APPENDIX G

Trap Reference

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General Traps

The Cisco Mobile Wireless Transport Manager (MWTM) supports these general traps/notifications, which apply to:

- IP Transfer Point (ITP) networks
- Radio Access Network Optimization (RAN-O) networks

Note Some traps are platform/IOS specific.

Trap Name	Description
casServerStateChange	An AAA server state change notification is generated whenever an AAA server connection state changes value. An AAA server state can be either *up* or *dead*.
ccmCLIRunningConfigChanged	This notification indicates that the running configuration of the managed system has changed from the CLI. If the managed system supports a separate configuration mode (where the configuration commands are entered under a configuration session which affects the running configuration of the system), then this notification is sent when the configuration mode is exited. During this configuration session there can be one or more running configuration changes.
cefcFRUInserted	The cecfFRUInserted notification indicates that a FRU was inserted. The varbind for this notification indicates the entPhysicalIndex of the inserted FRU, and the entPhysicalIndex of the FRU's container.

Trap Name	Description
cefcFRURemoved	The cefcFRURemoved notification indicates that a FRU was removed. The varbind for this notification indicates the entPhysicalIndex of the removed FRU, and the entPhysicalIndex of the FRU's container.
cefcModuleStatusChange	This notification is generated when the value of cefcModuleOperStatus changes.It can be utilized by an NMS to update the status of the module it is managing.
cefcPowerStatusChange	The cefcFRUPowerStatusChange notification indicates that the power status of a FRU has changed. The varbind for this notification indicates the entPhysicalIndex of the FRU, and the new operational-status of the FRU.
cHsrpStateChange	A cHsrpStateChange notification is sent when a cHsrpGrpStandbyState transitions to either active or standby state, or leaves active or standby state. There will be only one notification issued when the state change is from standby to active and vice versa.
ciscoBitsClockFreerun	This trap is for Building Integrated Timing Supply (BITS) clocking sources. It is used to generate notifications to indicate when clocking source is unavailable. The internal clock will operate in freerun mode using appropriate local oscillator. Therefore, it does not provide synchronous clocking. This is the least stable of all operating modes.
ciscoBitsClockHoldover	This trap is for Building Integrated Timing Supply (BITS) clocking sources. It is used to generate notifications to indicate when clocking source is unavailable and the internal clock will operate in holdover mode. The network clock module has stored information about the incoming clock signal, it can faithfully reproduce the lost signal while in holdover mode until a switchover to another clock source occurs.
ciscoBitsClockSource	This trap is for Building Integrated Timing Supply (BITS) clocking sources. It is used to generate notifications to indicate when clocking sources change.
ciscoConfigManEvent	Notification of a configuration management event as recorded in ccmHistoryEventTable.
ciscoEnvMonFanNotification	A ciscoEnvMonFanNotification trap is generated if any one of the fans in the fan array (where extant) fails. Since such a notification is usually generated before the shutdown state is reached, it can convey more data and has a better chance of being sent than does the ciscoEnvMonShutdownNotification.
ciscoEnvMonRedundantSupply Notification	A ciscoEnvMonRedundantSupplyNotification trap is generated if the redundant power supply (where extant) fails. Since such a notification is usually generated before the shutdown state is reached, it can convey more data and has a better chance of being sent than does the ciscoEnvMonShutdownNotification.

Trap Name	Description
ciscoEnvMonShutdownNotification	A ciscoEnvMonShutdownNotification trap is generated if the environmental monitor detects a testpoint reaching a critical state and is about to initiate a shutdown. This notification contains no objects so that it can be encoded and sent in the shortest amount of time possible. Even so, management applications should not rely on receiving such a notification as it might not be sent before the shutdown completes.
ciscoEnvMonTemperatureNotification	A ciscoEnvMonTemperatureNotification trap is generated if the temperature measured at a given testpoint is outside the normal range for the testpoint (that is, is at the warning, critical, or shutdown stage). Since such a Notification is usually generated before the shutdown state is reached, it can convey more data and has a better chance of being sent than does the ciscoEnvMonShutdownNotification.
ciscoEnvMonVoltageNotification	A ciscoEnvMonVoltageNotification trap is generated if the voltage measured at a given testpoint is outside the normal range for the testpoint (that is, is at the warning, critical, or shutdown stage). Since such a notification is usually generated before the shutdown state is reached, it can convey more data and has a better chance of being sent than does the ciscoEnvMonShutdownNotification.
ciscoFlashCopyCompletionTrap	A ciscoFlashCopyCompletionTrap is sent at the completion of a flash copy operation if such a trap was requested when the operation was initiated.
ciscoFlashDeviceChangeTrap	A ciscoFlashDeviceChangeTrap is sent whenever a removable Flash device is inserted or removed.
ciscoFlashDeviceInsertedNotif	A ciscoFlashDeviceInsertedNotif notification is sent whenever a removable Flash device is inserted.
ciscoFlashDeviceInsertedNotifRev1	A ciscoFlashDeviceInsertedNotif notification is sent whenever a removable Flash device is inserted ciscoFlashDeviceInsertedNotifRev1 deprecates ciscoFlashDeviceInsertedNotif since it uses ciscoFlashDeviceName as a varbind which is deprecated.
ciscoFlashDeviceRemovedNotif	A ciscoFlashDeviceRemovedNotif notification is sent whenever a removable Flash device is removed.
ciscoFlashDeviceRemovedNotifRev1	A ciscoFlashDeviceRemovedNotif notification is sent whenever a removable Flash device is removed. ciscoFlashDeviceRemovedNotifRev1 deprecates ciscoFlashDeviceRemovedNotif since it uses ciscoFlashDeviceName as a varbind, which is deprecated.
ciscoFlashMiscOpCompletionTrap	A ciscoFlashMiscOpCompletionTrap is sent at the completion of a miscellaneous flash operation (enumerated in ciscoFlashMiscOpCommand) if such a trap was requested when the operation was initiated.
ciscoFlashPartitioningCompletionTrap	A ciscoFlashPartitioningCompletionTrap is sent at the completion of a partitioning operation if such a trap was requested when the operation was initiated.

Trap Name	Description
ciscoProducts	The ciscoProducts and snmpTraps traps provide information when a cold or warm start is performed on a node or the state of a node interface changes: • **AUTHENTICATION_FAILURE**—An authenticationFailure trap signifies that the IP address is accessing this node using the wrong community string. • **COLD_START**—A coldStart trap signifies that the SNMPv2 entity, acting in an agent role, is reinitializing itself such that its configuration might be altered. • **WARM_START**—A warmStart trap signifies that the SNMPv2 entity, acting in an agent role, is reinitializing itself such that its configuration is unaltered. • **LINK_DOWN**—A linkDown trap signifies a failure in one of the communication links represented in the node's configuration has occurred. • **LINK_UP**—A linkUp trap signifies that one of the communication links represented in a node's configuration has come up.
ciscoRFProgressionNotif	A ciscoRFProgressionNotif trap is sent by the active redundant unit whenever its RF state changes or the RF state of the peer unit changes.
ciscoRFSwactNotif	A ciscoRFSwactNotif trap is sent by the newly active redundant unit whenever a switch of activity (SWACT) occurs. In the case where a SWACT event might be indistinguishable from a reset event, a network management station should use this notification to differentiate the activity.
clogMessageGenerated	When a syslog message is generated by the node a clogMessageGenerated notification is sent. The sending of these notifications can be enabled/disabled via the clogNotificationsEnabled object.
cpmCPUFallingThreshold	A cpmCPUFallingThreshold trap is generated when CPU utilization is below the falling threshold.
cpmCPURisingThreshold	A cpmCPURisingThreshold trap is generated when CPU utilization is above the rising threshold.

Trap Name	Description
entConfigChange	An entConfigChange notification is generated when the value of entLastChangeTime changes. It can be utilized by an NMS to trigger logical/physical entity table maintenance polls. An agent should not generate more than one entConfigChange notification-event in a given time interval (five seconds is the suggested default). A notification-event is the transmission of a single trap or inform PDU to a list of notification destinations. If additional configuration changes occur within the throttling period, then notification-events for these changes should be suppressed by the agent until the current throttling period expires. At the end of a throttling period, one notification-event should be generated if any configuration changes occurred since the start of the throttling period. In such a case, another throttling period is started right away. An NMS should periodically check the value of entLastChangeTime to detect any missed entConfigChange notification-events (for example, because of throttling or transmission loss).
fallingAlarm	The SNMP trap that is generated when an alarm entry crosses its falling threshold and generates an event that is configured for sending SNMP traps.
risingAlarm	The SNMP trap that is generated when an alarm entry crosses its rising threshold and generates an event that is configured for sending SNMP traps.
rttMonConnectionChangeNotification	This notification is only valid when the RttMonRttType is *echo* or *pathEcho*. An rttMonConnectionChangeNotification indicates that a connection to a target (not to a hop along the path to a target) has either failed on establishment or been lost and when reestablished. This causes rttMonCtrlOperConnectionLostOccurred to change value. If history is not being collected, the instance values for the rttMonHistoryCollectionAddress object will not be valid. When RttMonRttType is not *echo* or *pathEcho*, the rttMonHistoryCollectionAddress object will be null.
rttMonLpdDiscoveryNotification	A rttMonLpdDiscoveryNotification indicates that the LSP Path Discovery to the target PE has failed, and it also indicates the clearing of such condition. This causes rttMonLpdGrpStatsLPDFailOccurred to change value. When the rttMonLpdGrpStatsLPDFailOccurred is *false*, the instance value for rttMonLpdGrpStatsLPDFailCause is not valid.
rttMonLpdGrpStatusNotification	A rttMonLpdGrpStatusNotification indicates that the LPD Group status rttMonLpdGrpStatsGroupStatus has changed, indicating some connectivity change to the target PE. This causes rttMonLpdGrpStatsGroupStatus to change value.

Trap Name	Description
rttMonNotification	A rttMonNotification indicates the occurrence of a threshold violation, and it indicates the previous violation has subsided for a subsequent operation. When the RttMonRttType is *pathEcho*, this notification will only be sent when the threshold violation occurs during an operation to the target and not to a hop along the path to the target. This also applies to the subsiding of a threshold condition. If history is not being collected, the instance values for the rttMonHistoryCollectionAddress object will not be valid. When RttMonRttType is not *echo* or *pathEcho*, the rttMonHistoryCollectionAddress object will be null. rttMonReactVar defines the type of reaction that is configured for the probe (for example, jitterAvg). Trap definitions for the probes are in the rttMonReactTable, and each probe can have more than one trap definition for various types (for example, jitterAvg). So the object rttMonReactVar indicates the type (for example, packetLossSD) for which threshold violation traps have been generated. The object rttMonEchoAdminLSPSelector will be valid only for the probes based on *mplsLspPingAppl* RttMonProtocol. For all other probes it will be null.
rttMonThresholdNotification	A rttMonThresholdNotification indicates the occurrence of a threshold violation for a RTT operation, and it indicates the previous violation has subsided for a subsequent RTT operation. This causes rttMonCtrlOperOverThresholdOccurred to change value. When the RttMonRttType is *pathEcho*, this notification will only be sent when the threshold violation occurs during an operation to the target and not to a hop along the path to the target. This also applies to the subsiding of a threshold condition. If history is not being collected, the instance values for the rttMonHistoryCollectionAddress object will not be valid. When RttMonRttType is not *echo* or *pathEcho* the rttMonHistoryCollectionAddress object will be null.
rttMonTimeoutNotification	A rttMonTimeoutNotification indicates the occurrence of a timeout for a RTT operation, and it indicates the clearing of such a condition by a subsequent RTT operation. This causes rttMonCtrlOperTimeoutOccurred to change value. When the RttMonRttType is *pathEcho*, this notification will only be sent when the timeout occurs during an operation to the target and not to a hop along the path to the target. This also applies to the clearing of the timeout. If history is not being collected, the instance values for the rttMonHistoryCollectionAddress object will not be valid. When RttMonRttType is not *echo* or *pathEcho*, the rttMonHistoryCollectionAddress object will be null.

Trap Name	Description
rttMonVerifyErrorNotification	A rttMonVerifyErrorNotification indicates the occurrence of a data corruption in an RTT operation.
snmpTraps	The ciscoProducts and snmpTraps traps provide information when a cold or warm start is performed on a node or the state of a node interface changes: • **AUTHENTICATION_FAILURE**—An authenticationFailure trap signifies that the IP address is accessing this node using the wrong community string. • **COLD_START**—A coldStart trap signifies that the SNMPv2 entity, acting in an agent role, is reinitializing itself such that its configuration might be altered. • **WARM_START**—A warmStart trap signifies that the SNMPv2 entity, acting in an agent role, is reinitializing itself such that its configuration is unaltered. • **LINK_DOWN**—A linkDown trap signifies a failure in one of the communication links represented in the node's configuration has occurred. • **LINK_UP**—A linkUp trap signifies that one of the communication links represented in a node's configuration has come up.

ITP Specific Traps

The MWTM supports these ITP specific traps, listed in alphabetical order:

Trap Name	Description
ciscoGrtDestStateChange	A ciscoGrtDestStateChange trap is generated whenever one or more destination changes states. This notification contains a list of destination state changes in the cgrtDestNotifChanges object. State changes are accumulated until the cgrtDestNotifChanges is full or the maximum delay time is reached. The delay time is specified by the cgrtDestNotifDelayTime object. It might be necessary to suppress the sending of notification when a large number destinations change state, due to the failure of some common resource. The number of notifications can be controlled by specifying values for cgrtDestNotifWindowTime and cgrtDestNotifMaxPerWindow objects. When the number of destination state changes exceed the specified value the last notification will indicate that notifications are suppressed for the remainder of the window.
ciscoGrtMgmtStateChange	A ciscoGrtMgmtStateChange trap is generated whenever one or more management routes change state. This notification contains a list of management route state changes in the cgrtMgmtNotifChanges object. State changes are accumulated until the cgrtMgmtNotifChanges is full or the maximum delay time is reached. The delay time is specified by the cgrtMgmtNotifDelayTime object. It might be necessary to suppress the sending of notification when a large number of routes change state, due to the failure of some common resource. The number of notifications can be controlled by specifying values for cgrtMgmtNotifWindowTime and cgrtMgmtNotifMaxPerWindow objects. When the number of route state changes exceed the specified value the last notification will indicate that notifications are suppressed for the remainder of the window.
ciscoGrtRouteTableLoad	A ciscoGrtRouteTableLoad trap is generated whenever a load operation is started or completed. Route table configurations can be loaded by CLI requests. In addition, route tables can loaded using configuration statements. This allows route tables to be reloaded whenever a node restarts.

Trap Name	Description
ciscoGsccpGttErrors	This notification is generated whenever any global title error is encountered in last interval specified by the cgsccpGttErrorPeriod and the cgsccpInstErrorIndicator will be set to true. The notification will also be generated when errors have abated. The notification is generated after the number of recovery intervals as specified by the cgsccpGttErrorRecoveryCount object has passed without any global title errors.
ciscoGsccpGttLoadTable	A ciscoGsccpGttLoadTable trap is generated whenever a load operation is started or completes.
ciscoGsccpGttMapStateChange	A ciscoGsccpGttMapStateChange is generated when a mated application subsystem changes to a new state. The value of cgsccpGttMapSsStatus indicates the new state for the subsystem.
ciscoGspCongestionChange	A ciscoGspCongestionChange trap is generated when a link changes to a new congestion level as specified by the cgspLinkCongestionState object.
ciscoGspIsolation	This notification indicates the instance specified by cgspInstDisplayName and cgspInstDescription has become isolated. All linkset used to connect MTP3 node (instance) are unavailable. Isolation is ended when any linkset supported by this instance reaches the active state.
ciscoGspLinkRcvdUtilChange	A ciscoGspLinkRcvdUtilChange trap is generated when the cgspLinkUtilStateRcvd changes states.
ciscoGspLinkSentUtilChange	A ciscoGspLinkSentUtilChange trap is generated when the cgspLinkUtilStateSent changes states.
ciscoGspLinksetStateChange	A ciscoGspLinksetStateChange trap is generated when a linkset changes to a new state. The value of cItpSpLinksetState indicates the new state.
ciscoGspLinkStateChange	A ciscoGspLinkStateChange trap is generated when a link changes to a new state. The value of cItpSpLinkState indicates the new state.
ciscoItpMsuRateState	This notification is generated once for the interval specified by the cimrMsuRateNotifyInterval object when the cimrMsuTrafficRateState object has the following state transitions: • acceptable to warning • acceptable to overloaded • warning to overloaded At the end of the interval specified by the cimrMsuRateNotifyInterval object another notification will be generated if the current state is different from state sent in last notification even if the state transition is not one of the previously mentioned transitions. When the cimrMsuRateNotifyInterval is set to zero all state changes will generate notifications.

Trap Name	Description
ciscoItpXuaAsStateChange	A ciscoItpXuaAsStateChange trap is generated when an AS changes to a new state. The value of cItpXuaAsState indicates the new state for the AS.
ciscoItpXuaAspCongChange	A ciscoItpXuaAspCongChange trap is generated when an ASP changes to a congestion level as specified by the cItpXuaAspCongLevel object.
ciscoItpXuaAspStateChange	A ciscoItpXuaAspStateChange trap is generated when an ASP changes to a new state. The value of cItpXuaAspAsState indicates the new state for the ASP that is serving the AS specified by cItpXuaAsDisplayName.
ciscoItpXuaSgmCongChange	A ciscoItpXuaSgmCongChange trap is generated when an SGMP changes to a congestion level as specified by the cItpXuaSgmCongLevel object.
ciscoItpXuaSgmStateChange	A ciscoItpXuaSgmStateChange trap is generated when an SG Mate changes to a new state. The value of cItpXuaSgmState indicates the new state for the SG Mate.
ciscoMlrTableLoad	A ciscoMlrTableLoad trap is generated when a load operation is started or completed. Route table configurations can be loaded by CLI requests. In addition, route tables can loaded using configuration statements, which allows route tables to be reloaded whenever a node restarts.
cItpRouteStateChange	A cItpRouteStateChange trap is generated whenever one or more route destination status changes states and includes the count of all route state changes. This notification contains a list of route state changes in the cItpRtNotifInfoStateChanges object. State changes are accumulated until the cItpRtNotifInfoStateChanges is full or the maximum delay time is reached. The delay time is specified by the cItpRtChangeNotifDelayTime object. It might be necessary to suppress the sending of notification when a large number route change state, due the failure of some common resource. The number of notifications can be controlled by specifying values for cItpRtChangeNotifWindowTime and cItpRtChangeNotifMaxPerWindow objects. When the number of route state changes exceed the specified value the last notification will indicate that notifications are suppressed for the remainder of the window.
cItpSccpGttMapStateChange	A cItpSccpGttMapStateChange trap is generated when a mated application subsystem changes to a new state. The value of cItpSccpGttMapSsStatus indicates the new state for the subsystem.
cItpSpCongestionChange	A cItpSpCongestionChange trap is generated when a link changes to a new congestion level as specified by the cItpLinkCongestionState object.
cItpSpLinkRcvdUtilChange	A cItpSpLinkRcvdUtilChange trap is generated when the cItpSpLinkUtilStateRcvd changes states.

Trap Name	Description
cItpSpLinkSentUtilChange	A cItpSpLinkSentUtilChange trap is generated when the cItpSpLinkUtilStateSent changes states.
cItpSpLinksetStateChange	A cItpSpLinksetStateChange trap is generated when a linkset changes to a new state. The value of cItpSpLinksetState indicates the new state.
cItpSpLinkStateChange	A cItpSpLinkStateChange trap is generated when a link changes to a new state. The value of cItpSpLinkState indicates the new state.
cSctpExtDestAddressStateChange	A cSctpExtDestAddressStateChange trap is generated when the state transition of cSctpAssocRemAddressStatus has occurred.

RAN-O Specific Traps

The MWTM supports these RAN-O specific traps, listed in alphabetical order:

Trap Name	Description
cerent454Events	The CERENT-454-MIB defines the events and alarms that are raised by the ONS 15454. The MWTM processes each ONS event by creating an MWTM event with a severity that maps to the severity of the ONS event.
ciscoIpRanBackHaulGsmAlarm	A ciscoIpRanBackHaulGsmAlarm trap is generated when the values of these objects change: connect state, local alarm state, remote alarm state, and redundancy state.
ciscoIpRanBackHaulUmtsAlarm	A ciscoIpRanBackHaulUmtsAlarm trap is generated when the values of these objects change: connect state, received local state, received remote state, transmit local state, transmit remote state, and redundancy state.
ciscoIpRanBackHaulRcvdUtil	A ciscoIpRanBackHaulRcvdUtil trap is generated when a received utilization state changes to a new state.
ciscoIpRanBackHaulSentUtil	A ciscoIpRanBackHaulSentUtil trap is generated when a sent utilization state changes to a new state.