



Documentation Bulletin

Severity Level	Info	Bulletin Number	DN002779
Issue Date	09/05/2014	Expires	DSR 7.0 Customer Documentation Set
Title	Additional information on measurements in DSR 6.0		
Product	DSR	Release	6.0
Priority	FYI	Related Bugs	Bug 19220004
Impacts Compatibility	NO	Product Line(s): <small>(Only if Impacts Compatibility = YES)</small>	N/A
Author	M. Garrell	Part No. Affected	E53474_rev_01
Markets	ALL		
Approved By/Date			
Information Development Manager	J. GIBSON 09/04/2014		
Problem Description			
The Alarms, KPIs, and Measurements Reference Guide (E53474) should contain information on the measurements listed below.			
Impact			
If one of these measurements is raised, customers may be unsure as to what action to take.			
Needed Actions			
Customers should store this bulletin in the Documentation location for reference. Contact My Oracle Support for further assistance.			
This notice is provided information to Oracle customers about issues identified with our systems. If you have any questions about this notice, call the My Oracle Support main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html .			
For more information, see <i>DSR Alarms, KPIs, and Measurements Guide</i> (part number E53474_rev_01) on the OTN at http://www.oracle.com			
CARxDscrdBundle			
Measurement Group: ComAgent Exception			
Measurement Type: Simple			
Measurement Dimension: Single			
Description: Number of ingress bundled event discarded during de-serialization.			
Collection Interval: 30 min			
Peg Condition:			
Measurement Scope: Server Group			
Recovery: No action required			

RxDOCDiscardConn

Measurement Group: Diameter Ingress Transaction Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (by Connection Name)

Description: The number of ingress messages that were discarded because of local DA-MP danger of CPU congestion.

Collection Interval: 5 min

Peg Condition: For each message discarded on a connection due to DA-MP danger of CPU congestion

Measurement Scope: Server Group

Recovery: No action required

RxRbarAvgMsgSize

Measurement Group: Address Resolution Performance

Measurement Type: Average

Measurement Dimension: Arrayed (by Diameter Application ID)

Description: Average size of Request message received.

Collection Interval: 5 min

Peg Condition: Average calculated for each Request message received as defined by measurement *RxRbarMsgs*.

Measurement Scope: Server Group

Recovery: No action required.

CAPM_RxRejectWithErrorAnswer

Measurement Group: CAPM

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: The number of Request messages from a downstream peer rejected by a Local Node when an indication from mediation to send back an error answer is received

Collection Interval: 5 min

Peg Condition: When mediation indicates to send back an answer

Measurement Scope: Server Group

Recovery: No action required.

CAPM_RxSilentDiscard

Measurement Group: CAPM

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: The number of Request messages from a downstream peer silently by a Local Node when an indication from mediation to discard the request is received

Collection Interval: 5 min

Peg Condition: When mediation indicates to silently discard the request

Measurement Scope: Server Group

Recovery: No action required.

CAHSRsrcErr

Measurement Group: ComAgent Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (by Resource)

Description: The number of times that ComAgent receives in a heartbeat stack event status concerning a known Resource but an unknown Sub-Resource

Collection Interval: 30 min

Peg Condition: When ComAgent stores an unexpected Sub-Resource entry in the local Resource Provider Table. An unexpected Sub-Resource involves a known Resource but an unknown Sub-Resource ID (SRID).

Measurement Scope: Server

Recovery: A non-zero value in this measurement indicates that the system is or has been mis-configured. Check the Communication Agent maintenance screens for anomalies and to trouble shoot further.

CAStackQueueFul

Measurement Group: ComAgent Exception

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: StackEvents discarded due to ComAgent task queue full condition.

Collection Interval: 30 min

Peg Condition: For each User Data egress StackEvent that is discarded by ComAgent Stack, due to failure in attempting to put the messages in ComAgent Egress Task Queue.

Measurement Scope: NE, Server

Recovery:

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. Contact *My Oracle Support (MOS)* for assistance.

CAAvgQueueUtil

Measurement Group: ComAgent Exception

Measurement Type: Average

Measurement Dimension: Arrayed

Description: Average percentage of Queue Utilization.

Collection Interval: 30 min

Peg Condition: The average ComAgent Egress Task Queue utilization sample taken during the collection interval.

Measurement Scope: NE, Server

Recovery:

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. Contact *My Oracle Support (MOS)* for assistance.

CAPeakQueueUtil

Measurement Group: ComAgent Performance

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: Maximum percentage of Queue Utilization.

Collection Interval: 30 min

Peg Condition: The maximum ComAgent Egress Task Queue utilization sample taken during the collection interval.

Measurement Scope: NE, Server

Recovery:

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. Contact *My Oracle Support (MOS)* for assistance.

TxConnRetransDataChunks

Measurement Group: Connection Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (by Connection ID)

Description: The number of retransmitted data chunks sent on the SCTP connection.

Collection Interval: 5 min

Peg Condition: When a data chunk is retransmitted on the SCTP connection

Measurement Scope: Server Group

Recovery: No action required.

EvConnRejMaxConnExceeded

Measurement Group: Diameter Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (by Connection ID)

Description: Number of times DA-MP rejected a Diameter connection due to the DA-MP exceeding its maximum number of supported Diameter connections.

Collection Interval: 5 min

Peg Condition: For each Diameter connection that is rejected by a DA-MP.

Measurement Scope: Server Group

Recovery:

1. The DA-MP has reached its connection or ingress MPS capacity.
2. If the DA-MP is a member of a IPFE TS, verify that the IPFE is configured to fully monitor the DA-MP's availability status. When a IPFE fully monitors application servers in a IPFE TS, it will cease from distributing new Diameter connections to any/all application servers that report a "Stasis" availability status.
3. The sum of the Reserved Ingress MPS for the added connection and MP Reserved Ingress MPS has exceeded the MP Maximum Reserved Ingress MPS. The value for Reserved Ingress MPS for the added connection needs to be examined to determine if its value should be decreased.
4. Contact *My Oracle Support (MOS)* for assistance.

RxMpCongestionDiscardMp

Measurement Group: Diameter Exception

Measurement Type: Simple

Measurement Dimension: Single

Description: The number of ingress Diameter Request messages received that were discarded or rejected because of local MP congestion.

Collection Interval: 5 min

Peg Condition: For each ingress Diameter Request message discarded because of local MP congestion.

Measurement Scope: Server Group

Recovery:

1. If one or more MPs in a server site have failed, the traffic will be distributed between the remaining MPs in the server site. MP server status can be monitored from the **Status & Manage > Server** page.
2. The mis-configuration of Diameter peers may result in too much traffic being distributed to the MP. The ingress traffic rate of each MP can be monitored from the **Status & Manage > KPIs** page. Each MP in the server site should be receiving approximately the same ingress transaction per second.
3. There may be an insufficient number of MPs configured to handle the network traffic load. The ingress traffic rate of each MP can be monitored from the **Status & Manage > KPIs** page. If all MPs are in a congestion state then the offered load to the server site is exceeding its capacity.
4. The Diameter process may be experiencing problems. The alarm log should be examined using the **Alarms & Events** page.
5. If the problem persists, contact *My Oracle Support (MOS)*.

RxMsgSize

Measurement Group: Diameter Performance

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: Ingress message size statistics.

Note: Each bucket in the array contains the number of PDUs with Diameter payload octets that fell within the bucket's range during the measurement period.

- [0] = less than 512 octets
- [1] = 512 to 1023 octets
- [2] = 1024 to 1535 octets
- [3] = 1536 to 2047 octets
- [4] = 2048 to 2559 octets
- [5] = 2560 to 3071 octets
- [6] = 3072 to 3583 octets
- [7] = 3584 to 4095 octets
- [8] = 4096 or more octets

Collection Interval: 5 min

Peg Condition: Pegged when a Diameter message is received from the peer on the connection. This measurement is pegged for all messages accepted for processing, as well as those rejected due to local congestion, MPS limitation, etc.

Measurement Scope: Server Group

Recovery: No action required.

TxMsgSize

Measurement Group: Diameter Performance

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: Egress message size statistics.

Note: Each bucket in the array contains the number of PDUs with Diameter payload octets that fell within the bucket's range during the measurement period.

- [0] = less than 512 octets
- [1] = 512 to 1023 octets
- [2] = 1024 to 1535 octets
- [3] = 1536 to 2047 octets
- [4] = 2048 to 2559 octets
- [5] = 2560 to 3071 octets
- [6] = 3072 to 3583 octets
- [7] = 3584 to 4095 octets
- [8] = 4096 or more octets

Collection Interval: 5 min

Peg Condition: Pegged when a Diameter message is sent to the peer on the connection.

Measurement Scope: Server Group

Recovery: No action required.

TxRejectSctp

Measurement Group: IPFE Exception

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: New SCTP associations rejected.

Collection Interval: 5 minutes

Peg Condition: Incremented when an SCTP association is rejected.

Measurement Scope: Network, NE, Server Group

Recovery: None required

TxAsBytes

Measurement Group: IPFE Performance

Measurement Type: Simple

Measurement Dimension: Single

Description: Bytes sent for each server

Collection Interval: 5 minutes

Peg Condition: This measurement is incremented by one each time a byte is sent to a particular application server.

Measurement Scope: Network, NE, Server Group

Recovery: None required

EvLnkActAckTO

Measurement Group: Link Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (by Link)

Description: The number of times the link timed out waiting for ASP-ACTIVE-ACK. An ASP-ACTIVE-ACK is sent by the SG in response to an ASP-ACTIVE message on the link. The link is not available for M3UA data signaling until the ASP-ACTIVE-ACK is received.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an ASP-ACTIVE has been sent for the link and the M3UA State Management ACK timer has expired, but no ASP-ACTIVE-ACK was received for the link.

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a zero value. You can view Link status from the GUI main menu under **SS7/Sigtran>Maintenance>Links**.
2. Check the event history log from the GUI main menu under **Alarms & Events>View History**. Look for **Event ID 19229**, which shows when the ASP-ACTIVE-ACK timeout occurs.
3. Verify that the far-end of the link on the SG is not undergoing maintenance.
4. Verify that the **State Management ACK Timer** period is not set too short.
5. Verify that the IP network between the MP server and the SG is performing up to expectations.
6. Contact *My Oracle Support (MOS)* for assistance if needed.

RxLnkInvalidM3ua

Measurement Group: Link Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (by Link)

Description: The number of invalid M3UA messages received on the link. Invalid M3UA messages are messages that violate the M3UA protocol, but which can be attributed to a specific link (i.e., a valid routing context exists or no routing context is necessary).

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an invalid M3UA message is received for the link.

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a value of zero. A non-zero value indicates a problem with the M3UA signaling received by the MP server.
2. Look for **Event ID 19231** from the GUI main menu under **Alarms & Events>View History**. **Event ID 19231** provides information on the reason the M3UA message was rejected.
3. If the ERROR reason in **Event ID 19231** indicates a problem with the routing context (i.e., error code 0x19), verify that the MP server link set and the SG are configured to agree on the routing context values that each M3UA signaling link uses.
4. Contact *My Oracle Support (MOS)* for assistance if needed.

RxLnkM3uaERROR

Measurement Group: Link Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (by Link)

Description: The number of times an M3UA ERROR message was received for the link. M3UA ERROR message are sent to indicate invalid M3UA signaling.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an M3UA ERROR message is received and that ERROR message can be attributed to a specific link (i.e., the ERROR message contains a valid routing context, or no routing context is needed).

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a value of zero. A non-zero value indicates a problem with the M3UA signaling sent by the MP server.
2. Look for **Event ID 19235** from the GUI main menu under **Alarms & Events>View History**. **Event ID 19235** provides information on the reason for the receipt of the ERROR message.
3. If the ERROR reason in **Event ID 19235** indicates a problem with routing context (i.e., error code 0x19), verify that the MP server link set and the SG are configured to agree on the routing context values that each M3UA signaling link uses.
4. Contact *My Oracle Support (MOS)* for assistance if needed.

RxLnkUnsollnactAck

Measurement Group: Link Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Link)

Description: The number of times an unsolicited ASP-INACTIVE-ACK was received on the link. ASP-INACTIVE-ACK may be sent unsolicited by the SG to indicate that the specified link is no longer able to process M3UA data signaling. The MP server will begin attempts to bring the link back into the signaling state matching its administrative state. For example, if the link is **Enabled**, the MP server will attempt to restore M3UA data signaling on the link by sending an ASP-ACTIVE and waiting for an ASP-ACTIVE-ACK.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an unsolicited ASP-INACTIVE-ACK is received on the link.

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a zero value. A non-zero value means that the far-end of the link has stopped processing M3UA data. You can view Link status from the GUI main menu under **SS7/Sigtran>Maintenance>Links**.
2. Check the event history log from the GUI main menu under **Alarms & Events>View History**, looking for **Event ID 19230**. **Event ID 19230** will show when the unsolicited ASP-INACTIVE-ACK was received.
3. Verify whether the far-end of the link is undergoing maintenance.
4. Contact *My Oracle Support (MOS)* for assistance if needed.

RxLnkMSU

Measurement Group: Link Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per Link)

Description: The number of MSUs received on the link. MSUs includes all M3UA messages, both DATA and non-DATA. Note: ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an M3UA message is received on the link.

Measurement Scope: NE, Server

Recovery: No action required.

RxLnkMSUOctets

Measurement Group: Link Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per Link)

Description: The number of MSU octets received on the link – MSU octets includes all M3UA messages, both DATA and non-DATA. Note: ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by the number of octets in the MSU (not including SCTP, IP, or Ethernet headers) each time an M3UA message is received on the link.

Measurement Scope: NE, Server

Recovery: No action required.

TxLnkMSU

Measurement Group: Link Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per Link)

Description: The number of MSUs sent on the link, including all M3UA messages, both DATA and non-DATA.

Note: ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an M3UA message is sent on the link.

Measurement Scope: NE, Server

Recovery: No action required.

TxLnkMSUOctets

Measurement Group: Link Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per Link)

Description: The number of MSU octets sent on the link, including all M3UA messages, both DATA and non-DATA.

Note: ASPSM messages and some M3UA ERROR messages cannot be mapped to a link and are therefore not counted in this measurement.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by the number of octets in the MSU (not including SCTP, IP, or Ethernet headers) each time an M3UA message is sent on the link.

Measurement Scope: NE, Server

Recovery: No action required.

RxLnkSetMSU

Measurement Group: Link Set Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per link set)

Description: The number of MSUs received on the link set. MSUs includes all M3UA DATA messages received on all links in the link set.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an M3UA DATA message is received on a link in the link set.

Measurement Scope: NE, Server

Recovery: No action required.

RxLnkSetMSUOctets

Measurement Group: Link Set Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per link set)

Description: The number of MSU octets received on the link set. MSU octets include all M3UA DATA octets received on all links in the link set. Octets for SCTP, IP, and Ethernet headers are not included.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by the number of octets in the M3UA DATA message each time an M3UA DATA message is received on a link in the link set.

Measurement Scope: NE, Server

Recovery: No action required.

TxLnkSetMSU

Measurement Group: Link Set Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per link set)

Description: The number of MSUs sent on the link set, including all M3UA DATA messages sent on all links in the link set.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an M3UA DATA message is sent on a link in the link set.

Measurement Scope: NE, Server

Recovery: No action required.

TxLnkSetMSUOctets

Measurement Group: Link Set Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per link set)

Description: The number of MSU octets sent on the link set, including all M3UA DATA octets sent on all links in the link set. Octets for SCTP, IP, and Ethernet headers are not included.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by the number of octets in the M3UA DATA message each time an M3UA DATA message is sent on a link in the link set.

Measurement Scope: NE, Server

Recovery: No action required.

TmM3RLLinksetUnavail

Measurement Group: Link Set Usage

Measurement Type: Duration

Measurement Dimension: Arrayed (by link set)

Description: Total time (in seconds) that all links in the link set were unavailable to M3RL during the measurement interval, regardless of whether the links were automatically or manually made unavailable.

Collection Interval: 30 min

Peg Condition: M3RL must maintain an accurate time and measurement of the number of seconds during the collection period that the Link Set's state is **Unavailable**. This measurement is associated with the duration (in seconds) that **Alarm 19202 Link Set Unavailable** is asserted during the collection period. Start of duration measurement for Link Set "X" criteria:

1. **Alarm 19202** is asserted for Link Set "X."

2. Start of new collection period AND **Alarm 19202** for Linkset "X" is already asserted (during a previous collection interval).

Stop of duration measurement for Link Set "X" criteria:

1. **Alarm 19202** for Linkset "X" is cleared (i.e, Link Set becomes **Available**).

2. End of collection interval.

Measurement Scope: NE, Server

Recovery: This value provides a measure of the availability of a Link Set. No action required.

EvLnkManClose

Measurement Group: Link Usage

Measurement Type: Simple

Measurement Dimension: Arrayed (per link)

Description: The number of times a link was closed due to manual action. This count indicates the number of times that a link transitioned from ASP-ACTIVE to ASP-INACTIVE as a direct result of someone changing the link administrative state from **Enabled** to **Disabled**.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time the link administrative state is changed from **Enabled** to **Disabled**, causing a protocol state transition from ASP-ACTIVE to ASP-INACTIVE.

Measurement Scope: NE, Server

Recovery:

1. If the link is known to be under maintenance, then no further action is necessary. If the link was not known to be under maintenance, then link status can be viewed from the GUI main menu under

SS7/Sigtran>Maintenance>Links.

2. View the event history from the GUI main menu under **Alarms & Events>View History** looking for **Event ID 19234**. **Event ID 19234** shows the manual link state transitions and contains a time-stamp of when the change occurred.

3. The security logs from the GUI main menu under **Security Logs** can be searched using the time-stamp from the event history log to determine which login performed the manual state change on the link.

4. Contact *My Oracle Support (MOS)* for assistance if needed.

TmLnkAvailable

Measurement Group: Link Usage

Measurement Type: Duration

Measurement Dimension: Arrayed (per link)

Description: The number of seconds the link is in service during the reporting period. The link is considered to be in service if the link's status reason is **Normal**. An in-service link is available for M3UA DATA signaling.

Collection Interval: 30 min

Peg Condition: Time is accumulated for this measurement when the link status reason is **Normal**.

Measurement Scope: NE, Server

Recovery:

1. If all is well, this value should equal the length of the reporting period, meaning that the link was active for the entire reporting period. If the link-available time is not equal to the reporting period, it could be due to one of the following conditions:

- Link maintenance. The measurements **TmLnkMOOS** and **TmLnkOOS** should have a non-zero values. See the actions for *TmLnkMOOS*.
- Link failure. The measurement **TmLnkOOS** should have a non-zero value. See the actions for *TmLnkOOS*.
- The link was added during the reporting period. The report indicates that the data is incomplete for the reporting period.

2. Contact *My Oracle Support (MOS)* for assistance if needed.

TmLnkMOOS

Measurement Group: Link Usage

Measurement Type: Duration

Measurement Dimension: Arrayed (per link)

Description: The number of seconds the link is manual out of service during the reporting period. A link is manual out of service when the link is in the **Disabled** administrative state.

Collection Interval: 30 min

Peg Condition: Time is accumulated for this measurement when the link administrative state is set to **Disabled**.

Note: The link is not considered to be manually out of service if the link is in the **Enabled** administrative state even if the association that hosts the link is manually out of service.

Measurement Scope: NE, Server

Recovery:

1. If a non-zero value in this field is unexpected (i.e., no link maintenance is known to have occurred), the link status can be viewed from the GUI under **SS7/Sigtran>Maintenance>Links**.

2. Also, look in the GUI main menu under **Alarms & Events>View History** in the event history for **Event ID 19234**. **Event 19234** records each change in the link's administrative state. If the link was known to be under

maintenance, this value represents the number of seconds during the reporting period that the link was in the **Disabled** administrative state.

TmLnkOOS

Measurement Group: Link Usage

Measurement Type: Duration

Measurement Dimension: Arrayed (per link)

Description: The number of seconds the link is out of service for any reason during the reporting period. A link may be out of service due to the following conditions:

- Maintenance activity – link is **Disabled** or link's association is **Disabled** or **Blocked**.
- Failure of the link to receive ASP-ACTIVE-ACK.
- Receipt of unsolicited ASP-INACTIVE-ACK from the SG.
- The link's association is not in the **Normal** status – failed to establish SCTP connection, failed to receive ASP-UP-ACK, received unsolicited ASP-DOWN-ACK

Collection Interval: 30 min

Peg Condition: Time is accumulated for this measurement when the link status reason is not **Normal**.

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a value of zero. If the link or the link's association is known to be under maintenance, then a non-zero value in this measurement is expected.

2. Otherwise, the link status can be viewed from the GUI main menu under

SS7/Sigtran>Maintenance>Links.

3. Also look in the event history from the GUI main menu under **Alarms & Events>View History** for events related to this link or the link's association.

4. Contact *My Oracle Support (MOS)* for assistance if needed.

EvConnPeerUnsuppMp

Measurement Group: Message Priority

Measurement Type: Simple

Measurement Dimension: Arrayed (by Connection ID)

Description: The number of times an ingress Request was received on a connection configured to read message priority from the ingress message, and the peer did not support the UCMP feature.

Note: In this case, DSR assigns the default priority of 0 to all such requests.

Collection Interval: 5 min

Peg Condition: When a connection is configured to read message priority from ingress message and the peer does not support UCMP feature.

Measurement Scope: Server Group

Recovery:

1. Verify that the peer is a DSR

- Product-Name is reported as "Eagle XG DSR", in the Event Additional Information.

- Vendor-Id is reported as 323 (Tekelec).

2. Verify that the Firmware-Revision reported in the Event Additional Information represents a DSR software version that supports the Message Priority Feature.

- Call *My Oracle Support (MOS)* and obtain the minimum DSR software version that supports Message Priority and compare with this information.

- If the reported Firmware-Version is greater than or equal to the minimum required DSR software version, call *My Oracle Support (MOS)*.

- If the reported Firmware-Version is less than the minimum required DSR software version, call *My Oracle Support (MOS)* to seek advice on whether the peer DSR needs to be upgraded, or whether the Message Priority Setting for this Transport Connection or Peer Node needs to be changed to "None".

EvConnUnexpMp

Measurement Group: Message Priority

Measurement Type: Simple

Measurement Dimension: Arrayed (by Connection ID)

Description: The number of times an ingress Request message was received with a priority of "3", when the peer supports UCMP feature

Collection Interval: 5 min

Peg Condition: When a peer supports UCMP feature and an ingress Request message was received with a priority of "3".

Measurement Scope: Server Group

Recovery:

1. Verify that the peer is a DSR

- Product-Name is reported as "Eagle XG DSR", in the Event Additional Information.

- Vendor-Id is reported as 323 (Tekelec).

2. Verify that the Firmware-Revision reported in the Event Additional Information represents a DSR software version that supports the Message Priority Feature.

- Call *My Oracle Support (MOS)* and obtain the minimum DSR software version that supports Message Priority and compare with this information.

- If the reported Firmware-Version is greater than or equal to the minimum required DSR software version, call *My Oracle Support (MOS)*.

- If the reported Firmware-Version is less than the minimum required DSR software version, call *My Oracle Support (MOS)* to seek advice on whether the peer DSR needs to be upgraded, or whether the Message Priority Setting for this Transport Connection or Peer Node needs to be changed to "None".

System.CPU_CoreUtilPct_Average

Measurement Group: OAM.SYSTEM

Measurement Type: Average

Measurement Dimension: Arrayed

Description: The average CPU usage for each core. On an eight-core system, there will be eight sub-metrics showing the utilization of each core.

Collection Interval: 5 min

Peg Condition:

Measurement Scope:

Recovery:

System.CPU_CoreUtilPct_Peak

Measurement Group: OAM.SYSTEM

Measurement Type: Max

Measurement Dimension: Arrayed

Description: The peak CPU usage from 0 to 5 minutes 100% (100% indicates that all cores are completely busy).

Collection Interval: 5 min

Peg Condition:

Measurement Scope:

Recovery:

GxpBindingSuccess

Measurement Group: P-DRA Diameter Usage

Measurement Type: Simple

Measurement Dimension: Arrayed (bucketed by binding key priority number from 1 to 5)

Description: Number of Gx-Prime CCR Initial messages processed by P-DRA against binding key priorities.

Collection Interval: 5 min

Peg Condition: Each time a Gx-Prime CCR-I message is processed by P-DRA.

Note: The number is sorted and stored in 5 buckets:

- Bucket 1 holds the number of Gx-Prime CCR-I messages that lead to successful binding record findings corresponding to the binding keys with the highest (1) priority.

- Bucket 2 (or 3 or 3) holds the number of Gx-Prime CCR-I messages that lead to successful binding record findings corresponding to the configured binding keys with priority 2 (or 3 or 4).
- Bucket 5 holds the number of Gx-Prime CCR-I messages that lead NO binding record finding after exhausting all binding keys.

Measurement Scope: All

Recovery: No action required.

PsbrCreateAltKeyDbErr

Measurement Group: pSBR Binding Exception

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: The number of errors creating an alternate key record.

Collection Interval: 5 min

Peg Condition: This peg is updated whenever there is an error in creating an alternate key record.

Measurement Scope: All

Recovery: No action necessary.

PsbrAltKeyCreated

Measurement Group: pSBR Binding Performance

Measurement Type: Simple

Measurement Dimension: Arrayed

Description: The number of alternate key records created.

Collection Interval: 5 min

Peg Condition: This peg is updated whenever an alternate key record is created.

Measurement Scope: Place Association

Recovery: No action necessary.

PsbrAvgSessionAgeTermPerAPN

Measurement Group: pSBR Session Performance

Measurement Type: Average

Measurement Dimension: Arrayed

Description: The average time interval (in hours) per APN between the time when a session record is created and the time when it is successfully terminated.

Collection Interval: 5 min

Peg Condition: The time interval starts when a session record is created as a result of createSession stack event and stops when the session record is terminated successfully as a result of removeSession stack event

Measurement Scope: All

Recovery: No action necessary.

PsbrMaxSessionAgeTermPerAPN

Measurement Group: pSBR Session Performance

Measurement Type: Average

Measurement Dimension: Single

Description: The maximum time interval (in hours) per APN between the time when a session record is created and the time when it is successfully terminated.

Collection Interval: 5 min

Peg Condition: The time interval starts when a session record is created as a result of createSession stack event and stops when the session record is terminated successfully as a result of removeSession stack event

Measurement Scope: All

Recovery: No action necessary.

M3RLStackQueueFull

Measurement Group: Server MTP3 Exception

Measurement Type: Simple

Measurement Dimension: Single

Description: The number of messages that were discarded because the M3RL Stack Event Queue was full. This measurement is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.

Collection Interval: 5 min

Peg Condition: For each M3RL Stack Event Queue message discarded

Measurement Scope: NE, Server

Recovery:

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. Contact *My Oracle Support (MOS)* for assistance if needed.

M3RLStackQueueAvg

Measurement Group: Server MTP3 Performance

Measurement Type: Average

Measurement Dimension: Single

Description: The average M3RL Stack Event Queue utilization (0-100%) measured during the collection interval.

Collection Interval: 5 min

Peg Condition: The average of all M3RL Stack Event Queue utilization samples taken during the collection interval. The M3RL Stack Event Queue utilization sample rate

Measurement Scope: NE, Server

Recovery:

1. This measurement is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.
2. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
3. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist
4. Contact *My Oracle Support (MOS)* for assistance if needed.

M3RLStackQueuePeak

Measurement Group: Server MTP3 Performance

Measurement Type: Max

Measurement Dimension: Single

Description: The peak M3RL Stack Event Queue utilization (0-100%) measured during the collection interval. This measurement is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.

Collection Interval: 5 min

Peg Condition: The maximum M3RL Stack Event Queue utilization sample taken during the collection interval.

Measurement Scope: NE, Server

Recovery:

1. This measurement is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.
2. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
3. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist
4. Contact *My Oracle Support (MOS)* for assistance if needed.

SCCPStackQueueFull**Measurement Group:** Server SCCP Exception**Measurement Type:** Simple**Measurement Dimension:** Single**Description:** The number of ingress SCCP messages that were discarded because the SCCP Stack Event Queue was full.**Collection Interval:** 30 min**Peg Condition:** For each message discarded**Measurement Scope:** NE, Server**Recovery:**

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP are significantly different than other MPs in the same Network Element, then an MP-specific hardware, software, or configuration problem may exist.
3. Contact *My Oracle Support (MOS)* for assistance if needed.

RxSCCPsgmntReassPerMsg**Measurement Group:** Server SCCP Performance**Measurement Type:** Simple**Measurement Dimension:** Arrayed (bucketed by number of segments reassembled)**Description:** The number of segments reassembled to create one large ingress user data message.**Collection Interval:** 30 min**Peg Condition:** This is an arrayed measurement with "number of XUDT segments assembled" as index. Peg this measurement using "number of XUDT segments assembled" as index, when reassembly procedure is completed using more than one ingress segmented XUDT message.**Measurement Scope:** Network, NE, Server**Recovery:**

1. Values in this arrayed measurement provides a measure of number of segmented XUDT messages were reassembled for each reassembly procedure before forwarding a large user data messages to SCCP User.
2. This arrayed measurement can be used for heuristics on number of segments network used for segmenting large message during the reporting interval and the SS7 traffic rate impact due to segmented XUDT messages on overall SCCP processing rate.

SCCPStackQueueAvg**Measurement Group:** Server SCCP Performance**Measurement Type:** Average**Measurement Dimension:** Single**Description:** The average SCCP Stack Event Queue utilization (0-100%) measured during the collection interval. This measurement is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.**Collection Interval:** 30 min**Peg Condition:** The average of all SCCP Stack Event Queue utilization samples taken during the collection interval.**Measurement Scope:** NE, Server**Recovery:**

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
3. Contact *My Oracle Support (MOS)* for assistance if needed.

SCCPStackQueuePeak

Measurement Group: Server SCCP Performance

Measurement Type: Max

Measurement Dimension: Single

Description: The peak SCCP Stack Event Queue utilization (0-100%) measured during the collection interval. This measurement is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.

Collection Interval: 30 min

Peg Condition: The maximum SCCP Stack Event Queue utilization sample taken during the collection interval.

Measurement Scope: NE, Server

Recovery:

1. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
2. If the peak and average for an individual MP are significantly different than other MPs in the same Network Element, then an MP-specific hardware, software, or configuration problem may exist.
3. Contact *My Oracle Support (MOS)* for assistance if needed.

TxSCCPSegmentsPerMsg

Measurement Group: Server SCCP Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (bucketed by number of segments created for each large egress user data message)

Description: The number of segments created for each large egress user data message.

Collection Interval: 30 min

Peg Condition: When the segmentation procedure is completed on each large egress user data packet, using "number of segments" as index.

Measurement Scope: Network, NE, Server

Recovery:

1. Values in this arrayed measurement provides a measure of number of XUDT messages created each time a large user data messages is segmented by SCCP layer.
2. This arrayed measurement can be used for heuristics on segments created during the reporting interval and the SS7 traffic rate impact due to large egress user data size traffic.

TCAPStackQueueFull

Measurement Group: Server TCAP Exception

Measurement Type: Simple

Measurement Dimension: Single

Description: The number of ingress events discarded during the reporting interval due to the MP server's TCAP internal event queue being full. Events could be incoming TCAP messages or N-Notice indications from SCCP.

Collection Interval: 30 min

Peg Condition: Each time an event cannot be added to the TCAP task queue because the queue is full.

Measurement Scope: Network, NE, Server

TCAPStackQueueFull

Measurement Group: Server TCAP Exception

Measurement Type: Simple

Description: The number of ingress events discarded during the reporting interval due to the MP server's TCAP internal event queue being full. Events could be incoming TCAP messages or N-Notice indications from SCCP.

Collection Interval: 30 min

Measurement Scope: Network, NE, Server

Recovery:

1. If the TCAP internal event queue reaches capacity, **Alarm 19274** will be raised with critical severity.

2. Contact *My Oracle Support (MOS)* for assistance if needed.

TCAPStackQueueAvg

Measurement Group: Server TCAP Performance

Measurement Type: Average

Measurement Dimension: Single

Description: The average percent utilization during the reporting interval of the MP server's TCAP internal queue used to receive messages from the SCCP layer. The number is expressed as a percentage of the maximum size.

Collection Interval: 30 min

Peg Condition: This measurement is driven by the TCAPEventQueue SysMetric exactly as is done for other layers of the stack.

Measurement Scope: Network, NE, Server

Recovery: If the TCAP internal queue nears capacity, **Alarm 19274** will be raised with a severity corresponding to how near the queue utilization is to 100%. Refer to **Alarm 19274** if the alarm is asserted.

TCAPStackQueuePeak

Measurement Group: Server TCAP Performance

Measurement Type: Maximum

Measurement Dimension: Single

Description: The peak percent utilization during the reporting interval of the MP server's TCAP internal queue used to receive messages from the SCCP layer. The number is expressed as a percentage of the maximum size.

Collection Interval: 30 min

Peg Condition: This measurement is driven by the TCAPEventQueue SysMetric exactly as is done for other layers of the stack.

Measurement Scope: Network, NE, Server

Recovery: If the TCAP internal queue nears capacity, **Alarm 19274** will be raised with a severity corresponding to how near the queue utilization is to 100%. Refer to **Alarm 19274** if the alarm is asserted.

EvSctpAdjIPToDwn

Measurement Group: Transport Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of time configured IP Address of an Adjacent Node goes from Available to Unavailable.

Collection Interval: 30 min

Peg Condition: Each time reachability to a configured IP address of an Adjacent Node is lost, indicating a fault in the path to that address was detected.

Measurement Scope: NE, Server

Recovery:

1. If all is well, this measurement should have a zero value. A non-zero value indicates a path fault to that address was detected.
2. Check the event history log at **Main Menu > Alarms & Events > View History**, looking for event *19410 - Adjacent Node IP Address state change*. Event 19410 provides more details as to the actual cause of the failure.
3. Verify that the Adjacent Node that represents the far-end of the association is configured with the correct IP address at **Main Menu > Transport Manager > Configuration > Adjacent Node**.
4. Verify the IP network connectivity between the MP server and the Adjacent Node's IP address using a ping or traceroute command.
5. Contact *My Oracle Support (MOS)* for assistance if needed.

EvSctpTransRej

Measurement Group: Transport Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of time SCTP Transport has been rejected due to remote IP addresses validation failure based on SCTOp Multihoming mode. This is valid only for SCTP Transports

Collection Interval: 30 min

Peg Condition: Each time the association has been rejected due to IP address validation failure in the SCTP INITs/INIT-ACKs transmitted by the Adjacent Node.

Measurement Scope: NE, Server

Recovery:

1. If all is well, this measurement should have a zero value. A non-zero value indicates that the Adjacent Node has attempted to connect to the Peer IP Address at least once and but the connection attempt was rejected because the IP addresses advertised by the Adjacent Node failed validation.
2. Transport status can be viewed at **Main Menu > Transport Manager > Maintenance > Transport**.
3. Check the event history log at **Main Menu > Alarms & Events > View History**, looking for events *19411 - SCTP Transport closed due to failure of multihoming validation* or *19412 - SCTP Transport Transport Configuration Mismatch*. Events 19411 and/or 19412 provide more details as to the actual cause of the failure.
4. Verify that the SCTP validation mode is as desired.
5. Verify that the Adjacent Node that represents the far-end of the association is configured with the correct IP address at **Main Menu > Transport Manager > Configuration > Adjacent Node**.
6. Verify that the remote port configured at **Main Menu > Transport Manager > Configuration > Transport** for the association correctly identifies the port that the Adjacent Node is listening on for SCTP connections.
7. Contact *My Oracle Support (MOS)* for assistance if needed.

EvTrCnxFail

Measurement Group: Transport Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description:

- The number of times the SCTP connection attempt failed on the transport. This includes only unsuccessful attempts to connect/accept SCTP connections. It does not include failure of established connections.
- The number of times open attempt on UDP socket in Listen Mode failed on the Transport.

Collection Interval: 30 min

Peg Condition

- Each time an SCTP connect attempt fails
- Each time an UDP open attempt in Listen mode fails
- Each time an SCTP open attempt in Listen mode fails

Measurement Scope: NE, Server

Recovery:

If all is well, this measurement should have a zero value. A non-zero value indicates that the MP server has attempted to connect to the Peer IP Address at least once and failed to establish the SCTP connection.

2. Otherwise:

- a) Transport status can be viewed at **Main Menu > Transport Manager > Maintenance > Transport**.
- b) Look in the event history at **Main Menu > Alarms & Events > View History** event *19402 - Failed to connect Transport*, which provides more details as to the actual cause of the failure.
- c) Verify that the Adjacent Node that represents the far-end of the association is configured with the correct IP address at **Main Menu > Transport Manager > Configuration > Adjacent Node**.
- d) Verify that the remote port configured at **Main Menu > Transport Manager > Configuration > Transport** for the association correctly identifies the port that the Adjacent Node is listening on for SCTP connections.
- e) Verify the IP network connectivity between the MP server and the Adjacent Node.
- f) If the SG must be configured to connect to the MP server's IP address and port, verify that the SG configuration matches the association configuration at **Main Menu > Transport Manager > Configuration > Transport**.
- g) Contact *My Oracle Support (MOS)* for assistance if needed.

EvTrManClose

Measurement Group: Association Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of times the association was manually closed. This includes manual changes of the association administrative state that cause the association to transition from ASP-UP to either ASP-DOWN or Disabled.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time a manual change is made to the association administrative state from **Enabled** to **Blocked** or from **Enabled** to **Disabled**, causing the association to transition out of ASP-UP protocol state.

Measurement Scope: NE, Server

Recovery:

1. If the association is known to be under maintenance no further action is necessary. If the association was not known to be under maintenance, you can view the Association status from the GUI main menu under **SS7/Sigtran>Maintenance>Associations**.
2. View the event history from the GUI main menu under **Alarms & Events>View History** and look for **Event ID 19228**. **Event ID 19228** shows the manual association state transitions and contains a time-stamp of when the change occurred.
3. View the security logs from the GUI main menu under **Security Logs**. You can search the logs using the time-stamp from the event history log to determine which login performed the manual state change on the association.
4. Contact *My Oracle Support (MOS)* for assistance if needed.

EvTrNoRespClose

Measurement Group: Association Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of times the association was closed due to lack of response from the far end. This includes lack of response to any signaling sent on the association or to SCTP heartbeating if enabled.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an established SCTP association is closed by the MP server due to lack of response at the SCTP level from the far-end of the association.

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a zero value. If it has a non-zero value, the association has been closed due to the lack of response from the far-end. The MP server will begin periodic attempts to reconnect to the signaling gateway. You can view the Association status from the GUI main menu under **SS7/Sigtran>Maintenance>Associations**.
2. Look in the event history from the GUI main menu under **Alarms & Events>View History** for **Event ID 19225**.
3. Verify IP connectivity between the MP server and the signaling gateway.
4. Determine if the far-end of the association is congested, possibly causing slow response times on the association.
5. Check the IP network between the MP server and the signaling gateway for excessive retransmissions.
6. Contact *My Oracle Support (MOS)* for assistance if needed.

EvTrSockInitFail

Measurement Group: Association Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of times the socket initialization failed. Socket initialization includes configuring the association according to the settings in the GUI under

SS7/Sigtran>Configuration>Associations>Configuration Sets.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time one or more socket options cannot be set according to the settings in the association's configuration set.

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a zero value. A non-zero value indicates a problem with the association setup prior to attempting to connect the association. If this occurs, look for **Event ID 19221** in the GUI under **Alarms & Events>View History**. **Event 19221** provides details about the configuration failure.
2. Contact *My Oracle Support (MOS)* for further assistance.

RxTrFarEndClose

Measurement Group: Association Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: Number of times the far end closed the SCTP connection

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time the far-end of the association closes the association by sending either SHUTDOWN or ABORT.

Measurement Scope: NE, Server

Recovery:

1. If the closing of the association was expected, no further action is necessary, the association will be recovered as soon as the far-end is ready to connect again. If the closing of the association was not expected. You can view Association status from the GUI main menu under **SS7/Sigtran>Maintenance>Associations**.
2. Look in the event history from the GUI main menu under **Alarms & Events>View History** for **Event ID 19224** to determine exactly when the far-end closed the association.
3. Look for other events for the association or MP server in the event history.
4. Verify that IP connectivity still exists between the MP server and the SG.
5. Verify whether the far-end of the association is undergoing maintenance.
6. Contact *My Oracle Support (MOS)* for assistance if needed.

RxTrRcvFail

Measurement Group: Association Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of times an SCTP/UDP receive attempt failed on the transport. Failure to receive message via SCTP may result in a message being discarded.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by one each time an SCTP receive fails when the far-end attempted to send data, but the data cannot be received due to an invalid message length.

Measurement Scope: NE, Server

Recovery:

1. This measurement should have a zero value. A non-zero value indicates that the far-end is sending data that is malformed. You can view Association status from the GUI main menu under **SS7/Sigtran>Maintenance>Associations**.
2. Look in the event history log from the GUI main menu under **Alarms & Events>View History** for **Event ID 19223**. **Event ID 19223** gives more information about what caused the failure.
3. Try to bring the sockets back into alignment by manually **Disabling** and **Enabling** the association.
4. Contact *My Oracle Support (MOS)* for assistance if needed.

TmSingleTransQueueFull

Measurement Group: Transport Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of egress messages that were discarded because the single Transport Writer Queue was full.

Collection Interval: 30 min

Peg Condition: Check whether the single peers transmit data queue limit has reached its max limit (1000). If maximum limit is reached or exceeded, then peg the measurement and discard the low priority events.

Measurement Scope: NE, Server

Recovery:

1. This measurement indicates that the Transport is backed up and messages might be discarded. If the value is above the defined critical threshold, an alarm (19408) is generated.
2. If the problem persists, contact *My Oracle Support (MOS)*.

TxTrSendFail

Measurement Group: Transport Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of times the SCTP/UDP send failed for signaling on the transport. This includes sending of any messages on an established transport or UDP socket.

Collection Interval: 30 min

Peg Condition: Each time an attempt to send signaling DATA fails for any reason and the information being sent cannot be mapped to a specific transport

Measurement Scope: NE, Server

Recovery:

1. If all is well, this measurement should have a zero value. A non-zero value indicates that an attempt to send a message to the far-end on this Transport has failed. Normally this happens if the far-end cannot keep up with the rate of messages being sent from all links on the association.
2. Transport status can be viewed at **Main Menu > Transport Manager > Maintenance > Transport**.
3. Look in the event history log at **Main Menu > Alarms & Events > View History** for event *19407 - Failed to send Transport DATA Message*. Event 19407 gives more information about exactly what caused the failure to send.
4. Verify that the IP network between the MP server and the Adjacent Node is functioning as expected.
5. Contact *My Oracle Support (MOS)* for assistance if needed.

RxTrOctets

Measurement Group: Transport Exception

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of octets received on the SCTP/UDP Transport. It does not include SCTP, UDP, IP, or Ethernet headers.

Collection Interval: 30 min

Peg Condition: Incremented by the number of octets in the message each time a DATA/non-DATA message is successfully received on the transport

Measurement Scope: NE, Server

Recovery: No action required.

TmSingleTransQueueAvg

Measurement Group: Transport Exception

Measurement Type: Average

Measurement Dimension: Arrayed (per Transport)

Description: The average single Transport (SCTP/UDP) Transport Writer Queue utilization (0-100%) measured during the collection interval (averaged over 2 sec).

Collection Interval: 30 min

Peg Condition: The Transport's Queue is registered as a Stack Resource. StackResourceManager thread monitors and updates the metric Average value for affected Transport

Measurement Scope: NE, Server

1. This is a measure of how fast the Transport queue is being processed. It indicates the Average depth of queue over the monitored interval.
2. It is primarily intended to assist in evaluating the need for additional MP processing capacity at a Network Element.
3. If both the peak and average measurement for multiple MPs within a Network Element are consistently near the recommended maximum engineered capacity of an MP over several collection intervals, then the number of MPs in the Network Element may need to be increased.
4. If the peak and average for an individual MP is significantly different than other MPs in the same Network Element then an MP-specific hardware, software, or configuration problem may exist.
5. Contact [My Oracle Support \(MOS\)](#) for assistance if needed.

TmSingleTransQueuePeak

Measurement Group: Transport Performance

Measurement Type: Max

Measurement Dimension: Arrayed (per Transport)

Description: The peak single Transport Writer Queue utilization (0-100%) measured during the collection interval (averaged over 2 sec).

Collection Interval: 5 min

Peg Condition: Transport's Queue is registered as a Stack Resource, StackResourceManager thread monitors and updates the maximum Transport Queue utilization sample taken during the collection interval for affected Transport.

Measurement Scope: NE, Server

Recovery: No action required. This measurement indicates the level of signaling octets that have been received over the association during the reporting interval.

TxTrOctets

Measurement Group: Transport Performance

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of octets sent on the association. This includes octets for both DATA and non-DATA M3UA signaling. It does not include SCTP, IP, or Ethernet headers.

Collection Interval: 30 min

Peg Condition: This measurement is incremented by the number of octets in the message each time a DATA/non-DATA message is successfully sent on the transport.

Measurement Scope: NE, Server

Recovery: No action required. This measurement indicates the level of signaling octets that have been sent over the association during the reporting interval.

EvTrCnxSuccess

Measurement Group: Transport Usage

Measurement Type: Simple

Measurement Dimension: Arrayed (per Transport)

Description: The number of times the SCTP connection was successfully established on the transport. The number of times the UDP socket in Listen Mode was opened successfully on the Transport.

Collection Interval: 30 min

Peg Condition: Each time the SCTP association reaches the APP-UP protocol state (for example, the connection is successfully established). The UDP socket in Listen Mode was opened successfully.

Measurement Scope: NE, Server

Recovery:

If the association is expected to have connected during the measurement reporting interval, no action is necessary. Otherwise, perform the following steps:

1. You can view the transport status can be viewed from the GUI main menu under **Transport Manager>Maintenance>Transport**.

2. Look in the event history from the GUI main menu under **Alarms & Events>View History**. Look for events related to the association or the MP server to determine what might have caused the association to fail.



Documentation Bulletin

3. Contact *My Oracle Support (MOS)* for assistance if needed.

This notice is provided to Oracle customers about issues identified with our systems. If you have any questions about this notice, call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at <http://www.oracle.com/us/support/contact/index.html>.