

# PGW 2200 Softswitch ITP–SCTP Error Resolution

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**Introduction**

**Prerequisites**

Requirements

Components Used

Conventions

**Design Considerations**

**Troubleshoot ITP–SCTP**

**Related Information**

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## Introduction

This document describes Stream Control Transmission Protocol (SCTP) troubleshooting for the Cisco Public Switched Telephone Network (PSTN) Gateway (PGW) 2200 Softswitch in Call Control and Signaling mode and on the Cisco IP Transfer Point (ITP). SCTP is designed to transport PSTN signaling messages over IP networks. The protocol is defined in RFC 2960 , and an introductory text RFC is provided by RFC 3286 .

## Prerequisites

### Requirements

Readers of this document should have knowledge of these topics:

- Cisco Media Gateway Controller Software Release 9
- SCTP for Beginners
- RFC 2960
- SCTP

### Components Used

The information in this document is based on Cisco PGW 2200 releases 9.4(1) and later.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

### Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

## Design Considerations

Generally, Signaling System 7 (SS7) networks are designed for a particular Grade of Service (GOS). For this scenario, refer to ITU Specification E.723, which addresses some of the considerations to ensure end–to–end GOS when you design an SS7 network.

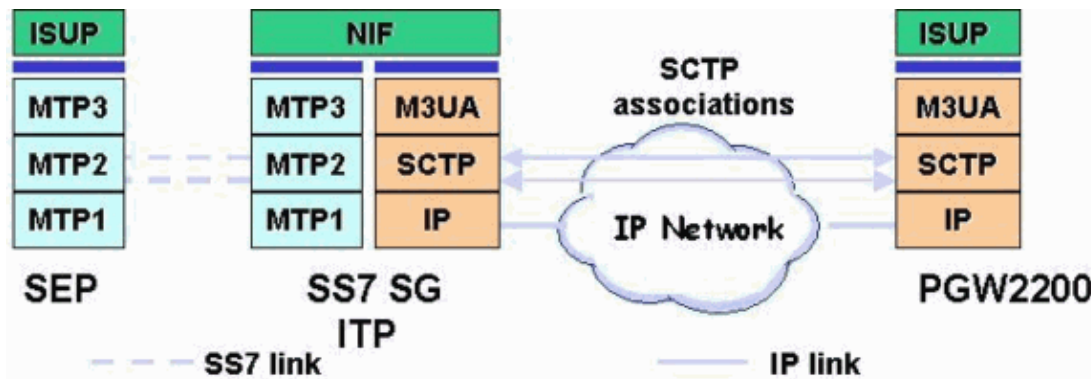
The ITU Specification E.723 document addresses the target end–to–end initial address message (IAM)

transmission time (one way) of 0.9 seconds, and it includes other detailed information.

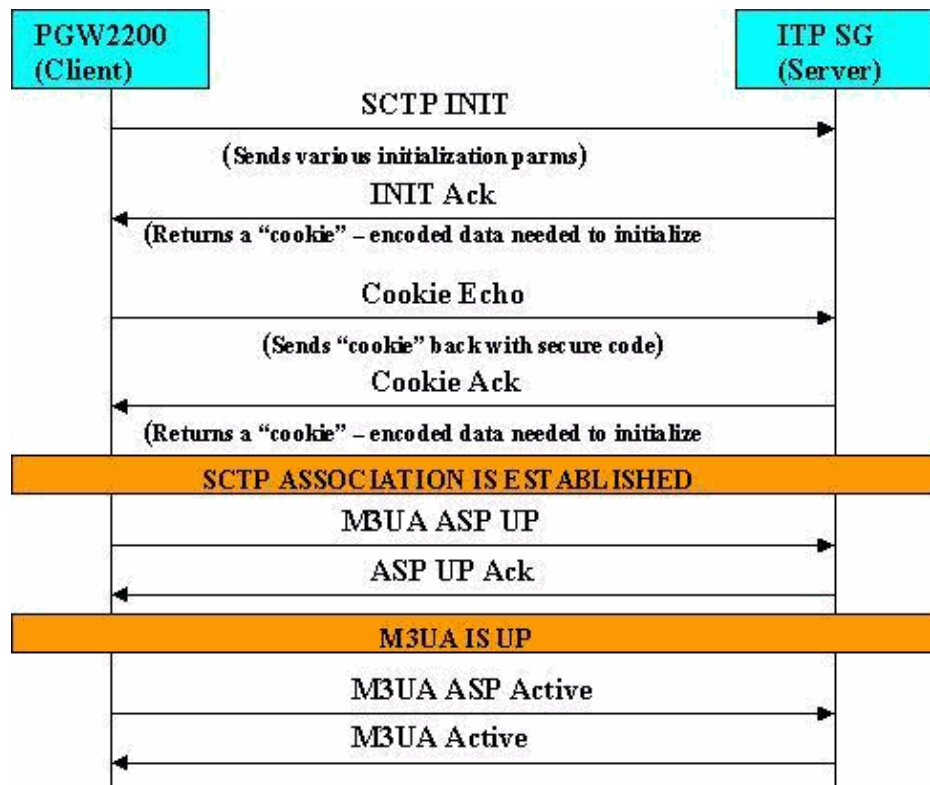
As a general rule, round-trip times (RTTs) of less than 200,000 msec between two SS7-over-IP (SS7oIP) nodes place the performance well within the requirements of the majority of upper-layer SS7 applications. RTT can exceed this, but the overall design of the network should be evaluated to ensure that multiple hops do not exceed application layer timers.

## Troubleshoot ITP-SCTP

Client-Server Signaling Gateway (SG) Architecture (SG is the server; PGW 2200 is the client.)



SCTP Message



On the ITP, issue the **debug** command:

```
v2650-2# debug ip sctp war
SCTP: Turning warnings debugging on
v2650-2# debug ip sctp signal
SCTP: Turning signal debugging on
v2650-2# debug ip sctp state
```

```
SCTP: Turning state debugging on
v2650-2# debug ip sctp init
```

On the PGW 2200, one association is out-of-service. Bring this association in service with the Man-Machine Language (MML) command **set-association:m3ua-assoc2:IS,confirm**, and follow the **debug** on the ITP to discover the different statuses (shown in **boldface**).

```
mgc-bru-14 mml> rtrv-association:all
MGC-01 - Media Gateway Controller 2004-03-18 19:04:23.597 MET
M RTRV
  "m3ua-assoc1:IS"
  /* M3UA Association 1 */
  "m3ua-assoc2:OOS,COOS"
  /* M3UA Association 2 */
  ;
mgc-bru-14 mml> set-association:m3ua-assoc2:IS,confirm
MGC-01 - Media Gateway Controller 2004-03-18 19:05:10.286 MET
M COMPLD
  "m3ua-assoc2"
  ;
mgc-bru-14 mml>
```

To help troubleshoot SCTP and Message Transfer Part (MTP) Level 3 User Adaptation (M3UA) problems on the PGW 2200 and ITP, below is an explanation (provided with **boldfaced** items) of the signaling flow and debugs.

**Note:** The signaling flow is described in SCTP for Beginners .

**Note:** Some of the code below is displayed over multiple lines due to space limitations.

```
Mar 18 18:05:10.413: SCTP: Process Init
Mar 18 18:05:10.413: SCTP:      INIT_CHUNK, len 34
Mar 18 18:05:10.413: SCTP:      Initiate Tag: 6C0C883A, Initial TSN:
6C0C883A, rwnd 18000
Mar 18 18:05:10.413: SCTP:      Streams Inbound: 128, Outbound: 17
Mar 18 18:05:10.413: SCTP:      IP Addr: 10.48.84.146
Mar 18 18:05:10.413: SCTP:      Supported addr types: 5
Mar 18 18:05:10.413: SCTP: Assoc (new): Send InitAck
Mar 18 18:05:10.413: SCTP:      INIT_ACK_CHUNK, len 108
Mar 18 18:05:10.413: SCTP:      Initiate Tag: 446E8EA0, Initial TSN:
446E8EA0, rwnd 64000
Mar 18 18:05:10.413: SCTP:      Streams Inbound: 17, Outbound: 2
Mar 18 18:05:10.413: SCTP:      Responder cookie len 80
Mar 18 18:05:10.417: SCTP:      IP Addr: 10.48.84.176
Mar 18 18:05:10.417: SCTP: Assoc (new): Process Cookie
Mar 18 18:05:10.417: SCTP:      COOKIE_ECHO_CHUNK, len 80
Mar 18 18:05:10.417: SCTP: Assoc 66: Adding additional address (10.48.84.146)
as source and destination
Mar 18 18:05:10.918: SCTP: Assoc 66: Send CookieAck
Mar 18 18:05:10.918: SCTP:      COOKIE_ACK_CHUNK
Mar 18 18:05:10.922: SCTP: Assoc 42: snmpID:66 state CLOSED -> ESTABLISHED
currEstab=1
Mar 18 18:05:10.922: SCTP: Assoc 42: tCurrEstab=1 currEstab=2
Mar 18 18:05:10.922: SCTP: Assoc 66: Sent ASSOC_UP signal for INCOMING_ASSOC
Mar 18 18:05:10.926: xuaSctpInboundPeerUp(Entry): InstanceId = 1, AssocId = 66
Mar 18 18:05:10.926: CS7 XUA MGMT API: aspm_find_aspCb_by_assocId: assocId =
1100, pAspCb = 0x0
Mar 18 18:05:10.926: CS7 XUA MGMT API: aspm_validate_assoc: assocId = 66,
remotePort = 2905, remoteIpAddr = 10.48.84.146 0.0.0.0 0.0.0.0 0.0.0.0,
localPort = 2905, retCode = 0
Mar 18 18:05:10.926: xuaSctpSetAddrParms(Entry): assocId = 66
Mar 18 18:05:10.926: xuaSctpSetAddrParms: keepAlive = 1, keepAliveTimeout =
30000
```

Mar 18 18:05:10.926: xuaSctpSetAddrParms: tos = 0, maxPathRexmit = 4  
Mar 18 18:05:10.926: xuaSctpSetAddrParms: IP addr 10.48.84.146 for assocId 66  
set to active  
Mar 18 18:05:10.926: xuaSctpInboundPeerUp: **SCTP\_ASSOC\_UP** processing complete  
PGW-SW3-BR14(66) s=10.48.84.176 : 2905, d=10.48.84.146 : 2905  
Mar 18 18:05:10.926: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:10.930: xuaGetPacket: getbuffer returned buffer = 8154E958  
Mar 18 18:05:10.930: xuaGetPacket: sctp\_receive returned datalen(8) from  
stream(0)  
Mar 18 18:05:10.930: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:10.930: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:10.930: CS7 XUA MGMT API: aspm\_get\_assoc\_protocol: assocId = 66,  
protocol = 1  
Mar 18 18:05:10.930: **CS7 XUA PACKET RECEIVED FROM PGW-SW3-BR14: Message:**  
**Class = ASPSM, Type = ASPUP, Length = 8**  
Mar 18 18:05:10.930: No Message Parameters  
Mar 18 18:05:10.930: CS7 XUA MGMT STATE: asp\_state\_chg\_event: ASP PGW-SW3-BR14:  
old state = ASP\_DOWN, new state = ASP\_INACTIVE, AS = PGW-SW3  
Mar 18 18:05:10.930: **CS7 XUA MGMT STATE: update\_as\_state: AS PGW-SW3:**  
**old state = AS\_DOWN, new state = AS\_INACTIVE**  
Mar 18 18:05:10.930: CS7 XUA MGMT API: aspm\_find\_dpc\_node: dpc = 1.6.1,  
pointCode = 0x8184E4F4  
Mar 18 18:05:10.930: CS7 XUA MGMT API: aspm\_find\_dpc\_node: dpc = 1.6.1,  
pointCode = 0x8184E4F4  
Mar 18 18:05:10.930: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:10.930: xua\_send: assocId = 66, streamNum = 0, pak = 0x8154E958,  
routingContext = 0, freeOnErr = 1  
Mar 18 18:05:10.930: **CS7 XUA PACKET SENT TO PGW-SW3-BR14: Message: Class =**  
**ASPSM, Type = ASPUP ACK, Length = 8**  
Mar 18 18:05:10.930: No Message Parameters  
Mar 18 18:05:10.930: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:10.930: xuaGetPacket: getbuffer returned buffer = 8154F4C8  
Mar 18 18:05:10.930: xuaGetPacket: sctp\_receive returned datalen(0) from  
stream(0)  
Mar 18 18:05:10.934: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext:  
routingContext = 10, pAsCb = 0x81AE18B8  
Mar 18 18:05:10.934: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:10.934: xua\_send: assocId = 66, streamNum = 0, pak = 0x8154A794,  
routingContext = 0, freeOnErr = 1  
Mar 18 18:05:10.934: **CS7 XUA PACKET SENT TO PGW-SW3-BR14: Message: Class =**  
**MGMT, Type = NTFY, Length = 24**  
Mar 18 18:05:10.934: Parameter: Tag = STATUS, Length = 8  
Mar 18 18:05:10.934: Value = 0x00010002  
Mar 18 18:05:10.934: Parameter: Tag = ROUTING CONTEXT, Length = 8  
Mar 18 18:05:10.934: Value = 0x0000000A  
Mar 18 18:05:10.950: SCTP: Process Init  
Mar 18 18:05:10.950: SCTP: INIT\_CHUNK, len 34  
Mar 18 18:05:10.950: SCTP: Initiate Tag: 6FC2653D, Initial TSN:  
6FC2653D, rwnd 18000  
Mar 18 18:05:10.950: SCTP: Streams Inbound: 128, Outbound: 17  
Mar 18 18:05:10.950: SCTP: IP Addr: 10.48.84.181  
Mar 18 18:05:10.950: SCTP: Supported addr types: 5  
Mar 18 18:05:10.950: SCTP: Assoc (new): Send InitAck  
Mar 18 18:05:10.950: SCTP: INIT\_ACK\_CHUNK, len 108  
Mar 18 18:05:10.950: SCTP: Initiate Tag: 86E5560B, Initial TSN:  
86E5560B, rwnd 64000  
Mar 18 18:05:10.950: SCTP: Streams Inbound: 17, Outbound: 2  
Mar 18 18:05:10.950: SCTP: Responder cookie len 80  
Mar 18 18:05:10.950: SCTP: IP Addr: 10.48.84.176  
Mar 18 18:05:10.954: SCTP: Assoc (new): Process Cookie

Mar 18 18:05:10.954: SCTP: COOKIE\_ECHO\_CHUNK, len 80  
Mar 18 18:05:10.954: SCTP: Assoc 67: Adding additional address (10.48.84.181)  
as source and destination  
Mar 18 18:05:11.455: SCTP: Assoc 67: Send CookieAck  
Mar 18 18:05:11.455: SCTP: COOKIE\_ACK\_CHUNK  
Mar 18 18:05:11.455: SCTP: Assoc 43: snmpID:67 state CLOSED -> ESTABLISHED  
currEstab=2  
Mar 18 18:05:11.459: SCTP: Assoc 43: tCurrEstab=1 currEstab=3  
Mar 18 18:05:11.459: SCTP: **Assoc 67: Sent ASSOC\_UP signal for INCOMING ASSOC**  
Mar 18 18:05:11.463: xuaSctpInboundPeerUp(Entry): InstanceId = 1, AssocId = 67  
Mar 18 18:05:11.463: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
1100, pAspCb = 0x0  
Mar 18 18:05:11.463: **CS7 XUA MGMT API: aspm\_validate\_assoc: assocId = 67,**  
**remotePort = 2905, remoteIpAddr = 10.48.84.181 0.0.0.0 0.0.0.0 0.0.0.0,**  
**localPort = 2905, retCode = 0**  
Mar 18 18:05:11.463: xuaSctpSetAddrParms(Entry): assocId = 67  
Mar 18 18:05:11.463: xuaSctpSetAddrParms: keepAlive = 1, keepAliveTimeout =  
30000  
Mar 18 18:05:11.463: xuaSctpSetAddrParms: tos = 0, maxPathRexmit = 4  
Mar 18 18:05:11.463: **xuaSctpSetAddrParms: IP addr 10.48.84.181 for assocId 67**  
**set to active**  
Mar 18 18:05:11.463: xuaSctpInboundPeerUp: SCTP\_ASSOC\_UP processing complete  
PGW-SW3-BR19(67) s=10.48.84.176 : 2905, d=10.48.84.181 : 2905  
Mar 18 18:05:11.463: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.463: xuaGetPacket: getbuffer returned buffer = 818AA374  
Mar 18 18:05:11.463: xuaGetPacket: sctp\_receive returned datalen(8) from  
stream(0)  
Mar 18 18:05:11.463: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.463: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.463: CS7 XUA MGMT API: aspm\_get\_assoc\_protocol: assocId = 67,  
protocol = 1  
Mar 18 18:05:11.467: CS7 XUA PACKET RECEIVED FROM PGW-SW3-BR19: Message:  
Class = ASPSM, Type = ASPUP, Length = 8  
Mar 18 18:05:11.467: No Message Parameters  
Mar 18 18:05:11.467: CS7 XUA MGMT STATE: asp\_state\_chg\_event: ASP PGW-SW3-BR19:  
old state = ASP\_DOWN, new state = ASP\_INACTIVE, AS = PGW-SW3  
Mar 18 18:05:11.467: CS7 XUA MGMT API: aspm\_find\_dpc\_node: dpc = 1.6.1,  
pointCode = 0x8184E4F4  
Mar 18 18:05:11.467: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.467: xua\_send: assocId = 67, streamNum = 0, pak = 0x818AA374,  
routingContext = 0, freeOnErr = 1  
Mar 18 18:05:11.467: CS7 XUA PACKET SENT TO PGW-SW3-BR19: Message: Class =  
ASPSM, Type = ASPUP ACK, Length = 8  
Mar 18 18:05:11.467: No Message Parameters  
Mar 18 18:05:11.467: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.467: xuaGetPacket: getbuffer returned buffer = 818AA92C  
Mar 18 18:05:11.467: xuaGetPacket: sctp\_receive returned datalen(0) from  
stream(0)  
Mar 18 18:05:11.487: xuaGetPacket: getbuffer returned buffer = 8154E958  
Mar 18 18:05:11.487: xuaGetPacket: sctp\_receive returned datalen(16) from  
stream(0)  
Mar 18 18:05:11.487: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:11.487: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:11.487: CS7 XUA MGMT API: aspm\_get\_assoc\_protocol: assocId = 66,  
protocol = 1  
Mar 18 18:05:11.487: CS7 XUA PACKET RECEIVED FROM PGW-SW3-BR14: Message:  
Class = ASPTM, Type = ASPAC, Length = 16  
Mar 18 18:05:11.487: Parameter: Tag = TRAFFIC MODE TYPE, Length = 8  
Mar 18 18:05:11.487: Value = 0x00000001

Mar 18 18:05:11.487: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext:  
routingContext = 10, pAsCb = 0x81AE18B8

Mar 18 18:05:11.487: CS7 XUA MGMT STATE: asp\_state\_chg\_event: ASP PGW-SW3-BR14:  
**old state = ASP\_INACTIVE, new state = ASP\_ACTIVE, AS = PGW-SW3**

Mar 18 18:05:11: %CS7XUA-5-ASPSTATE: ASP PGW-SW3-BR14 is active in AS PGW-SW3

Mar 18 18:05:11.487: CS7 XUA MGMT STATE: update\_as\_state: AS PGW-SW3:  
**old state = AS\_INACTIVE, new state = AS\_ACTIVE**

Mar 18 18:05:11: %CS7XUA-5-ASSTATE: AS PGW-SW3 is active

Mar 18 18:05:11.487: CS7 XUA MGMT API: aspm\_find\_dpc\_node: dpc = 1.6.1,  
pointCode = 0x8184E4F4

Mar 18 18:05:11.487: xua\_dpc\_notify: dpc=1.6.1, oldStatus=M3UA inactive,  
newStatus=M3UA active

Mar 18 18:05:11.487: xua\_dpc\_notify: Sending TFA for dpc=831

Mar 18 18:05:11.491: cs7\_xua\_process\_L3\_dest\_accessible: TFA received for  
destination 1.6.1

Mar 18 18:05:11.491: CS7 XUA MGMT POINTCODE: update\_dpc\_status: called  
xua\_dpc\_notify() for dpc 1.6.1 status change, newStatus =  
DPC\_M3UA\_ACTIVE, retcode = 1

Mar 18 18:05:11.491: CS7 XUA MGMT POINTCODE: update\_dpc\_status: dpc 1.6.1  
status change: **old status = DPC\_M3UA\_INACTIVE, new status =  
DPC\_M3UA\_ACTIVE**

Mar 18 18:05:11: %CS7XUA-5-XUAPCSTATUS: **XUA PC 1.6.1 is M3UA active**

Mar 18 18:05:11.491: CS7 XUA MGMT API: aspm\_find\_dpc\_node: dpc = 1.6.1,  
pointCode = 0x8184E4F4

Mar 18 18:05:11.491: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC

Mar 18 18:05:11.491: xua\_send: assocId = 66, streamNum = 0, pak = 0x8154A794,  
routingContext = 0, freeOnErr = 1

Mar 18 18:05:11.491: CS7 XUA PACKET SENT TO PGW-SW3-BR14: Message: Class =  
**ASPTM, Type = ASPAC ACK, Length = 24**

Mar 18 18:05:11.491: Parameter: Tag = TRAFFIC MODE TYPE, Length = 8

Mar 18 18:05:11.491: Value = 0x00000001

Mar 18 18:05:11.491: Parameter: Tag = ROUTING CONTEXT, Length = 8

Mar 18 18:05:11.491: Value = 0x0000000A

Mar 18 18:05:11.491: xuaGetPacket: getbuffer returned buffer = 8154E958

Mar 18 18:05:11.491: xuaGetPacket: sctp\_receive returned datalen(0) from  
stream(0)

Mar 18 18:05:11.495: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext:  
routingContext = 10, pAsCb = 0x81AE18B8

Mar 18 18:05:11.495: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC

Mar 18 18:05:11.495: xua\_send: assocId = 66, streamNum = 0, pak = 0x818A72D8,  
routingContext = 0, freeOnErr = 1

Mar 18 18:05:11.495: CS7 XUA PACKET SENT TO PGW-SW3-BR14: Message: Class =  
**MGMT, Type = NTFY, Length = 24**

Mar 18 18:05:11.495: Parameter: Tag = STATUS, Length = 8

Mar 18 18:05:11.495: Value = 0x00010003

Mar 18 18:05:11.495: Parameter: Tag = ROUTING CONTEXT, Length = 8

Mar 18 18:05:11.495: Value = 0x0000000A

Mar 18 18:05:11.495: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext:  
routingContext = 10, pAsCb = 0x81AE18B8

Mar 18 18:05:11.495: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0

Mar 18 18:05:11.495: xua\_send: assocId = 67, streamNum = 0, pak = 0x815479D4,  
routingContext = 0, freeOnErr = 1

Mar 18 18:05:11.495: CS7 XUA PACKET SENT TO PGW-SW3-BR19: Message: Class =  
**MGMT, Type = NTFY, Length = 24**

Mar 18 18:05:11.495: Parameter: Tag = STATUS, Length = 8

Mar 18 18:05:11.499: Value = 0x00010003

Mar 18 18:05:11.499: Parameter: Tag = ROUTING CONTEXT, Length = 8

Mar 18 18:05:11.499: Value = 0x0000000A

Mar 18 18:05:11.499: xuaProcessMgmtQ (Entry)

Mar 18 18:05:11.499: xua\_process\_mgmt\_event: Event DAVA for 1.6.1

Mar 18 18:05:11.499: CS7 XUA MGMT API: aspm\_get\_active\_aspCb: protocol = 1,  
pPreviousAspCb = 0x0, pAspCb = 0x81AD75BC

Mar 18 18:05:11.499: CS7 XUA MGMT POINTCODE: cs7\_aspm\_xua\_dpc: dpc 1.6.1

matched: **status = DPC\_M3UA\_ACTIVE**  
Mar 18 18:05:11.499: CS7 XUA MGMT API: cs7\_aspm\_xua\_dpc: dpc = 1.6.1,  
dpcStatus = 1  
Mar 18 18:05:11.499: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:11.499: xua\_send: assocId = 66, streamNum = 0, pak = 0x81549F00,  
routingContext = 0, freeOnErr = 1  
Mar 18 18:05:11.503: **CS7 XUA PACKET SENT TO PGW-SW3-BR14: Message: Class =  
SSNM, Type = DAVA, Length = 24**  
Mar 18 18:05:11.503: Parameter: Tag = AFFECTED POINT CODE, Length = 8  
Mar 18 18:05:11.503: Value = 0x00000831 (1.6.1)  
Mar 18 18:05:11.503: Parameter: Tag = ROUTING CONTEXT, Length = 8  
Mar 18 18:05:11.503: Value = 0x0000000A  
Mar 18 18:05:11.503: xua\_process\_mgmt\_event: Send event DAVA for 1.6.1 to  
asp PGW-SW3-BR14  
Mar 18 18:05:11.503: CS7 XUA MGMT API: aspm\_get\_active\_aspCb: protocol = 1,  
pPreviousAspCb = 0x81AD75BC, pAspCb = 0x0  
Mar 18 18:05:11.503: xua\_process\_mgmt\_event: Event DAVA for 1.6.1  
Mar 18 18:05:11.599: xuaGetPacket: getbuffer returned buffer = 818AA374  
Mar 18 18:05:11.599: xuaGetPacket: sctp\_receive returned datalen(8) from  
stream(0)  
Mar 18 18:05:11.599: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.599: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.599: CS7 XUA MGMT API: aspm\_get\_assoc\_protocol: assocId = 67,  
protocol = 1  
Mar 18 18:05:11.599: CS7 XUA PACKET RECEIVED FROM PGW-SW3-BR19: Message:  
Class = ASPTM, **Type = ASPIA**, Length = 8  
Mar 18 18:05:11.599: No Message Parameters  
Mar 18 18:05:11.599: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext:  
routingContext = 10, pAsCb = 0x81AE18B8  
Mar 18 18:05:11.603: CS7 XUA MGMT API: aspm\_find\_dpc\_node: dpc = 1.6.1,  
pointCode = 0x8184E4F4  
Mar 18 18:05:11.603: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
67, pAspCb = 0x81AF2DB0  
Mar 18 18:05:11.603: xua\_send: assocId = 67, streamNum = 0, pak = 0x815479D4,  
routingContext = 0, freeOnErr = 1  
Mar 18 18:05:11.603: CS7 XUA PACKET SENT TO PGW-SW3-BR19: Message: Class =  
ASPTM, **Type = ASPIA ACK**, Length = 16  
Mar 18 18:05:11.603: Parameter: Tag = ROUTING CONTEXT, Length = 8  
Mar 18 18:05:11.603: Value = 0x0000000A  
Mar 18 18:05:11.603: xuaGetPacket: getbuffer returned buffer = 818AA374  
Mar 18 18:05:11.603: xuaGetPacket: sctp\_receive returned datalen(0) from  
stream(0)  
Mar 18 18:05:11.603: xuaGetPacket: getbuffer returned buffer = 818AA374  
Mar 18 18:05:11.607: xuaGetPacket: sctp\_receive returned datalen(24) from  
stream(0)  
Mar 18 18:05:11.607: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:11.607: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId =  
66, pAspCb = 0x81AD75BC  
Mar 18 18:05:11.607: CS7 XUA MGMT API: aspm\_get\_assoc\_protocol: assocId = 66,  
protocol = 1  
Mar 18 18:05:11.607: CS7 XUA PACKET RECEIVED FROM PGW-SW3-BR14: Message:  
Class = SSNM, **Type = DAUD**, Length = 24  
Mar 18 18:05:11.607: Parameter: Tag = ROUTING CONTEXT, Length = 8  
Mar 18 18:05:11.607: Value = 0x0000000A  
Mar 18 18:05:11.607: Parameter: Tag = AFFECTED POINT CODE, Length = 8  
Mar 18 18:05:11.607: Value = 0x00000851 (1.10.1)  
Mar 18 18:05:11.607: xua\_daud\_msg: Incoming- pak(818AA374) size(24)  
Mar 18 18:05:11.607: xua\_daud\_msg: DAUD received from PGW-SW3-BR14 - dpc(851)  
mask(0)  
Mar 18 18:05:11.607: CS7 XUA MGMT API: cs7\_aspm\_xua\_dpc: dpc = 1.10.1,  
dpcStatus = 0  
Mar 18 18:05:11.607: CS7 XUA MGMT API: cs7\_aspm\_xua\_dpc: dpc = 1.10.1,

```

dpcStatus = 0
Mar 18 18:05:11.607: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.10.1,
dpcStatus = 0
Mar 18 18:05:11.607: CS7 XUA MGMT API: aspm_find_aspCb_by_assocId: assocId =
66, pAspCb = 0x81AD75BC
Mar 18 18:05:11.607: xua_send: assocId = 66, streamNum = 0, pak = 0x81549F00,
routingContext = 0, freeOnErr = 1
Mar 18 18:05:11.607: CS7 XUA PACKET SENT TO PGW-SW3-BR14: Message: Class =
SSNM, Type = DAVA, Length = 24
Mar 18 18:05:11.607: Parameter: Tag = AFFECTED POINT CODE, Length = 8
Mar 18 18:05:11.611: Value = 0x00000851 (1.10.1)
Mar 18 18:05:11.611: Parameter: Tag = ROUTING CONTEXT, Length = 8
Mar 18 18:05:11.611: Value = 0x0000000A
Mar 18 18:05:11.611: xuaGetPacket: getbuffer returned buffer = 818AA374
Mar 18 18:05:11.611: xuaGetPacket: sctp_receive returned datalen(0) from
stream(0)
Mar 18 18:05:12.428: cs7_xua_is_available_xua_dpc: dpc=80A
Mar 18 18:05:12.428: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.1.2,
dpcStatus = 0
Mar 18 18:05:12.973: cs7_xua_is_available_xua_dpc: dpc=80A
Mar 18 18:05:12.973: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.1.2,
dpcStatus = 0
Mar 18 18:05:18.178: cs7_xua_is_available_xua_dpc: dpc=80A

```

## SCTP and M3UA Error Handling

Message Type	Description
Payload Data	Contains the SS7 MTP3–User protocol data, which is an MTP–TRANSFER primitive, including the complete MTP3 Routing Label.
Destination Unavailable (DUNA)	Used to signal to the auxiliary signal path (ASP) that destinations are unavailable.
Destination Available (DAVA)	Similar to MTP Transfer Prohibited. Used to signal to the ASP that destinations are available. Similar to MTP Transfer
Destination Audit (DAUD)	Allowed. Used to request from the SG status of availability or congestion of SS7 routes.
SS7 Network Congestion (SCON)	Used to indicate congestion of an SG.
Destination Part Unavailable (DUPU)	Sent by SG to indicate that remote peer MTP3 user is unavailable.
Destination Restricted (DRST)	Sent to ASP indicating that the SS7 destination is restricted. Similar to MTP.

ASP Up (ASPUP)	This message is used to indicate to the SG that the ASP is up, running, and ready to receive maintenance-related messages.
ASP Up Ack	Acknowledges the ASP Up message.
ASP Down (ASPDN)	Indicates to the SG that the ASP is not ready to receive traffic.
ASP Down Ack	Acknowledges the ASP Down message.
Registration Request (REG REQ)	Sent by ASP to SG and used to register routing keys with the SG.
Registration Response	Used to acknowledge the Registration Request.
De-Registration Request (DEREG REQ)	Used to signal the SG to deregister the routing key.
De-Registration Response (DREG RSP)	Used to acknowledge the De-Registration Request.
ASP Active (ASPAC)	Indicates the ASP is now active and ready to accept traffic.
ASP Active Ack	Used to acknowledge the ASP Active message.
ASP Inactive (ASPIA)	Used to indicate that an ASP has gone to the inactive mode.
ASP Inactive Ack	Sent by SG to acknowledge ASP Inactive.
Heartbeat (BEAT)	Heartbeat message.
Heartbeat Ack (Beat-Ack)	Acknowledges the Heartbeat message.
Notify (NTFY)	Provides autonomous indication of events to an M3UA peer.

### M3UA Error Message Handling

Error Code	Response to	Cause	Action
Invalid Version	ASP UP		

		Used to notify ASP that the SG does not support the specified version. This error should only be received in response to the ASP Up request sent to the SG.	Currently, there is only a single version of M3UA.
Unsupported Message Class	ALL	Indicates to SG or ASP that a message was received with an invalid message class.	When the ASP receives a message with unsupported message class, it ignores the message, places the header in the diagnostic parameter of an error message, and sends the error message with this error code.  Upon receiving this error message, it is logged.
Unsupported Message Type	ALL	Indicates to SG or ASP that a message was received with an invalid message type.	Same as Unsupported Message Class, above.
Unsupported Traffic Handling Mode	ASPAC	Notifies ASP that received the message that it contained invalid traffic handling type.	Upon receiving this error message, the ASP should generate a log entry and provide notification of configuration mismatch by layer management callback.

Unexpected Message			Sent when a message is received unexpectedly (that is, ASP is not in the active state or ASP is in the Down state and an ASP Active was received).
Protocol Error			Logged if received. Sent for general protocol errors.
Invalid Stream Identifier		<p>Sent by peer when a message is received with an invalid stream identifier.</p> <p>This occurs when a management message is sent on a stream other than stream 0.</p> <p>The receiver of the message on the invalid stream should discard the message.</p>	<p>When this message is received, a coding error has most likely occurred.</p> <p>When this message is received, the</p>
Refused Management Blocking	ASP Up ASP Act	Sent by SG when an ASP UP or ASP Act is received and some form of management blocking has occurred.	<p>message should be sent again, on a valid stream, and the error should be logged. If the preferred state is UP, ASP continues to send the ASP UP or ASP ACT</p> <p>Logged if received. If the preferred state is UP, ASP continues to send the ASP UP or ASP ACT</p>
ASP Identifier Required	ASP UP	Sent by signaling gateway process (SGP) in	<p>message if periodically. However, this should not be received because</p>

		response to an ASP UP without an ASP Identifier.	ASP ID sent.
Invalid ASP Identifier	ASP UP	Sent in response to ASP UP message with a duplicate ASP Identifier.	Logged if received.
Invalid Routing Context	ASPAC ASPIA NTFY	Sent when a message contains an invalid Routing Context.	Logged if received. In addition, layer management notification is sent to alarm of a mismatch in configuration between the PGW 2200 and SG.
Invalid Parameter Value	All	Sent by peer when a message is received with an invalid parameter value.	Logged if received
Parameter Field Error	All		Logged if received.
Unexpected Parameter	All	Sent when an unexpected parameter is received in a message.	Logged if received.
Destination Status Unknown	DAUD	Sent in response to DAUD to ASP indicating that the SG does not wish to provide the status.	Logged if received. In addition, layer management notification is sent to generate a
Invalid Network Appearance	DATA DUNA	The Network Appearance parameter is unrecognized	misconfiguration alarm.

	DAVA	by the	
	DAUD	receiving	
	SCON	entity (SG or	
	DUPU	ASP).	
	DRST		

In the example below, the association is brought Out-of-Service (OOS), and the signaling flow is followed. (See the **boldfaced** information.)

**Note:** Some of the code below is displayed over multiple lines due to space limitations.

```

mgc-bru-14 mml> rtrv-association:all
MGC-01 - Media Gateway Controller 2004-03-18 18:28:49.691 MET
M RTRV
  "m3ua-assoc1:IS"
  /* M3UA Association 1 */
  "m3ua-assoc2:IS"
  /* M3UA Association 2 */
  ;
mgc-bru-14 mml> set-association:m3ua-assoc2:OOS,confirm
MGC-01 - Media Gateway Controller 2004-03-18 18:41:34.240 MET
M COMPLD
  "m3ua-assoc2"
  ;
mgc-bru-14 mml>

Mar 18 17:41:29.973: CS7 XUA MGMT API: aspm_find_dpc_node: dpc = 1.4.1,
pointCode = 0x0
Mar 18 17:41:30.875: cs7_xua_is_available_xua_dpc: dpc=80A
Mar 18 17:41:30.875: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.1.2,
dpcStatus = 0
Mar 18 17:41:34.348: SCTP: Assoc 64: Sent TERMINATE_PENDING signal
Mar 18 17:41:34.348: SCTP: Assoc 64: Send Shutdown
Mar 18 17:41:34.348: SCTP: SHUTDOWN_ACK_CHUNK
Mar 18 17:41:34.348: SCTP: Assoc 40: snmpID:64 state ESTABLISHED ->
SHUTDOWN_ACKSENT currEstab=3
Mar 18 17:41:34.348: SCTP: Assoc 40: tCurrEstab=-1 currEstab=2
Mar 18 17:41:34.348: xuaSctpAssocTerminate(Entry): InstanceId = 1, AssocId = 64
Mar 18 17:41:34.348: xuaSctpAssocTerminate: TERMINATE signal for M3UA
Association (64) context=81AD75BC
Mar 18 17:41:34.348: CS7 XUA MGMT API: aspm_find_aspCb_by_assocId: assocId =
64, pAspCb = 0x81AD75BC
Mar 18 17:41:34.348: CS7 XUA MGMT API: aspm_asp_cong_notify: ASP = PGW-SW3-BR14
Mar 18 17:41:34.352: CS7 XUA MGMT API: aspm_find_dpc_node: dpc = 1.6.1,
pointCode = 0x8184E4F4
Mar 18 17:41:34.352: CS7 XUA MGMT STATE: asp_state_chg_event: ASP PGW-SW3-BR14:
old state = ASP_ACTIVE, new state = ASP_DOWN, AS = PGW-SW3
Mar 18 17:41:34: %CS7XUA-5-ASPSTATE: ASP PGW-SW3-BR14 is inactive in AS PGW-SW3
Mar 18 17:41:34.352: CS7 XUA TIMER: update_as_state: started recovery timer for
AS PGW-SW3
Mar 18 17:41:34.352: CS7 XUA MGMT STATE: update_as_state: AS PGW-SW3:
old state = AS_ACTIVE, new state = AS_PENDING
Mar 18 17:41:34.352: CS7 XUA MGMT API: aspm_find_dpc_node: dpc = 1.6.1,
pointCode = 0x8184E4F4
Mar 18 17:41:34.352: CS7 XUA MGMT API: aspm_find_dpc_node: dpc = 1.6.1,
pointCode = 0x8184E4F4
Mar 18 17:41:34.352: CS7 XUA MGMT API: aspm_assoc_closed: assocId = 64, success
Mar 18 17:41:34.352: SCTP: Assoc 64: Sent ASSOC_TERMINATE signal

```

Mar 18 17:41:34.352: **SCTP: Assoc 40: snmpID:64 state SHUTDOWN\_ACKSENT -> CLOSED currEstab=2**

Mar 18 17:41:34.352: SCTP: Assoc 40: tCurrEstab=0 currEstab=2

Mar 18 17:41:34.352: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext: routingContext = 10, pAsCb = 0x81AE18B8

Mar 18 17:41:34.352: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId = 65, pAspCb = 0x81AF2DB0

Mar 18 17:41:34.356: xua\_send: assocId = 65, streamNum = 0, pak = 0x818A39A8, routingContext = 0, freeOnErr = 1

Mar 18 17:41:34.356: CS7 XUA PACKET SENT TO PGW-SW3-BR19: Message: Class = MGMT, **Type = NTFY**, Length = 24

Mar 18 17:41:34.356: Parameter: Tag = STATUS, Length = 8

Mar 18 17:41:34.356: Value = 0x00020003

Mar 18 17:41:34.356: Parameter: Tag = ROUTING CONTEXT, Length = 8

Mar 18 17:41:34.356: Value = 0x0000000A

Mar 18 17:41:34.356: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext: routingContext = 10, pAsCb = 0x81AE18B8

Mar 18 17:41:34.356: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId = 65, pAspCb = 0x81AF2DB0

Mar 18 17:41:34.356: xua\_send: assocId = 65, streamNum = 0, pak = 0x81549390, routingContext = 0, freeOnErr = 1

Mar 18 17:41:34.356: CS7 XUA PACKET SENT TO PGW-SW3-BR19: Message: Class = MGMT, **Type = NTFY**, Length = 24

Mar 18 17:41:34.356: Parameter: Tag = STATUS, Length = 8

Mar 18 17:41:34.356: Value = 0x00010004

Mar 18 17:41:34.356: Parameter: Tag = ROUTING CONTEXT, Length = 8

Mar 18 17:41:34.356: Value = 0x0000000A

Mar 18 17:41:34.356: xuaSctpAssocTerminate(Entry): InstanceId = 1, AssocId = 64

Mar 18 17:41:34.356: xuaSctpAssocTerminate: TERMINATE signal for M3UA Association (1100) context=81AD75BC

Mar 18 17:41:34.356: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId = 64, pAspCb = 0x0

Mar 18 17:41:34.356: CS7 XUA ERROR: aspm\_assoc\_closed: ASP not found for assocId 64

Mar 18 17:41:34.889: **SCTP: Assoc 65: Sent TERMINATE\_PENDING signal**

Mar 18 17:41:34.889: **SCTP: Assoc 65: Send Shutdown**

Mar 18 17:41:34.889: **SCTP: SHUTDOWN\_ACK\_CHUNK**

Mar 18 17:41:34.893: **SCTP: Assoc 41: snmpID:65 state ESTABLISHED -> SHUTDOWN\_ACKSENT currEstab=2**

Mar 18 17:41:34.893: SCTP: Assoc 41: tCurrEstab=-1 currEstab=1

Mar 18 17:41:34.893: xuaSctpAssocTerminate(Entry): InstanceId = 1, AssocId = 65

Mar 18 17:41:34.893: xuaSctpAssocTerminate: TERMINATE signal for M3UA Association (65) context=81AF2DB0

Mar 18 17:41:34.893: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId = 65, pAspCb = 0x81AF2DB0

Mar 18 17:41:34.893: CS7 XUA MGMT API: aspm\_asp\_cong\_notify: ASP = PGW-SW3-BR19

Mar 18 17:41:34.893: CS7 XUA MGMT STATE: asp\_state\_chg\_event: ASP PGW-SW3-BR19: **old state = ASP\_INACTIVE, new state = ASP\_DOWN, AS = PGW-SW3**

Mar 18 17:41:34.893: CS7 XUA MGMT API: aspm\_find\_dpc\_node: dpc = 1.6.1, pointCode = 0x8184E4F4

Mar 18 17:41:34.893: CS7 XUA MGMT API: aspm\_assoc\_closed: assocId = 65, success

Mar 18 17:41:34.893: **SCTP: Assoc 65: Sent ASSOC\_TERMINATE signal**

Mar 18 17:41:34.893: **SCTP: Assoc 41: snmpID:65 state SHUTDOWN\_ACKSENT -> CLOSED currEstab=1**

Mar 18 17:41:34.893: SCTP: Assoc 41: tCurrEstab=0 currEstab=1

Mar 18 17:41:34.897: xuaSctpAssocTerminate(Entry): InstanceId = 1, AssocId = 65

Mar 18 17:41:34.897: **xuaSctpAssocTerminate: TERMINATE signal for M3UA Association (1100) context=81AF2DB0**

Mar 18 17:41:34.897: CS7 XUA MGMT API: aspm\_find\_aspCb\_by\_assocId: assocId = 65, pAspCb = 0x0

Mar 18 17:41:34.897: CS7 XUA ERROR: aspm\_assoc\_closed: ASP not found for assocId 65

Mar 18 17:41:36.356: CS7 XUA MGMT API: aspm\_find\_asCb\_by\_routingContext: routingContext = 10, pAsCb = 0x81AE18B8

Mar 18 17:41:36.356: CS7 XUA TIMER: handle\_timer\_event: recovery timer expired for AS PGW-SW3

Mar 18 17:41:36.356: CS7 XUA TIMER: update\_as\_state: stopped recovery timer

```

for AS PGW-SW3
Mar 18 17:41:36.356: CS7 XUA TIMER: flush_recoveryQ: flushing recovery queue
for AS PGW-SW3, queue depth = 0
Mar 18 17:41:36.356: CS7 XUA MGMT STATE: update_as_state: AS PGW-SW3:
old state = AS_PENDING, new state = AS_DOWN
Mar 18 17:41:36: %CS7XUA-5-ASSTATE: AS PGW-SW3 is inactive
Mar 18 17:41:36.356: CS7 XUA MGMT API: aspm_find_dpc_node: dpc = 1.6.1,
pointCode = 0x8184E4F4
Mar 18 17:41:36.356: xua_dpc_notify: dpc=1.6.1, oldStatus=M3UA active,
newStatus=M3UA inactive
Mar 18 17:41:36.356: xua_dpc_notify: Sending TFP for dpc=1.6.1
Mar 18 17:41:36.356: cs7_xua_process_L3_dest_inaccessible: Destination
prohibited received for destination 1.6.1
Mar 18 17:41:36.356: CS7 XUA MGMT POINTCODE: update_dpc_status: called
xua_dpc_notify() for dpc 1.6.1 status change, newStatus =
DPC_M3UA_INACTIVE, retcode = 1
Mar 18 17:41:36.356: CS7 XUA MGMT POINTCODE: update_dpc_status: dpc 1.6.1
status change: old status = DPC_M3UA_ACTIVE, new status =
DPC_M3UA_INACTIVE
Mar 18 17:41:36: %CS7XUA-5-XUAPCSTATUS: XUA PC 1.6.1 is M3UA inactive
Mar 18 17:41:36.360: xuaProcessMgmtQ (Entry)
Mar 18 17:41:36.360: xua_process_mgmt_event: Event DUNA for 1.6.1
Mar 18 17:41:36.360: CS7 XUA MGMT API: aspm_get_active_aspCb: protocol = 1,
pPreviousAspCb = 0x0, pAspCb = 0x0
Mar 18 17:41:36.360: xua_process_mgmt_event: Event DUNA for 1.6.1

```

*!--- Output suppressed.*

```

Mar 18 17:43:00.878: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.1.2,
dpcStatus = 0
Mar 18 17:43:06.379: cs7_xua_is_available_xua_dpc: dpc=80A
Mar 18 17:43:06.379: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.1.2,
dpcStatus = 0
Mar 18 17:43:06.379: cs7_xua_is_active_xua_dpc: dpc=831
Mar 18 17:43:06.379: CS7 XUA MGMT POINTCODE: cs7_aspm_xua_dpc: dpc 1.6.1
matched: status = DPC_M3UA_INACTIVE
Mar 18 17:43:06.379: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.6.1,
dpcStatus = 2
Mar 18 17:43:06.383: cs7_xua_is_restricted_xua_dpc: dpc=831
Mar 18 17:43:06.383: CS7 XUA MGMT POINTCODE: cs7_aspm_xua_dpc: dpc 1.6.1
matched: status = DPC_M3UA_INACTIVE
Mar 18 17:43:06.383: CS7 XUA MGMT API: cs7_aspm_xua_dpc: dpc = 1.6.1,
dpcStatus = 2
Mar 18 17:43:06.383: cs7_xua_is_prohibited_xua_dpc: dpc=831

```

At a certain time, you may need to change the process "m3ua-1" from error level to debug level on the PGW 2200 and collect the log information with the file /opt/CiscoMGC/var/log/platform.log.

```

mgc-bru-14 mml> rtrv-log:all
MGC-01 - Media Gateway Controller 2004-03-18 19:07:22.774 MET
M RTRV
"CFM-01:ERR"
"ALM-01:ERR"
"MM-01:ERR"
"AMDMPR-01:ERR"
"CDRDMPR-01:ERR"
"DSKM-01:ERR"
"MMDB-01:ERR"
"POM-01:ERR"
"MEASAGT:ERR"
"OPERSAGT:ERR"
"mgcp-1:ERR"
"Replic-01:ERR"
"ENG-01:ERR"
"IOCM-01:ERR"

```

```

"TCAP-01:ERR"
"m3ua-1:ERR"
"FOD-01:ERR"
;
mgc-bru-14 mml> set-log:m3ua-1:debug,confirm
MGC-01 - Media Gateway Controller 2004-03-18 19:07:46.434 MET
M COMPLD
"m3ua-1"
;
mgc-bru-14 mml>

```

Information from the file /opt/CiscoMGC/var/log/platform.log brings the association to out-of-service status, as shown below.

```

Thu Mar 18 20:32:55:903 2004 MET | m3ua-1 (PID 18243) <Debug>
procIpCMsg myCcMOO 3

Thu Mar 18 20:32:55:903 2004 MET | m3ua-1 (PID 18243) <Debug>
actvProcIpc, Got Event Type 4098

Thu Mar 18 20:32:55:903 2004 MET | m3ua-1 (PID 18243) <Debug>
ID:4a0003 STATE TRANS:4 desiredMOO:3

Thu Mar 18 20:32:55:903 2004 MET | m3ua-1 (PID 18243) <Info>
PROT_INFO_Q921_LNK_CNTL: Q921 channel 4a0003 state change Commanded OOS cause
N/A

Thu Mar 18 20:32:55:903 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: M3UA: term assoc 301

Thu Mar 18 20:32:55:903 2004 MET | m3ua-1 (PID 18243) <Info>
4a0003, state change Out-of-service cause Commanded OOS

Thu Mar 18 20:32:55:903 2004 MET | m3ua-1 (PID 18243) <Debug>
SSC List size = 1

Thu Mar 18 20:32:55:904 2004 MET | m3ua-1 (PID 18243) <Debug>
004a0003, send SSC trans Out-of-service cause Commanded OOS

Thu Mar 18 20:32:55:905 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: Assoc (004a0003) 1: Sent TERMINATE_PENDING signal

Thu Mar 18 20:32:55:905 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: Assoc (004a0003) 1: Send Shutdown

Thu Mar 18 20:32:55:905 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: TSN ack: (0x446e8ea5)

Thu Mar 18 20:32:55:905 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: SHUTDOWN_CHUNK,

Thu Mar 18 20:32:55:906 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: Assoc (004a0003) 1: state ESTABLISHED -> SHUTDOWN_SENT

Thu Mar 18 20:32:55:907 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: Assoc (004a0003) 1: Shutdown Ack Chunk

Thu Mar 18 20:32:55:907 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: Assoc (004a0003) 1: Send Shutdown

Thu Mar 18 20:32:55:907 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: SHUTDOWN_COMP_CHUNK

Thu Mar 18 20:32:55:908 2004 MET | m3ua-1 (PID 18243) <Debug>
M3UA/SCTP: SCTP: Assoc (004a0003) 1: Sent ASSOC_TERMINATE signal

```

Thu Mar 18 20:32:55:908 2004 MET | m3ua-1 (PID 18243) <Debug>  
M3UA/SCTP: SCTP: Assoc (004a0003) 1: **state SHUTDOWN\_SENT -> CLOSED**

Thu Mar 18 20:32:55:912 2004 MET | m3ua-1 (PID 18243) <Debug>  
M3UA/SCTP: xua\_proc\_sctpsig - SG 3001 Transition to Down

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Error>  
Routing Key 0 not found in the MAP, RK layer mgmt event 6 from SG 160005

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Error>  
Received SGP\_FAILED\_DOWN for 4d0002

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Info>  
4d0002, state change Out-of-service cause N/A

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Debug>  
SSC List size = 2

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Debug>  
004d0002, send SSC trans Out-of-service cause N/A

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Error>  
Received **SG\_DOWN** for 160005

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Debug>  
4f0001, set SG 160005 RKey State to 2

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Warning>  
4f0001, SG 160004 Key in Ack State 3

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Debug>  
4f0001, Key is active

Thu Mar 18 20:32:55:923 2004 MET | m3ua-1 (PID 18243) <Warning>  
4f0001, SG 160005 Key in Pending State 2

Thu Mar 18 20:32:55:924 2004 MET | m3ua-1 (PID 18243) <Debug>  
4f0001, one or more SGpending

Thu Mar 18 20:32:55:924 2004 MET | m3ua-1 (PID 18243) <Info>  
150001, Send iopFaultMsg 700d of 0 to chanmgr

Thu Mar 18 20:32:55:924 2004 MET | m3ua-1 (PID 18243) <Info>  
150001, Send iopFaultMsg 700b of 1 to chanmgr

Thu Mar 18 20:32:55:924 2004 MET | m3ua-1 (PID 18243) <Error>  
4a0003: Received **SCTP\_ASSOC\_FAIL**

Thu Mar 18 20:32:55:924 2004 MET | m3ua-1 (PID 18243) <Debug>  
Sent 2 SSCs in a Group

Thu Mar 18 20:32:56:416 2004 MET | m3ua-1 (PID 18243) <Debug>  
M3UA/SCTP: SCTP: Assoc (004a0001) 0: Heartbeat Ack Chunk from destaddr  
10.48.84.179

Thu Mar 18 20:32:58:532 2004 MET | foverd (MM)(mgc-bru-14) (PID 18245) <Warning>  
Received msg from invalid host (10.48.84.67):  
'H9425MM0012819864mgc-bru-5a DA'

Thu Mar 18 20:32:58:934 2004 MET | m3ua-1 (PID 18243) <Debug>  
M3UA/SCTP: SCTP: Assoc (004a0001) 0: Heartbeat Ack Chunk from destaddr  
10.48.84.179

Thu Mar 18 20:33:01:273 2004 MET | m3ua-1 (PID 18243) <Debug>

procIpMsg myCcMOO 3

Thu Mar 18 20:33:01:273 2004 MET | m3ua-1 (PID 18243) <Debug>  
actvProcIp, Got Event Type 4099

Thu Mar 18 20:33:01:273 2004 MET | m3ua-1 (PID 18243) <Debug>  
RECEIVED STATISTICS REQ FROM IOCM

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