



## Monitoring the T3 or E3 Interface Module

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This chapter provides information on monitoring the T3 or E3 interface module. Some of monitoring tools available are:

- Maintenance Data Link (MDL) messages
- Performance Monitoring
- [MDL Messages, on page 1](#)
- [Performance Monitoring , on page 12](#)

### MDL Messages

MDL messages are used to communicate identification information between local and remote ports. The MDL message includes:

- Equipment Identification Code (EIC)
- Location Identification Code (LIC)
- Frame Identification Code (FIC)
- Unit
- Path Facility Identification (PFI)
- Port Number
- Generator Identification Number



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**Note** MDL messages are only supported when the T3 framing is set for C-bit parity.

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The **no mdl** command removes the configuration of mdl messages.



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**Note** MDL configuration is *not* supported for E3 interfaces.

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## Configuring MDL for Path Transmission

To configure MDL path transmission messages on T3 controller configuration mode, use the following commands:

```
enable
configure terminal
controller t3 0/0/17
framing c-bit
mdl string eic beic
mdl string lic beic
mdl string fic bfix
mdl string unit bunit
mdl string pfi bphi
mdl transmit path
```

## Verifying MDL for Path Transmission Configuration

For PE1 Configuration:

Use the **show controller** command to display the verification of MDL path transmission configuration.

```
Router# show controllers t3 0/0/17
```

```
T3 0/0/17 is up.
Hardware is -48T3E3-CE

Applique type is Channelized T3
No alarms detected.
MDL transmission is disabled

FEAC code received: No code is being received
Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
BER thresholds: SF = 10e-10 SD = 10e-10
Clock Source is internal
Equipment customer loopback
Data in current interval (240 seconds elapsed):
Near End
  0 Line Code Violations, 0 P-bit Coding Violations
  0 C-bit Coding Violations, 0 P-bit Err Secs
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
  0 Unavailable Secs, 0 Line Errored Secs
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  0 Severely Errored Line Secs, 0 Path Failures
  0 AIS Defect Secs, 0 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs
Data in Interval 1:
Near End
  0 Line Code Violations, 0 P-bit Coding Violations
  0 C-bit Coding Violations, 0 P-bit Err Secs
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
  20 Unavailable Secs, 20 Line Errored Secs
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  20 Severely Errored Line Secs, 1 Path Failures
  0 AIS Defect Secs, 20 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
```

```

    0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations, 0 P-bit Coding Violations,
    0 C-bit Coding Violations, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    20 Unavailable Secs, 20 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 path failures
    0 AIS Defect Secs, 20 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    0 Path Failures, 0 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```

For PE2 Configuration:

Use the **show controller** command to display the verification of MDL path transmission configuration.

```
Router# show controllers t3 0/0/18
```

```
T3 0/0/18 is up.
```

## Verifying MDL for Path Transmission Configuration

Hardware is -48T3E3-CE

Applique type is Channelized T3

No alarms detected.

MDL transmission is enabled

Far-End MDL Information Received

EIC: beic, LIC: beic, FIC: bfix, UNIT: bunit

Idle Signal PORT\_NO: bport

FEAC code received: DS3 Out-Of-Frame

Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft

Clock Source is internal

Equipment customer loopback

Data in current interval (240 seconds elapsed):

Near End

0 Line Code Violations, 0 P-bit Coding Violations  
 0 C-bit Coding Violations, 0 P-bit Err Secs  
 0 P-bit Severely Err Secs, 0 Severely Err Framing Secs  
 0 Unavailable Secs, 0 Line Errored Secs  
 0 C-bit Errored Secs, 0 C-bit Severely Errored Secs  
 0 Severely Errored Line Secs, 0 Path Failures  
 0 AIS Defect Secs, 0 LOS Defect Secs

Far End

0 Errored Secs, 0 Severely Errored Secs  
 0 C-bit Unavailable Secs, 0 Path Failures  
 0 Code Violations, 0 Service Affecting Secs

Data in Interval 1:

Near End

0 Line Code Violations, 0 P-bit Coding Violations  
 0 C-bit Coding Violations, 0 P-bit Err Secs  
 0 P-bit Severely Err Secs, 0 Severely Err Framing Secs  
 20 Unavailable Secs, 20 Line Errored Secs  
 0 C-bit Errored Secs, 0 C-bit Severely Errored Secs  
 20 Severely Errored Line Secs, 1 Path Failures  
 0 AIS Defect Secs, 20 LOS Defect Secs

Far End

0 Errored Secs, 0 Severely Errored Secs  
 0 C-bit Unavailable Secs, 0 Path Failures  
 0 Code Violations, 0 Service Affecting Secs

Total Data (last 1 15 minute intervals):

Near End

0 Line Code Violations, 0 P-bit Coding Violations,  
 0 C-bit Coding Violations, 0 P-bit Err Secs,  
 0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,  
 20 Unavailable Secs, 20 Line Errored Secs,  
 0 C-bit Errored Secs, 0 C-bit Severely Errored Secs  
 20 Severely Errored Line Secs, 1 path failures  
 0 AIS Defect Secs, 20 LOS Defect Secs

Far End

0 Errored Secs, 0 Severely Errored Secs  
 0 C-bit Unavailable Secs, 0 Path Failures  
 0 Code Violations, 0 Service Affecting Secs

T1 1 is up

timeslots:

FDL per AT&T 54016 spec.

No alarms detected.

Framing is ESF, Clock Source is Internal

Data in current interval (250 seconds elapsed):

Near End

0 Line Code Violations, 0 Path Code Violations  
 0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins  
 0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs

```

    0 Unavailable Secs, 0 Stuffed Secs
    0 Path Failures, 0 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```

## Configuring MDL for Test Signal

To configure MDL test signal messages on T3 controller configuration mode, use the following commands:

```

enable
configure terminal
controller t3 0/0/17
framing c-bit
mdl string eic beic
mdl string lic beic
mdl string fic bfix
mdl string unit bunit
mdl string generator bgen
mdl transmit test-signal

```

## Verifying MDL for Test Signal Configuration

For PE1 Configuration:

Use the **show controller** command to display the verification of MDL for test signal configuration.

```

Router# show controllers t3 0/0/17
T3 0/0/17 is up.
Hardware is -48T3E3-CE

Applique type is Channelized T3
No alarms detected.
MDL transmission is enabled

```

```

    EIC: beic, LIC: beic, FIC: bfix, UNIT: bunit
    Test Signal GEN_NO: bgen
FEAC code received: DS3 Out-Of-Frame
Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
Clock Source is internal
Equipment customer loopback
Data in current interval (240 seconds elapsed):
  Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    0 Unavailable Secs, 0 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    0 Severely Errored Line Secs, 0 Path Failures
    0 AIS Defect Secs, 0 LOS Defect Secs
  Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Data in Interval 1:
  Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    20 Unavailable Secs, 20 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 Path Failures
    0 AIS Defect Secs, 20 LOS Defect Secs
  Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
  Near End
    0 Line Code Violations, 0 P-bit Coding Violations,
    0 C-bit Coding Violations, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    20 Unavailable Secs, 20 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 path failures
    0 AIS Defect Secs, 20 LOS Defect Secs
  Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
  Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    0 Path Failures, 0 SEF/AIS Secs
  Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:

```

```

Near End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
  0 Unavailable Secs, 0 Stuffed Secs
  1 Path Failures, 2 SEF/AIS Secs
Far End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
  0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
  0 Line Code Violations,0 Path Code Violations,
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
  0 Unavailable Secs, 0 Stuffed Secs
  1 Path Failures, 2 SEF/AIS Secs
Far End
  0 Line Code Violations,0 Path Code Violations
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
  0 Unavailable Secs, 0 Path Failures

```

For PE2 Configuration:

Use the **show controller** command to display the verification of MDL for test signal configuration.

```

Router# show controllers t3 0/0/18
T3 0/0/18 is up.
  Hardware is -48T3E3-CE

  Applique type is Channelized T3
  No alarms detected.
  MDL transmission is disabled

  Far-End MDL Information Received
    EIC: beic, LIC: beic, FIC: bfix, UNIT: bunit
    Test Signal GEN_NO: bgen
  FEAC code received: DS3 Out-Of-Frame
  Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
  Clock Source is internal
  Equipment customer loopback
  Data in current interval (240 seconds elapsed):
    Near End
      0 Line Code Violations, 0 P-bit Coding Violations
      0 C-bit Coding Violations, 0 P-bit Err Secs
      0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
      0 Unavailable Secs, 0 Line Errored Secs
      0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
      0 Severely Errored Line Secs, 0 Path Failures
      0 AIS Defect Secs, 0 LOS Defect Secs
    Far End
      0 Errored Secs, 0 Severely Errored Secs
      0 C-bit Unavailable Secs, 0 Path Failures
      0 Code Violations, 0 Service Affecting Secs
  Data in Interval 1:
    Near End
      0 Line Code Violations, 0 P-bit Coding Violations
      0 C-bit Coding Violations, 0 P-bit Err Secs
      0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
      20 Unavailable Secs, 20 Line Errored Secs
      0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
      20 Severely Errored Line Secs, 1 Path Failures

```

```

    0 AIS Defect Secs, 20 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations, 0 P-bit Coding Violations,
    0 C-bit Coding Violations, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    20 Unavailable Secs, 20 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 path failures
    0 AIS Defect Secs, 20 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    0 Path Failures, 0 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```



## Configuring MDL for Idle Signal

To configure MDL idle signal messages on T3 controller configuration mode, use the following commands:

```
enable
configure terminal
controller T3 0/0/17
framing c-bit
mdl string eic beic
mdl string lic beic
mdl string fic bfix
mdl string unit bunit
mdl string port bport
mdl transmit idle-signal
```

## Verifying MDL for Idle Signal Configuration

For PE1 Configuration:

Use the **show controller** command to display the verification of MDL for idle signal configuration.

```
Router# show controllers t3 0/0/17

T3 0/0/17 is up.
  Hardware is -48T3E3-CE

  Applique type is Channelized T3
  No alarms detected.
  MDL transmission is disabled

  FEAC code received: No code is being received
  Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
  BER thresholds: SF = 10e-10 SD = 10e-10
  Clock Source is internal
  Equipment customer loopback
  Data in current interval (240 seconds elapsed):
    Near End
      0 Line Code Violations, 0 P-bit Coding Violations
      0 C-bit Coding Violations, 0 P-bit Err Secs
      0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
      0 Unavailable Secs, 0 Line Errored Secs
      0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
      0 Severely Errored Line Secs, 0 Path Failures
      0 AIS Defect Secs, 0 LOS Defect Secs
    Far End
      0 Errored Secs, 0 Severely Errored Secs
      0 C-bit Unavailable Secs, 0 Path Failures
      0 Code Violations, 0 Service Affecting Secs
  Data in Interval 1:
    Near End
      0 Line Code Violations, 0 P-bit Coding Violations
      0 C-bit Coding Violations, 0 P-bit Err Secs
      0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
      20 Unavailable Secs, 20 Line Errored Secs
      0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
      20 Severely Errored Line Secs, 1 Path Failures
      0 AIS Defect Secs, 20 LOS Defect Secs
    Far End
      0 Errored Secs, 0 Severely Errored Secs
      0 C-bit Unavailable Secs, 0 Path Failures
      0 Code Violations, 0 Service Affecting Secs
```

```

Total Data (last 1 15 minute intervals):
Near End
  0 Line Code Violations, 0 P-bit Coding Violations,
  0 C-bit Coding Violations, 0 P-bit Err Secs,
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
  20 Unavailable Secs, 20 Line Errored Secs,
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  20 Severely Errored Line Secs, 1 path failures
  0 AIS Defect Secs, 20 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs

Tl 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
Near End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavailable Secs, 0 Stuffed Secs
  0 Path Failures, 0 SEF/AIS Secs
Far End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
  0 Unavailable Secs, 0 Stuffed Secs
  1 Path Failures, 2 SEF/AIS Secs
Far End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
  0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
  0 Line Code Violations,0 Path Code Violations,
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
  0 Unavailable Secs, 0 Stuffed Secs
  1 Path Failures, 2 SEF/AIS Secs
Far End
  0 Line Code Violations,0 Path Code Violations
  0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
  0 Unavailable Secs, 0 Path Failures

```

For PE2 Configuration:

Use the **show controller** command to display the verification of MDL for idle signal configuration.

```
Router# show controllers t3 0/0/18
```

```
T3 0/0/18 is up.
Hardware is -48T3E3-CE
```

```

Applique type is Channelized T3
No alarms detected.
MDL transmission is enabled

Far-End MDL Information Received
  EIC: beic, LIC: beic, FIC: bfix, UNIT: bunit
  Idle Signal PORT_NO: bport
FEAC code received: DS3 Out-Of-Frame
Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
Clock Source is internal
Equipment customer loopback

Data in current interval (240 seconds elapsed):
Near End
  0 Line Code Violations, 0 P-bit Coding Violations
  0 C-bit Coding Violations, 0 P-bit Err Secs
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
  0 Unavailable Secs, 0 Line Errored Secs
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  0 Severely Errored Line Secs, 0 Path Failures
  0 AIS Defect Secs, 0 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs
Data in Interval 1:
Near End
  0 Line Code Violations, 0 P-bit Coding Violations
  0 C-bit Coding Violations, 0 P-bit Err Secs
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
  20 Unavailable Secs, 20 Line Errored Secs
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  20 Severely Errored Line Secs, 1 Path Failures
  0 AIS Defect Secs, 20 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
Near End
  0 Line Code Violations, 0 P-bit Coding Violations,
  0 C-bit Coding Violations, 0 P-bit Err Secs,
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
  20 Unavailable Secs, 20 Line Errored Secs,
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  20 Severely Errored Line Secs, 1 path failures
  0 AIS Defect Secs, 20 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
Near End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavailable Secs, 0 Stuffed Secs

```

```

    0 Path Failures, 0 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```

## Performance Monitoring

You can view the statistics or error count generated on the TDM lines for T3 interfaces.

```

enable
configure terminal
controller MediaType 0/0/0
mode t3
controller t3 0/0/0
framing c-bit
cablelength
long 224-450 ft
short 0-224 ft
controller MediaType 0/0/15
mode t3
controller T3 0/0/15
framing c-bit
cablelength short

```

To view the statistics or error count generated on the TDM lines for T3 interfaces, use the **show controller** command:

```

Router# show controller T3 0/0/0
T3 0/0/0 is up.
Hardware is -48T3E3-CE

Applique type is Channelized T3
No alarms detected.
MDL transmission is disabled

FEAC code received: No code is being received

```

```

Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
BER thresholds: SF = 10e-10 SD = 10e-10
Clock Source is internal
Equipment customer loopback
Data in current interval (240 seconds elapsed):
Near End
  0 Line Code Violations, 0 P-bit Coding Violations
  0 C-bit Coding Violations, 0 P-bit Err Secs
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
  0 Unavailable Secs, 0 Line Errored Secs
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  0 Severely Errored Line Secs, 0 Path Failures
  0 AIS Defect Secs, 0 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs
Data in Interval 1:
Near End
  0 Line Code Violations, 0 P-bit Coding Violations
  0 C-bit Coding Violations, 0 P-bit Err Secs
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
  20 Unavailable Secs, 20 Line Errored Secs
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  20 Severely Errored Line Secs, 1 Path Failures
  0 AIS Defect Secs, 20 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
Near End
  0 Line Code Violations, 0 P-bit Coding Violations,
  0 C-bit Coding Violations, 0 P-bit Err Secs,
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
  20 Unavailable Secs, 20 Line Errored Secs,
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  20 Severely Errored Line Secs, 1 path failures
  0 AIS Defect Secs, 20 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
Near End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavailable Secs, 0 Stuffed Secs
  0 Path Failures, 0 SEF/AIS Secs
Far End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
  0 Line Code Violations, 0 Path Code Violations

```

```

    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```

### Use Case 1

If your configuration is as follows:

- T3 is up
- No Alarms
- Framing is unframed
- Clock Source is Internal

This performance monitoring result is displayed:

```

T3 is up
No alarms detected.
Framing is unframed, Clock Source is Internal
Data in current interval (240 seconds elapsed):
Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    0 Unavailable Secs, 0 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    0 Severely Errored Line Secs, 0 Path Failures
    0 AIS Defect Secs, 0 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Data in Interval 1:
Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    20 Unavailable Secs, 20 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 Path Failures
    0 AIS Defect Secs, 20 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures

```

```

    0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations, 0 P-bit Coding Violations,
    0 C-bit Coding Violations, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    20 Unavailable Secs, 20 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 path failures
    0 AIS Defect Secs, 20 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    0 Path Failures, 0 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```

## Use Case 2

If your configuration is as follows:

- T1 28 is up or E1 16 is up
- No alarm received

- Framing is unframed
- Clock Source is Internal

This performance monitoring result is displayed:

```
T1 28 is up
No alarms detected.
Framing is unframed, Clock Source is Internal
Data in current interval (240 seconds elapsed):
  Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    0 Unavailable Secs, 0 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    0 Severely Errored Line Secs, 0 Path Failures
    0 AIS Defect Secs, 0 LOS Defect Secs
  Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Data in Interval 1:
  Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    20 Unavailable Secs, 20 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 Path Failures
    0 AIS Defect Secs, 20 LOS Defect Secs
  Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
  Near End
    0 Line Code Violations, 0 P-bit Coding Violations,
    0 C-bit Coding Violations, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    20 Unavailable Secs, 20 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 path failures
    0 AIS Defect Secs, 20 LOS Defect Secs
  Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
  Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    0 Path Failures, 0 SEF/AIS Secs
  Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
```



```

    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```

To view the statistics or error count generated on the TDM lines for T3 interfaces, use the **show controller** command is:

```

Router# show controllers t3 0/0/0
T3 0/0/0 is down.
Hardware is -48T3E3-CE

Applique type is Channelized T3
Receiver has loss of signal.
Framing is Unknown, Line Code is B3ZS, Cablelength Short less than 225ft
Clock Source is internal
Equipment customer loopback
Data in current interval (240 seconds elapsed):
Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    0 Unavailable Secs, 0 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    0 Severely Errored Line Secs, 0 Path Failures
    0 AIS Defect Secs, 0 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Data in Interval 1:
Near End
    0 Line Code Violations, 0 P-bit Coding Violations
    0 C-bit Coding Violations, 0 P-bit Err Secs
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
    20 Unavailable Secs, 20 Line Errored Secs
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 Path Failures
    0 AIS Defect Secs, 20 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures

```

```

    0 Code Violations, 0 Service Affecting Secs
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations, 0 P-bit Coding Violations,
    0 C-bit Coding Violations, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    20 Unavailable Secs, 20 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    20 Severely Errored Line Secs, 1 path failures
    0 AIS Defect Secs, 20 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs

T1 1 is up
timeslots:
FDL per AT&T 54016 spec.
No alarms detected.
Framing is ESF, Clock Source is Internal
Data in current interval (250 seconds elapsed):
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    0 Path Failures, 0 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Data in Interval 1:
Near End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs 0 Path Failures
Total Data (last 1 15 minute intervals):
Near End
    0 Line Code Violations,0 Path Code Violations,
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    2 Errored Secs, 0 Bursty Err Secs, 2 Severely Err Secs
    0 Unavailable Secs, 0 Stuffed Secs
    1 Path Failures, 2 SEF/AIS Secs
Far End
    0 Line Code Violations,0 Path Code Violations
    0 Slip Secs, 2 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    3 Errored Secs, 0 Bursty Err Secs, 3 Severely Err Secs
    0 Unavailable Secs, 0 Path Failures

```

The performance monitoring result displays the statistics TDM lines for DS1.

Table 1: Feature History Table

Feature Name	Release Information	Description
GR-820-CORE Performance Monitoring	Cisco IOS XE Bengaluru 17.5.1	The <b>show controller tabular</b> command enables you to view the performance monitoring details in tabular form as per GR-820-Core standards.

To view the performance monitoring details on T3 controller, use the **show controller t3 tabular** command:

```
Router#show controllers t3 0/2/0 tabular
T3 0/2/0 is up.
  Hardware is -48T3E3-CE

  Applique type is Subrate T3
  No alarms detected.
  MDL transmission is disabled

  FEAC code received: No code is being received
  Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
  BER thresholds: SF = 10e-3 SD = 10e-6
  Clock Source is internal
  Equipment customer loopback
  Near End Data
  INTERVAL      CV-L  ES-L  SES-L  LOSS-L  CVP-P  CVCP-P  ESP-P  ESCP-P  SESP-P  SESP-P  SAS-P
  AISS-P  FC-P  UASP-P  UASCP-P
  19:03-19:11      0    0    0    0    0    0    0    0    0    0    0
    0    0    0    0
  18:48-19:03      0    0    0    0    0    0    0    0    0    0    0
    0    0    0    0
  Total            0    0    0    0    0    0    0    0    0    0    0
    0    0    0    0
  Far End Data
  INTERVAL      CVCP-PFE  ESCP-PFE  SESP-PFE  UASCP-PFE  FCCP-PFE  SASCP-PFE
  19:03-19:11      0    0    0    0    0    0
  18:48-19:03      0    0    0    0    0    0
  Total            0    0    0    0    0    0
```

To view the performance monitoring details on channelised T1-T3 controller, use the **show controller t3 tabular** command:

```
Router#show controllers t3 0/2/4 tabular
T3 0/2/4 is down.
  Hardware is -48T3E3-CE

  Applique type is Channelized T3/T1
  Receiver has loss of signal.
  MDL transmission is disabled

  FEAC code received: No code is being received
  Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
  BER thresholds: SF = 10e-3 SD = 10e-6
  Clock Source is internal
  Equipment customer loopback
  Near End Data
  INTERVAL      CV-L  ES-L  SES-L  LOSS-L  CVP-P  CVCP-P  ESP-P  ESCP-P  SESP-P  SESP-P  SAS-P
  AISS-P  FC-P  UASP-P  UASCP-P
  19:02-19:09      0  459  459  459    0    0    0    0    0    0    0
    0    1  459  459
  Far End Data
  INTERVAL      CVCP-PFE  ESCP-PFE  SESP-PFE  UASCP-PFE  FCCP-PFE  SASCP-PFE
  19:02-19:09      0    0    0    0    0    0
```

```

T3 0/2/4.1 T1 is down
timeslots:
FDL per AT&T 54016 spec.
Receiver is getting AIS.
Framing is ESF, Clock Source is Internal
Near End Data
INTERVAL      CV-L   ES-L   CV-P   ES-P   SES-P   CSS-P   SAS-P   UAS-P   FC-P
19:02-19:09   0     0     0     0     0     0     0     0     1
Far End Data
INTERVAL      ES-LFE ES-PFE  SES-PFE  SEFS-PFE  CSS-PFE  UAS-PFE  FC-PFE
19:02-19:09   0     0     0     0     0     0     0     0

```

Starting with Cisco IOS XE 17.11.1, you can view the previous day performance monitoring details using the following **show controller** commands for the T1 or E1, and T3 or E3 controllers.

- `show controllers { t1 | e1 | t3 | e3}`
- `show controllers { t1 | e1 | t3 | e3} tabular`
- `show controllers { t1 | e1 | t3 | e3} remote performance`
- `show controllers { t1 | e1 | t3 | e3} remote performance tabular`

```

router#show controllers t3 0/9/1
T3 0/9/1 is down.
Hardware is A900-IMA48T-C
Applique type is Channelized T3/T1
Receiver has loss of signal.
MDL transmission is disabled

FEAC code received: No code is being received
Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
BER thresholds: SF = 10e-3 SD = 10e-6
Clock Source is internal
Equipment customer loopback
Data in current interval (220 seconds elapsed):
.....
  0 Code Violations, 0 Service Affecting Secs
Total Data (last 24 hours)
Near End
  0 Line Code Violations, 0 P-bit Coding Violation,
  0 C-bit Coding Violation, 0 P-bit Err Secs,
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
  86423 Unavailable Secs, 86423 Line Errored Secs,
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  86423 Severely Errored Line Secs, 0 path failures
  0 AIS Defect Secs, 86423 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures
  0 Code Violations, 0 Service Affecting Secs
Total (Previous Day)
Near End
  0 Line Code Violations, 0 P-bit Coding Violation,
  0 C-bit Coding Violation, 0 P-bit Err Secs,
  0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
  86440 Unavailable Secs, 86440 Line Errored Secs,
  0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
  86440 Severely Errored Line Secs, 2 path failures
  0 AIS Defect Secs, 86440 LOS Defect Secs
Far End
  0 Errored Secs, 0 Severely Errored Secs
  0 C-bit Unavailable Secs, 0 Path Failures

```

```

    0 Code Violations, 0 Service Affecting Secs

T3 0/9/1.1 T1 is down
timeslots: 1-3
FDL per AT&T 54016 spec.
Receiver is getting AIS.
Framing is ESF, Clock Source is Internal
Data in current interval (220 seconds elapsed):
Near End
  0 Line Code Violations, 0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  219 Unavail Secs, 0 Stuffed Secs
  0 Path Failures, 0 SEF/AIS Secs
Far End
  0 Line Code Violations, 0 Path Code Violations
.....
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavail Secs 0 Path Failures
Total Data (last 24 hours)
Near End
  0 Line Code Violations,0 Path Code Violations,
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  86423 Unavail Secs, 0 Stuffed Secs
  0 Path Failures, 0 SEF/AIS Secs
Far End
  0 Line Code Violations,0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavailable Secs, 0 Path Failures
Total (Previous Day)
Near End
  0 Line Code Violations,0 Path Code Violations,
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  86415 Unavail Secs, 0 Stuffed Secs
  0 Path Failures, 0 SEF/AIS Secs
Far End
  0 Line Code Violations,0 Path Code Violations
  0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
  0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
  0 Unavailable Secs, 0 Path Failures

router#show controllers t3 0/9/1 tabular
T3 0/9/1 is down.
Hardware is A900-IMA48T-C
Applique type is Channelized T3/T1
Receiver has loss of signal.
MDL transmission is disabled

FEAC code received: No code is being received
Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
BER thresholds: SF = 10e-3 SD = 10e-6
Clock Source is internal
Equipment customer loopback
Near End Data
INTERVAL      CV-L  ES-L  SES-L  LOSS-L  CVP-P  CVCP-P  ESP-P  ESCP-P  SESP-P  SESP-P  SAS-P
AISP-P  FC-P  UASP-P  UASCP-P
06:11-06:15    0   249   249   249     0     0     0     0     0     0     0
             0    0   249   249
05:56-06:11    0   900   900   900     0     0     0     0     0     0     0
             0    0   900   900
05:41-05:56    0   900   900   900     0     0     0     0     0     0     0

```

```

      0      0      900      900
.....
06:26-06:41      0      900      900      900      900      0      0      0      0      0      0      0
      0      0      900      900
06:11-06:26      0      901      901      901      0      0      0      0      0      0      0      0
      0      0      901      901
Total              0 86423 86423 86423      0      0      0      0      0      0      0      0
      0      0 86423 86423
Total (Previous Day)
05:26-05:26      0 86440 86440 86440      0      0      0      0      0      0      0      0
      0      2 86440 86440

```

## Far End Data

INTERVAL	CVCP-PFE	ESCP-PFE	SESCP-PFE	UASCP-PFE	FCCP-PFE	SASCP-PFE
06:11-06:15	0	0	0	0	0	0
05:56-06:11	0	0	0	0	0	0

```

.....
06:11-06:26      0      0      0      0      0      0      0
Total            0      0      0      0      0      0      0
Total (Previous Day)
05:26-05:26      0      0      0      0      0      0      0

```

T3 0/9/1.1 T1 is down  
timeslots: 1-3  
FDL per AT&T 54016 spec.  
Receiver is getting AIS.  
Framing is ESF, Clock Source is Internal

## Near End Data

INTERVAL	CV-L	ES-L	CV-P	ES-P	SES-P	CSS-P	SAS-P	UAS-P	FC-P
06:11-06:15	0	0	0	0	0	0	0	249	0
05:56-06:11	0	0	0	0	0	0	0	900	0
05:41-05:56	0	0	0	0	0	0	0	900	0

```

.....
06:26-06:41      0      0      0      0      0      0      0      0      900      0
06:11-06:26      0      0      0      0      0      0      0      0      901      0
Total            0      0      0      0      0      0      0      0      86423      0
Total (Previous Day)
05:26-05:26      0      0      0      0      0      0      0      0      86415      0

```

## Far End Data

INTERVAL	ES-LFE	ES-PFE	SES-PFE	SEFS-PFE	CSS-PFE	UAS-PFE	FC-PFE
06:11-06:15	0	0	0	0	0	0	0

```

.....
06:56-07:11      0      0      0      0      0      0      0      0
06:41-06:56      0      0      0      0      0      0      0      0
06:26-06:41      0      0      0      0      0      0      0      0
06:11-06:26      0      0      0      0      0      0      0      0
Total            0      0      0      0      0      0      0      0
Total (Previous Day)
05:26-05:26      0      0      0      0      0      0      0      0

```

T3 0/9/1.2 T1 is down  
timeslots:  
FDL per AT&T 54016 spec.  
Receiver is getting AIS.  
Framing is ESF, Clock Source is Internal

## Near End Data

INTERVAL	CV-L	ES-L	CV-P	ES-P	SES-P	CSS-P	SAS-P	UAS-P	FC-P
06:11-06:15	0	0	0	0	0	0	0	249	0
05:56-06:11	0	0	0	0	0	0	0	900	0

router#show controllers t3 0/9/1 remote performance

T3 0/9/1 is down.  
Hardware is A900-IMA48T-C

```

Applique type is Channelized T3/T1
Receiver has loss of signal.
MDL transmission is disabled

FEAC code received: No code is being received
Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
BER thresholds: SF = 10e-3 SD = 10e-6
Clock Source is internal
Equipment customer loopback
Data in current interval (250 seconds elapsed):
Near End
    0 Line Code Violations, 0 P-bit Coding Violation
    0 C-bit Coding Violation, 0 P-bit Err Secs
.....
    901 Severely Errored Line Secs, 0 Path Failures
    0 AIS Defect Secs, 901 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Total Data (last 24 hours)
Near End
    0 Line Code Violations, 0 P-bit Coding Violation,
    0 C-bit Coding Violation, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    86423 Unavailable Secs, 86423 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    86423 Severely Errored Line Secs, 0 path failures
    0 AIS Defect Secs, 86423 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs
Total (Previous Day)
Near End
    0 Line Code Violations, 0 P-bit Coding Violation,
    0 C-bit Coding Violation, 0 P-bit Err Secs,
    0 P-bit Severely Err Secs, 0 Severely Err Framing Secs,
    86440 Unavailable Secs, 86440 Line Errored Secs,
    0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
    86440 Severely Errored Line Secs, 2 path failures
    0 AIS Defect Secs, 86440 LOS Defect Secs
Far End
    0 Errored Secs, 0 Severely Errored Secs
    0 C-bit Unavailable Secs, 0 Path Failures
    0 Code Violations, 0 Service Affecting Secs

T1 1 - Remote Performance Data
Data in current interval (260 seconds elapsed):
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavail Secs
Data in Interval 1:
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavail Secs
Data in Interval 2:
    0 Line Code Violations, 0 Path Code Violations
.....
Data in Interval 96:
    0 Line Code Violations, 0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins

```

```

    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavail Secs
Total Data (last 24 hours)
    0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavail Secs
Total (Previous Day)
    0 Path Code Violations
    0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins,
    0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs
    0 Unavail Secs

```

```

T1 2 - Remote Performance Data
Data in current interval (260 seconds elapsed):
    0 Line Code Violations, 0 Path Code Violations

```

```
router#show controllers t3 0/9/1 remote performance tabular
```

```
T3 0/9/1 is down.
```

```
Hardware is A900-IMA48T-C
```

```

Applique type is Channelized T3/T1
Receiver has loss of signal.
MDL transmission is disabled

```

```

FEAC code received: No code is being received
Framing is C-BIT Parity, Line Code is B3ZS, Cablelength Short less than 225ft
BER thresholds: SF = 10e-3 SD = 10e-6
Clock Source is internal
Equipment customer loopback

```

```
Near End Data
```

INTERVAL	CV-L	ES-L	SES-L	LOSS-L	CVP-P	CVCP-P	ESP-P	ESCP-P	SESP-P	SESCP-P	SAS-P
AISS-P	FC-P	UASP-P	UASCP-P								
06:11-06:16	0	279	279	279	0	0	0	0	0	0	0
	0	279	279								
05:56-06:11	0	900	900	900	0	0	0	0	0	0	0
	0	900	900								
05:41-05:56	0	900	900	900	0	0	0	0	0	0	0
	0	900	900								
.....											
06:11-06:26	0	901	901	901	0	0	0	0	0	0	0
	0	901	901								
Total	0	86423	86423	86423	0	0	0	0	0	0	0
	0	86423	86423								
Total (Previous Day)											
05:26-05:26	0	86440	86440	86440	0	0	0	0	0	0	0
	0	86440	86440								

```
Far End Data
```

INTERVAL	CVCP-PFE	ESCP-PFE	SESCP-PFE	UASCP-PFE	FCCP-PFE	SASCP-PFE
06:11-06:16	0	0	0	0	0	0
05:56-06:11	0	0	0	0	0	0
05:41-05:56	0	0	0	0	0	0
.....						
06:11-06:26	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total (Previous Day)						
05:26-05:26	0	0	0	0	0	0

```
T1 1 - Remote Performance Data
```

INTERVAL	LCV	PCV	CSS	SELS	LES	DM	ES	BES	SES	UAS
06:11-06:16	0	0	0	0	0	0	0	0	0	0
05:56-06:11	0	0	0	0	0	0	0	0	0	0
05:41-05:56	0	0	0	0	0	0	0	0	0	0



```

.....
06:56-07:11      0      0      0      0      0      0      0      0      0      0
06:41-06:56      0      0      0      0      0      0      0      0      0      0
06:26-06:41      0      0      0      0      0      0      0      0      0      0
06:11-06:26      0      0      0      0      0      0      0      0      0      0
Total            0      0      0      0      0      0      0      0      0      0
Total (Previous Day)
05:26-05:26      0      0      0      0      0      0      0      0      0      0

```

## T1 2 - Remote Performance Data

INTERVAL	LCV	PCV	CSS	SELS	LES	DM	ES	BES	SES	UAS
06:11-06:16	0	0	0	0	0	0	0	0	0	0
05:56-06:11	0	0	0	0	0	0	0	0	0	0
05:41-05:56	0	0	0	0	0	0	0	0	0	0

