMG | Craft Timing |
| • DCC | Data Communications Channel |
| • DCU | Dispersion Compensation Unit |
| • DMX-32 | Optical DMX 32 Channels |
| • DS3i-N-12 | DS3i-N-12 card |
| • E1 | E1 card |
| • E1-42 | 42-port E1 card |
| • E1000T-2 | 2-port interface card supporting 1000BaseT Ethernet facilities |
| • E100T-12 | 12-port interface card supporting 100BaseT Ethernet facilities |
| • E100T-4 | Four-port interface card supporting 100BaseT Ethernet facilities |
| • E1N | E1N card |

*Table 7-2 CHG-EQPT Command - Parameter Support*

| Input Parameters | Description |
|---|---|
| • E3 | E3 card |
| • EDRA-1-26 | EDRA-1-26 amplifier |
| • EDRA-1-35 | EDRA-1-35 amplifier |
| • EDRA-2-26 | EDRA-2-26 amplifier |
| • EDRA-2-35 | EDRA-2-35 amplifier |
| • FBGDCU-1157 | |
| • FBGDCU-1322 | |
| • FBGDCU-165 | |
| • FBGDCU-1653 | |
| • FBGDCU-1983 | |
| • FBGDCU-331 | |
| • FBGDCU-496 | |
| • FBGDCU-661 | |
| • FBGDCU-826 | |
| • FBGDCU-992 | |
| • FILLER_CARD | Filler card |
| • FMEC-155E-1TO1 | The equipment type for FMEC STM1E12 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 |
| • FMEC-SMZ-E1 | FMEC card corresponding to E1 card |
| • FMEC-SMZ-E3 | FMEC card corresponding to E3 card |
| • FTA | Fan Tray of the NE |
| • FTA1 | Fan Tray 1 of the NE |
| • FTA2 | Fan Tray 2 of the NE |
| • G1K-4 | G1K-4 card |
| • MD-4 | Optical Multiplexer/Demultiplexer with 4 Channels |
| • MD-48-CM | |
| • MD-48-EVEN | |
| • MD-48-ODD | |
| • MESH-PP-SMR | The passive unit Patch Panel device used to connect upto four 40-SMR2-C cards |
| • MF-16AD-CFS | 16-channels - 1 direction, colorless, omnidirectional add/drop unit. |
| • MF-4x4-COFS | 4-channels, 4-directions, colorless, omnidirectional add/drop unit. |
| • MF-AST-EDFA | MF-AST-EDFA unit |
| • MF-DEG-5 | 5-degrees mesh patch panel |
| • MF-MPO-8LC | MPO to 8-LC adapter |
| • MF-UPG-4 | 4-degrees upgrade module |

*Table 7-2 CHG-EQPT Command - Parameter Support*

| Input Parameters | Description |
|---|---|
| • ML100X-8 | 8-port 100X card with optical interface |
| • ML-100T-8 | 8-port 100T card with optical interface |
| • MMU | Multiring mesh upgrade unit |
| • MS-ISC-100T | Fast Ethernet switch card used for internal shelf connection |
| • MUX-32 | Optical MUX 32 Channels |
| • MXP-2.5G-10G | 10G (4 * 2.5G) Muxponder card |
| • MXP-MR-10DME | 10 Gbps datamux with enhanced FEC |
| • OPT-AMP-L | Optical preamplifier for L-band |
| • OPT-BST | Optical booster amplifier |
| • OPT-BST-L | Optical booster for L-band |
| • OPT-EDFA-17 | MAL-less EDFA Optical Amplifier - C-band - 17dB Gain |
| • OPT-EDFA-24 | MAL-less EDFA Optical Amplifier - C-band - 24dB Gain |
| • OPT-PRE | Optical Preamplifier |
| • OPT-RAMP-C | Raman pump amplifier C-band |
| • OPT-RAMP-CE | An extended version of Raman pump amplifier |
| • OPT-RAMP-COP | Raman COP card. |
| • OPT-RAMP-CTP | Raman CTP card. |
| • OPT-RAMP-E | Raman pump amplifier E-band |
| • OSC-CSM | Optical Service Channel with Combiner/Separator Module |
| • OSCM | Optical Service Channel Module |
| • OTU2-XP | A 4x10G transponder that is capable to operate with multiple bit rates - 10G FC, 10GE, and OC192/STM64 |
| • PIM-4 | Pluggable interface module with 4 PPM slots |
| • PP-4-SMR | Patch-Panel, 4 degrees, for SMR cards |
| • PP-MESH-4 | Patch-Panel, 4 degrees |
| • PP-MESH-8 | Patch-Panel, 8 degrees |
| • PPM-1 | Pluggable port module with 1-port SFP module |
| • PSM | Protection Service Module card |
| • PTF-4 | Fabric card. |
| • PTM-4 | Line card. |
| • PTSA | CPT 50 panel. |
| • PTSYS-Fan-Out-Group | PTSYS Fan-Out-Group. |
| • SHELF | Shelf entity |
| • STM4 | An interface card that supports one or more STM4 (622 Mbps) optical facilities |
| • STM4-4 | A four port STM4 card |
| • STM4-IR-1 | An interface card that supports one intermediate range STM4 (622 Mbps) optical facilities |

*Table 7-2 CHG-EQPT Command - Parameter Support*

| Input Parameters | Description |
|---|---|
| • STM4-LR-1 | An interface card that supports one long range STM4 (622 Mbps) optical facilities |
| • STM4-SR-1 | An interface card that supports one short range STM4 (622 Mbps) optical facilities |
| • STM64-4 | A four port STM64 card |
| • STM64-LR-1 | An interface card that supports one or more STM64 optical facilities |
| • STM1 | An interface card that supports multiple STM1 (155 Mbps) optical facilities |
| • STM1-IR-4 | An interface card that supports four intermediate range STM1 (155 Mbps) optical facilities |
| • STM1-SR-4 | An interface card that supports four short range STM1 (155 Mbps) optical facilities |
| • STM1ATM-IR-6 | An interface card that supports six intermediate range STM1 (155 Mbps) ATM optical fibers |
| • STM1IR-STM1SH-1310-8 | An STM1 card which has 8 ports over the lower speed slot with XC-VXL-10G/XC-VXL-2.5G |
| • STM1POS-SR-4 | An interface card that supports four short range STM1 (155 Mbps) POS optical facilities |
| • STM16 | An interface card that supports one or more STM16 (10 Gbps) optical facilities |
| • STM16-AS-1 | An interface card that supports one short range OC-48 (10 Gbps) optical facilities that can be provisioned in any I/O slot |
| • STM16-ELR-1 | An interface card that supports one short range STM16 (2.5 Gbps) optical facility |
| • STM16-IR-1 | An interface card that supports one intermediate range STM16 (10 Gbps) optical facility |
| • STM16-LR-1 | An interface card that supports one long range STM16 (10 Gbps) optical facility |
| • STM16-SR-1 | An interface card that supports one short range STM16 (10 Gbps) optical facilities |
| • TCC | Timing, Communications, and Control card |
| • TDC-CC | Coarse tunable dispersion compensation unit |
| • TDC-FC | Fine tunable dispersion compensation unit |
| • TXP-MR-10G | 10G Multirate Transponder card |
| • TXP-MR-2.5G | Multirate 2.5G Unprotected |
| • TXPP-MR-2.5G | Multirate 2.5G Protected |
| • UNKNOWN | Unknown equipment type |
| • UNPROVISIONED | Unprovisioned equipment type |
| • WSE | Wire Speed Encryption (WSE) card |
| • XC-VXC-10G | XC-VXC-10G cross-connect card |
| • XCVXL-10G | XC-VXL-10G cross-connect card |
| • XCVXL-2.5G | XC-VXL-2.5G cross-connect 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 |

*Table 7-2 CHG-EQPT Command - Parameter Support*

| Input Parameters | Description |
|---|---|
| • 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 |
| <PORTNUM> | Identifies the port number, which is used on the entity port with PPM. This para meter 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 |