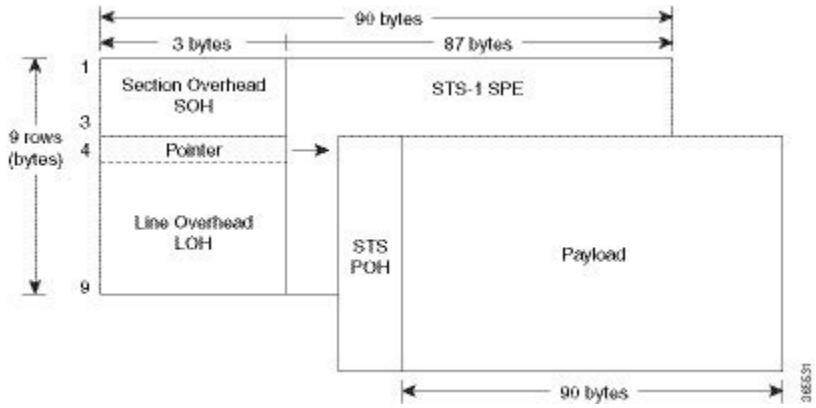
STS-1 Electricals

A standard STS-1 frame is nine rows by 90 bytes. The first three bytes of each row represent the Section and Line overhead. These overhead bits comprise framing bits and pointers to different parts of the STS-1 frame.

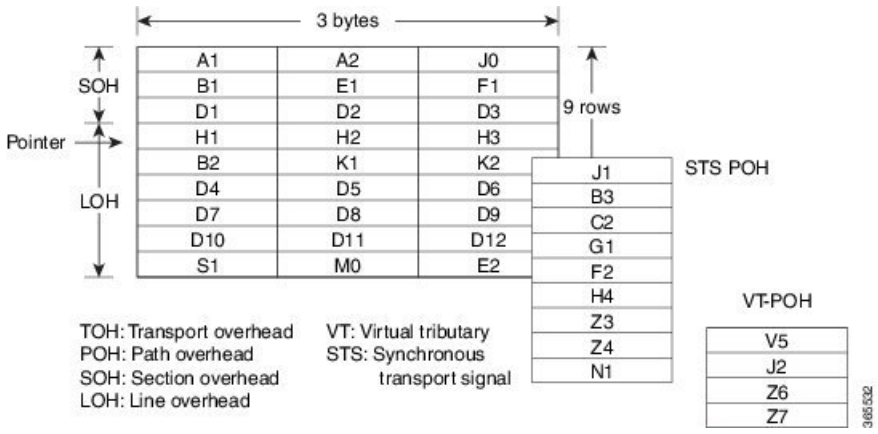
Figure 1: STS-1 Frame Structure



There is one column of bytes in the payload that represents the STS path overhead. This column frequently "floats" throughout the frame. Its location in the frame is determined by a pointer in the Section and Line overhead.

The combination of the Section and Line overhead comprises the transport overhead, and the remainder is the SPE.

Figure 2: STS-1 Overhead



For STS-1, a single frame is transmitted in 125 microseconds, or 8000 frames per second. 8000 fps * 810 B/frame = 51.84 Mbs, of which the payload is roughly 49.5 Mbs, enough to encapsulate 28 DS-1s, a full DS-3, or 21 CEPT-1s.

STS-1electrical ports are also supported. 4 Telcordia-compliant, GR-253 STS-1 electrical ports are supported per card. Each port operates at 51.840 Mbps over a single 75-ohm, 728A or equivalent coaxial span. Ports range from 12 to 15 are supported.

Restrictions for STS-1e

- Only 16 BERT patterns can be configured at a time.
- PMON fields are not supported for VT1.5 VT and T3.
- PMON far-end parameters are not supported.
- APS and card-protection are not supported for STS-1e port.
- In the unframed mode, ACR and DCR are not supported.
- CESoPSN is not supported.
- Framed SAToP is not supported .

Restrictions for Clock Source Configuration

- Only 4 ports can be configured in STS-1e line for clock source configuration per chassis.
- You should configure the clock source line and network-clock sync together to receive the clock from a remote port that is connected to the STS-1e port.

Prerequisites for Configuring STS-1e

You must select the MediaType controller to configure and enter the controller configuration mode.

You must configure the controller as a STS-1e port.

Configuring MediaType Controller

To configure MediaType Controller, use the following commands:

```
enable
configure terminal
controller MediaType 0/0/16
mode STS-1e
end
```

Configuring STS-1e Modes

Configuring STS-1e Modes for Unframed SAToP

STS-1e supports unframed SAToP and you can configure STS-1e under VT-15, CT3, T3, and unframed modes. There is no default mode for STS-1e.

To configure STS-1e modes for unframed SAToP, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
sts-1 1
mode {vt-15 | ct3 | t3 | unframed}
end
```

Note To restore the system to its default condition, use the **no** form of the command.

Configuring VT-15 Mode of STS-1e

Configuring VT-15 Mode of STS-1e for Unframed SAToP

To configure VT-15 mode of STS-1e for unframed SAToP, enter the following commands:

```
enable
configure terminal
```

```
controller STS1E 0/3/14
no ais-shut
alarm-report all
clock source internal
!
sts-1 1
clock source internal
mode vt-15
vtg 1 t1 1 framing unframed
vtg 1 t1 1 cem-group 0 unframed
```

Configuring T1 CT3 mode of STS-1e

Configuring T1 CT3 mode of STS-1e for Unframed SAToP

To configure T1 CT3 mode of STS-1, you can configure the T1 link using the following steps:

```
enable
configure terminal
controller sts-1e 0/0/16
sts-1 1
mode ct3
t1 1 clock source internal
t1 1 framing unframed
end
```

Note To restore the system to its default condition, use the **no** form of the command.

Configuring T3 mode of STS-1e

Configuring T3 mode of STS-1e for Unframed SAToP

```
controller STS1E 0/3/14
no ais-shut
alarm-report all
clock source internal
!
sts-1 1
clock source internal
mode t3
cem-group 0 unframed
t3 clock source internal
```

Configuring Unframed Mode of STS-1e

```
controller STS1E 0/3/14
no ais-shut
alarm-report all
clock source internal
!
sts-1 1
clock source internal
mode unframed
cem-group 0 cep
```

BERT Patterns on STS-1 Mode

The BERT patterns on the STS-1 mode are:

Table 1: BERT Pattern Descriptions

Keyword	Description
All 1s [1]	Pseudo-random binary test pattern consisting of all 1's that is used to test alternating line volt and repeaters.
2^15-1 O.151	Pseudo-random O.151 test pattern consisting of a maximum of 14 consecutive zeros and 15 consecutive ones. The length of this pattern is 32,768 bits.
2^20-O.151	Pseudo-random O.151 test pattern consisting of a maximum of 19 consecutive zeros and 20 consecutive ones. The length of this pattern is 1,048,575 bits.
2^20-O.153	Pseudo-random O.153 test pattern consisting of a maximum of 19 consecutive zeros and 20 consecutive ones. The length of this pattern is 1,048,575 bits.
2^23-1 O.151	Pseudo-random 0.151 test pattern consisting of a maximum of 22 consecutive zeros and 23 consecutive ones. The length of this pattern is 8,388,607 bits.
2^9 [2]	Pseudo-random binary test pattern consisting of a maximum of eight consecutive zeros and nine consecutive ones. The length of this pattern is 511 bits.
2^11 [3]	Pseudo-random binary test pattern consisting of a maximum of ten consecutive zeros and eleven consecutive ones. The length of this pattern is 2048 bits.

[1] All 1s are supported only on STS-1 CT3.
[2] 2^9 is not supported on STS-1 mode unframed, STS-1 CT3 and STS-1 VT-15.
[3] 2^11 not supported on STS-1 mode unframed.

Configuring Line and Section Overhead

To configure line and section overhead, use the following commands:

```
enable
configure terminal
controller MediaType 0/0/16
mode sts-1e
controller sts-1e 0/0/16
overhead s1s0 2
```

```
overhead j0 tx length 1-byte
end
```

Note To restore the system to its default condition, use the **no** form of the command.

Configuring Line Loopback

To configure loopback, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
loopback local
end
```

Note To restore the system to its default condition, use the **no** form of the command.

Configuring AIS Shut

Alarm Indication Signal (AIS) shut when enabled on the STS-1e controller results in sending AIS alarm to peer node.

To configure AIS-Shut, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
ais-shut
end
```

Note The **no ais-shut** command will not send AIS.

Configuring Shut

To configure Shut, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
shutdown
end
```

Note Use the **no shutdown** command to disable the interface.

Configuring Clock

To configure clock, use the following commands:

```
enable
configure terminal
controller MediaType 0/0/16
mode sts-1e
controller sts-1e 0/0/16
clock source line
end
```

Note The default mode is internal.

Note ACR and DCR clock recovery are also supported.

Configuring Network-Clock STS-1e

To configure network-clock STS-1e, use the following commands:

```
enable
configure terminal
network-clock input-source 1 controller STS-1e 0/0/16
end
```

Verifying STS-1e Configuration

The following sample output shows the verification of STS-1e configuration in unframed mode:

```
router#show controllers sts1e 0/3/14
STS1E 0/3/14 is up.                              ======> this is the controller/port status.

  Hardware is A900-IMA3G-IMSG

 Port configured rate: OC3                        =======> this is the rate the port is
configured on it.
 Applique type is Channelized STS1E
 Clock Source is Internal                          ===> the clocking config
Medium info:
  Type: STS1E, Line Coding: NRZ,
 Alarm Throttling: OFF
 SECTION:
  LOS = 0          LOF = 0                      BIP(B1) = 0      =======> the section level
 alarm counter (from last clear counters)

STS1E Section Tables
  INTERVAL       CV    ES   SES  SEFS
  05:26-05:28     0    49    49    49

LINE:
  AIS = 0          RDI = 0          REI = 0          BIP(B2) = 0         =======> the line
 level alarm counter (from last clear counters)
```

```
Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None                                    =========> present active
 alarms on the port.
Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA
BER thresholds:  SF = 10e-3  SD = 10e-6                         ====> ber thresholds
TCA thresholds:  B1 = 10e-6  B2 = 10e-6
Rx: S1S0 = 00
    J0 = 00

    RX S1 = 00

Tx: S1S0 = 00
    J0 = 04

Tx J0 Length : 64
Tx J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                  ..

Expected J0 Length : 64
Expected J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                  ..

Rx J0 Length : 16
Rx J0 Trace :
  CRC-7: 0xD8 ERROR

  BC 4B 69 CC 79 24 1B 01 E8 EB 9C 36 FC 29 A9 00     .Ki.y$.....6.)..

STS1E Line Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:26-05:28     0     0     0    50     0     0      0      0


High Order Path:

PATH 1:
Clock Source is internal

  AIS = 0          RDI = 0          REI = 0          BIP(B3) = 0
  LOP = 0          PSE = 0          NSE = 0          NEWPTR = 0
  LOM = 0          PLM = 0          UNEQ = 0

Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA

TCA threshold:  B3 = 10e-6
Rx: C2 = 04
Tx: C2 = 01

Tx J1 Length : 64
Tx J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
```

```
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

Expected J1 Length : 64
Expected J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

PATH TRACE BUFFER : UNSTABLE

Rx J1 Length : 64
Rx J1 Trace

  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

SONET Path Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:26-05:28     0     0     0    48     0     0      0      0


STS1E 0/3/14.1 PATH  mode UNFRAMED is up
  cep is configured: TRUE cem_id  :0
  clock source internal
```

The following sample output shows the verification of STS-1e configuration in VT-15 mode:

```
router#show controllers sts1e 0/3/14
STS1E 0/3/14 is up.
  Hardware is A900-IMA3G-IMSG

 Port configured rate: OC1
 Applique type is Channelized STS1E
 Clock Source is Internal
Medium info:
  Type: STS1E, Line Coding: NRZ,
 Alarm Throttling: OFF
 SECTION:
  LOS = 0          LOF = 0                          BIP(B1) = 0

STS1E Section Tables
  INTERVAL       CV    ES   SES  SEFS
  05:33-05:33     0     0     0     0

LINE:
  AIS = 0          RDI = 0          REI = 0          BIP(B2) = 0
Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA
BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6
Rx: S1S0 = 00
    J0 = 00

    RX S1 = 00

Tx: S1S0 = 00
    J0 = 04
```

```
Tx J0 Length : 64
Tx J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                   ..

Expected J0 Length : 64
Expected J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                   ..

Rx J0 Length : 16
Rx J0 Trace :
  CRC-7: 0xD8 ERROR

  BC 4B 69 CC 79 24 1B 01 E8 EB 9C 36 FC 29 A9 00     .Ki.y$.....6.)..

STS1E Line Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:33-05:33     0     0     0     0     0     0      0      0


High Order Path:

PATH 1:
Clock Source is internal

  AIS = 0          RDI = 0          REI = 0          BIP(B3) = 0
  LOP = 0          PSE = 0          NSE = 0          NEWPTR = 0
  LOM = 0          PLM = 0          UNEQ = 0

Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA

TCA threshold:  B3 = 10e-6
Rx: C2 = 02
Tx: C2 = 02

Tx J1 Length : 64
Tx J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

Expected J1 Length : 64
Expected J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

PATH TRACE BUFFER : UNSTABLE
```

```
Rx J1 Length : 64
Rx J1 Trace

  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

SONET Path Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:33-05:33     0     0     0     0     0     0      0      0


STS1E 0/3/14.1 PATH  is up.
  Hardware is A900-IMA3G-IMSG

 Applique type is VT1.5

 STS-1 1, VTG 1, VT 1 (STS1E 0/3/14.1/1/1 VT) is up
 No VT alarms detected.
  cep is configured: FALSE cem_id  (0)
  fwd_alarm_ais :0    fwd_alarm_rai :0
  Framing is unframed, Clock Source is Internal
  BIP2-tca:6, BIP2-sf:3, BIP2-sd:6
  Tx V5:1
  Rx V5:2
  Tx J2 Length=64
  TX J2 Trace Buffer:
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

  Expected J2 Length=64
  Expected J2 Trace Buffer:
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

  Rx J2 Length=16
  RX J2 Trace Buffer:
  CRC-7: 0x80 OK

  4A 44 53 55 00 00 00 00 00 00 00 00 00 00 00 00     JDSU............

 Data in curerent interval (1 seconds elapsed)
   Near End
    0 CodeViolations, 0 ErrorSecs, 0 Severly Err Secs, 0 Unavailable Secs
   Far End
    0 CodeViolations, 0 ErrorSecs, 0 Severly Err Secs, 0 Unavailable Secs

 STS-1 1, VTG 1, T1 1 (STS1E 0/3/14.1/1/1 T1) is up
  No alarms detected.
  Framing is unframed, Clock Source is Internal
  Data in current interval (0 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 Unavail Secs, 0 Stuffed 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 Unavail Secs
```

The following sample output shows the verification of STS-1e configuration in T3 mode:

```
router#show controllers sts1e 0/3/14
STS1E 0/3/14 is up.
  Hardware is A900-IMA3G-IMSG

 Port configured rate: OC1
 Applique type is Channelized STS1E
 Clock Source is Internal
Medium info:
  Type: STS1E, Line Coding: NRZ,
 Alarm Throttling: OFF
 SECTION:
  LOS = 0          LOF = 0                           BIP(B1) = 0

STS1E Section Tables
  INTERVAL       CV    ES   SES  SEFS
  05:35-05:35     0     0     0     0

LINE:
  AIS = 0          RDI = 0          REI = 0          BIP(B2) = 0
Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA
BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6
Rx: S1S0 = 00
    J0 = 00

    RX S1 = 00

Tx: S1S0 = 00
    J0 = 04

Tx J0 Length : 64
Tx J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                   ..

Expected J0 Length : 64
Expected J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                   ..

Rx J0 Length : 16
Rx J0 Trace :
  CRC-7: 0xD8 ERROR

  BC 4B 69 CC 79 24 1B 01 E8 EB 9C 36 FC 29 A9 00     .Ki.y$.....6.)..

STS1E Line Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:35-05:35     0     0     0    73     0     0      0      0
```

```
High Order Path:

PATH 1:
Clock Source is internal

  AIS = 0          RDI = 0          REI = 0          BIP(B3) = 0
  LOP = 0          PSE = 0          NSE = 0          NEWPTR = 0
  LOM = 0          PLM = 0          UNEQ = 0

Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA

TCA threshold:  B3 = 10e-6
Rx: C2 = 04
Tx: C2 = 04

Tx J1 Length : 64
Tx J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

Expected J1 Length : 64
Expected J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

PATH TRACE BUFFER : UNSTABLE

Rx J1 Length : 64
Rx J1 Trace

  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

SONET Path Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:26-05:36     0     0     0    12     0     0      0      0


STS1E 0/3/14.1 T3 is up.
  Hardware is A900-IMA3G-IMSG

  Applique type is T3
  No alarms detected.
  Framing is Unframed, Cablelength is 224
  BER thresholds:  SF = 10e-3  SD = 10e-6
  Clock Source is internal
  Equipment customer loopback
  Data in current interval (560 seconds elapsed):
   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
     275 Unavailable Secs, 0 Line Errored Secs
```

```
     0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
     0 Severely Errored Line Secs, 3 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
```

The following sample output shows the verification of STS-1e configuration in CT3 mode:

```
router#show controllers sts1e 0/3/14
STS1E 0/3/14 is up.
  Hardware is A900-IMA3G-IMSG

 Port configured rate: OC1
 Applique type is Channelized STS1E
 Clock Source is Internal
Medium info:
  Type: STS1E, Line Coding: NRZ,
 Alarm Throttling: OFF
 SECTION:
  LOS = 0          LOF = 0                          BIP(B1) = 0

STS1E Section Tables
  INTERVAL       CV    ES   SES  SEFS
  05:41-05:42     0    10    10    10

LINE:
  AIS = 0          RDI = 0          REI = 0          BIP(B2) = 0
Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA
BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6
Rx: S1S0 = 00
    J0 = 00

    RX S1 = 00

Tx: S1S0 = 00
    J0 = 04

Tx J0 Length : 64
Tx J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                  ..

Expected J0 Length : 64
Expected J0 Trace :

  52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20     RSP2
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
  20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00                  ..

Rx J0 Length : 16
Rx J0 Trace :
  CRC-7: 0xD8 ERROR

  BC 4B 69 CC 79 24 1B 01 E8 EB 9C 36 FC 29 A9 00     .Ki.y$.....6.)..
```

```
STS1E Line Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:41-05:42     0     0     0    10     0     0      0      0


High Order Path:

PATH 1:
Clock Source is internal

  AIS = 0          RDI = 0          REI = 0          BIP(B3) = 0
  LOP = 0          PSE = 0          NSE = 0          NEWPTR = 0
  LOM = 0          PLM = 0          UNEQ = 0

Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA

TCA threshold:  B3 = 10e-6
Rx: C2 = 04
Tx: C2 = 04

Tx J1 Length : 64
Tx J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

Expected J1 Length : 64
Expected J1 Trace

  52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00     RSP2 0/3/14.1...
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

PATH TRACE BUFFER : UNSTABLE

Rx J1 Length : 64
Rx J1 Trace

  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................
  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00     ................

SONET Path Tables
  INTERVAL       CV    ES   SES   UAS  CVFE  ESFE  SESFE  UASFE
  05:42-05:42     0     0     0     0     0     0      0      0

STS1E 0/3/14.1 T3 is up.
  Hardware is A900-IMA3G-IMSG

  Applique type is Channelized T3 to T1
  No alarms detected.
  MDL transmission is disabled

  FEAC code received: No code is being received
  Framing is C-BIT Parity, Cablelength is 224
  BER thresholds:  SF = 10e-3  SD = 10e-6
  Clock Source is internal
```

```
 Equipment customer loopback
 Data in current interval (60 seconds elapsed):
  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
    25 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

STS-1 1, T1 1 (STS1E 0/3/14.1/1 T1) is up
 No alarms detected.
 Framing is unframed, Clock Source is Internal
 Data in current interval (60 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
    25 Unavail Secs, 0 Stuffed 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 Unavail Secs

STS-1 1, T1 2 (STS1E 0/3/14.1/2 T1) is up
 timeslots:
 FDL per AT&T 54016 spec.
 No alarms detected.
 Framing is ESF, Clock Source is Internal
 Data in current interval (60 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
    26 Unavail Secs, 0 Stuffed 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 Unavail Secs
```