

show mme

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show mme-service all

Table 1: show mme-service all Command Output Descriptions

Field	Description
Service name	The name of the MME service configured and running on the system.

Field	Description
Context	The name of the VPN context in which MME service configured and running on the system.
Status	Indicates whether MME service is started or not.
Bind	Indicates whether an S1-MME reference point is bound to an interface in the configured MME service or not.
Dynamic TAL Depth	Displays the configured number of unique historic entries in a Tracking Area List (TAL).
S1-MME IP Address	The IP address of the chassis on which MME service is configured. This is the S1-MME interface IP address of MME service.
Crypto-Template Name	The configured crypto-template name associated with the MME service.
Max Subscribers	The configured number of subscribers allowed on the MME service.
S1-MME sctp port	The source port number for SCTP communication. This source SCTP port will be used for binding the SCTP socket to communicate with the eNodeB using S1-MME with this MME service
MME Code	The MME identifier in EPC networks. This is used to construct the MME identifier.
MME Group	The MME group identifier in EPC networks. This works as a group of MMEs in a shared network. The MME group is used to construct the MME identifier.
PLMN Id	The Public Land Mobile Network identifier of which this MME service belongs to. It contains Mobile Country Code (MCC) and Mobile Network Code (MNC).
PS-LTE Operation	Displays whether the MME service has been enabled for Public Service LTE (PS-LTE) mode (as configured by the**ps-lte** command). If enabled, this field also displays the IPv4 or IPv6 address for the S11 interface of the co-located S-GW as configured by the same command.
Network-Global-MME-ID-Mgmt-DB	The LTE Network Global MME ID Management Database to which this MME Service is associated. This management database is used to manage associations between PLMN IDs and MME group ID ranges.
Foreign-PLMN-GUTI-Mgmt-DB	The LTE Foreign PLMN GUTI Management Database to which this MME Service is associated. This management database is used to control the acceptance or immediate reject of Attach Requests and TAU Requests containing a GUTI from a specific PLMN.
EGTP Context	The name of the VPN context in which Evolved GPRS Tunnelling Protocol (eGTP) service is configured and associated with this MME service to configure different interfaces with MME. Typically it is the destination context on system.
EGTP Service	The name of the Evolved GPRS Tunnelling Protocol (eGTP) service which is associated with this MME service to configure different interfaces with MME.
EGTP Sv Context	The name of the context in which the egtp-sv-service is configured.
EGTP Sv Service	The name of the eGTP Sv service associated with the MME service.
SGTPC Context	The name of the context in which the sgtpc-service is configured.

Field	Description
SGTPC Service	The name of the SGTPC service associated with the MME service.
MME HSS Context	The name of the context in which the HSS peer service is configured.
MME HSS Service	The name of the HSS peer service that communicates with an HSS associated with this MME service.
SGS Context	The name of the context in which the SGs service is configured.
SGS Service	The name of the SGs service associated with this MME service.
SMSC Context	The name of the context in which the SMSC service is configured.
SMSC Service	The name of the name of the SMSC service associated with the MME service.
Location Service	The name of the Location Service (SLg interface) associated with this MME service.
Max bearers per MS	The maximum number of bearers per MS allowed with in this MME service. This can be configured between 1 and 11. By default 11 bearers supported per MS.
Max PDNs per MS	The maximum number of PDNs per MS allowed with in this MME service. This can be configured between 1 and 3. By default 3 bearers supported per MS.
Peer MME GUMMEI	Displays the IP addresses of peer MMEs looked up using GUMMEI during handovers between any radio access technology and the E-UTRAN.
Peer MME TAI	Displays the configured TAI Management Database name associated with the service used for peer MME selection.
Peer SGSN RAI	Displays the parameters configured for peer SGSN discovery using the Routing Area Identity.
Peer SGSN RNCID	Displays the parameters configured for peer SGSN discovery using the Radio Network Controller ID.
NRI Length	Displays the NRI length entries configured for this MME service. If none are configured, the display shows "None".

Field	Description
PGW	This group The parameters related to Packet Data Network Gateway (P-GW), which is selected by this MME service for providing PDN connectivity to subscribers. This group contains following parameters: • **Address**: The IP address of P-GW which is selected by this MME service for providing PDN connectivity to subscribers. • **S5-S8 Protocol**: The protocol configured to communicate between Serving Gateway (S-GW) and P-GW on S5 and S8 interface. P-MIP and GTP can be configured on this interface. By default GTP is supported on this interface. • **Ue-usage-Type**: Configures UE usage type for disconnecting PDN for up service area. • **Collocated-node**: Configures the Collocation name to select the collocated S/PGW node IP addresses and/or P-GW Node name for 5GS Interworking. **Note** PGW Node name should be configured under **Collocated-node** for 5GS interworking with N26 interface. This configuration allows the **P-GW Node Name** to include the configured name in **Context Response** and **Forward relocation Request Response** messages from MME to AMF over N26 interface. • **Smf-combined**: Configures a combined P-GW and SMF. • **Weight**: The weight allotted the selected P-GW for selection of P-GW by MME service.
SGW Pool	Displays the configured TAI Management Object name associated with the service used for creating S-GW pools that, in turn, are used for S-GW selection.
Peer MME DNS Context	The name of the context where the DNS configuration resides for peer MME associations and discoveries.
Peer SGSN DNS Context	The name of the context where the DNS configuration resides for peer SGSN associations and discoveries.
PGW DNS Context	The name of the context in which the DNS service configured to locate and select the P-GW by this MME Service.
Send EMM Info for Periodic TAU	Indicates whether the EMM information for periodic TAU is enabled or disabled.
Access Type	Indicates the access type—WB-EUTRAN, NB-IOT, or WB-EUTRAN and NB-IOT.
SGW DNS Context	The name of the context in which the DNS service is configured to locate and select the S-GW by this MME Service.
DNS MSC Context	The name of the context in which the DNS service is configured to locate and select the MSC by this MME Service.
SMSC Context	The name of the context in which the SMSC service is associated to the MME service.

Field	Description
Implicit Detach Timeout	The timeout duration in seconds after which subscriber will implicitly be detached from the network if there is no activity. This value can be configured from 1 second to 3600 seconds. By default timeout duration for this timer is 3600 seconds. This timer starts when mobile reachable timer expires while the network is in EMM-IDLE mode and Idle mode Signaling Reduction (ISR) is activated and stops when NAS signalling connection established. Note: Generally this timer value is 240 seconds (4 minutes) more than the timeout value of T3423 timer.
T3346 Timeout	Displays the timeout duration configured for the T3346 timer. This timer can be configured to any value from 0 to 18600 seconds. Default: 1500 seconds (25 minutes). If an EMM request is rejected by MME because of congestion, it shall have EMM cause as congestion (#22) and shall include back-off timer (T3346) IE. The back-off timer shall be chosen randomly and shall be 10% below or above the configured T3346 timer value.
T3412 Timeout	Displays the timeout duration configured for the T3412 timer. This timer is used for periodic tracking area update (P-TAU). When this timer expires, the periodic tracking area updating procedure starts and the timer is set to its initial value for the next start. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the UE goes from EMM-CONNECTED to EMM-IDLE mode and stops when the UE returns to EMM-CONNECTED mode.
T3412 Extended Timeout	Displays the timeout duration configured for the T3412 extended timer. This timer is used for periodic tracking area update (P-TAU). This timer helps the MME to reduce network load from periodic TAU signaling and to increase the time until the UE detects a potential need for changing the RAT or PLMN. This timer can be configured to any value from 0 to 1116000 seconds. Default: 3600 seconds (60 minutes).
T3413 Timeout	Displays the timeout duration configured for the T3413 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. The timer starts when MME initiates the EPS paging procedure to the EMM entity in the network and requests the lower layer to start paging. This timer stops for the paging procedure when a response is received from the UE.
T3422 Timeout	Displays the timeout duration configured for the T3422 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME initiates the detach procedure by sending a DETACH REQUEST message to the UE and stops upon receipt of the DETACH ACCEPT message.
T3423 Timeout	Displays the timeout duration configured for the T3423 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the UE enters the EMM-DEREGISTERED state or when entering the EMM-CONNECTED mode. It stops while the UE is in EMM-REGISTERED-NO-CELL-AVAILABLE state and Idle mode Signaling Reduction (ISR) is activated.

Field	Description
T3450 Timeout	Displays the timeout duration configured for the T3450 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME initiates the Globally Unique Temporary Identifier (GUTI) reallocation procedure by sending a GUTI REALLOCATION COMMAND message to the UE and stops upon receipt of the GUTI REALLOCATION COMPLETE message. This timer is also used for tracking area update procedures.
T3460 Timeout	Displays the timeout duration configured for the T3460 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. The timers starts when the network initiates the authentication procedure by sending an AUTHENTICATION REQUEST message to the UE and stops upon receipt of the AUTHENTICATION RESPONSE message.
T3470 Timeout	Displays the timeout duration configured for the T3470 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. The timers starts when the network initiates the identification procedure by sending an IDENTITY REQUEST message to the UE and stops upon receipt of the IDENTITY RESPONSE message.
ISDA Guard Timeout	Specifies the expiry time to wait to receive the UEs current location information.
ISDA Location Validity Time	Specifies the expiry time for the age of the UE's location information. During this time, if the EPS Location Information with current location is requested in the ISDR, the MME does not process a location procedure with the eNodeB, but sends the location information from the cache.
Mobile Reachable Timeout	Displays the timeout duration after which the reachability procedure will be discarded and a reattempt starts. This duration can be configured to any value between 1 and 20 seconds. By default it is 4 second.
T3396 Timeout	Displays the timeout duration configured for the T3396 timer. This timer can be configured to any value from 0 to 18600 seconds. Default: 1500 seconds (25 minutes). If an ESM request is rejected because of congestion, the rejects shall have ESM cause #26: "Insufficient resources" and the MME will include the back-off timer IE (T3396). The back-off timer shall be chosen randomly and shall be 10% below or above the configured T3396 timer value.
T3485 Timeout	Displays the timeout duration configured for the T3485 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer is used for default EPS bearer context activation procedure. This timer starts when the MME sends an ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives an ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT or ACTIVATE DEFAULT EPS BEARER CONTEXT REJECT message from the UE.

Field	Description
T3486 Timeout	Displays the timeout duration configured for the T3486 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME sends a MODIFY EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives a MODIFY EPS BEARER CONTEXT ACCEPT or REJECT message from the UE.
T3495 Timeout	Displays the timeout duration configured for the T3495 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer is used for default EPS bearer context deactivation procedure. This timer starts when the MME sends a DEACTIVATE EPS BEARER CONTEXT REQUEST message to the UE and stops when it receives a DEACTIVATE EPS BEARER CONTEXT ACCEPT or DEACTIVATE EPS BEARER CONTEXT REJECT message from the UE.
T3489 Timeout	Displays the timeout duration configured for the T3489 timer. This timer can be configured to any value between 1 and 20 seconds. By default it is 6 second. This timer starts when the MME sends an ESM INFORMATION REQUEST message to the UE and stops when it receives an ESM INFORMATION RESPONSE message from the UE.
TC1N Timeout	Displays the timeout duration configured for the TC1N timer. This timer can be configured to any value between 1 and 20 seconds. By default, it is 5 seconds.
TR1N Timeout	Displays the timeout duration configured for the TR1N timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.
TR2N Timeout	Displays the timeout duration configured for the TR2N timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.
MT Queue Timeout	Displays the timeout duration configured for the MT Queue timer. This timer can be configured to any value between 1 and 300 seconds. By default, it is 30 seconds.
CP Data Max Retransmissions Count	Displays the number of times CP Data for SMS is retransmitted.
HO Resource Release Timeout	Displays the configuration of the **ho-resource-release-timeout** command. This is the amount of time in milliseconds that the MME will hold on to bearers and E-RABs after an S1-based handover has been initiated. When this timer expires, the source MME will send a UE Context Release to the source eNodeB. Refer to 3GPP TS 23.401 Section 5.5.1.2.2 for additional information about the use of this timer.

Field	Description
Encryption Algorithms	The encryption algorithm and its priority applied for security procedures through this MME service. It indicates following settings: • **Priority**: The priority set for applied encryption algorithm. The least value has the highest preference. Possible priority values are between 1 to 3. • **Algorithm**: The applied encryption algorithm. Possible algorithms are: • **128-eea0**: Null ciphering algorithm (128-EEA0) for LTE encryption as the encryption algorithm for security procedures. This is the default encryption algorithm applicable for security procedures. • **128-eea1**: SNOW 3G synchronous stream ciphering algorithm (128-EEA1) for LTE encryption as the encryption algorithm for security procedures. • **128-eea2**: Advance Encryption Standard (AES) ciphering algorithm (128-EEA2) for LTE encryption as the encryption algorithm for security procedures. • **128-eea3**: ZUC algorithm (128-EEA3) for LTE encryption as the encryption algorithm for security procedures. By default, the **128-eea0** encryption algorithm is applicable.
Integrity Algorithms	The priority and the integrity algorithm applied for security procedures through the MME service. It indicates the following settings: • **Priority**: The priority set for the applied integrity algorithm. The least value has the highest preference. Possible priority values are between 1 to 3. • **Algorithm**: The applied integrity algorithm. Possible algorithms are: • **128-eia0**: Null ciphering algorithm (128-EIA0) for LTE integrity as the integrity algorithm for security procedures. • **128-eia1**: SNOW 3G synchronous stream ciphering algorithm (128-EIA1) for LTE integrity as the integrity algorithm for security procedures. • **128-eia2**: Advance Encryption Standard (AES) ciphering algorithm (128-EIA2) for LTE encryption as the integrity algorithm for security procedures. This is the default encryption algorithm applicable for security procedures. • **128-eia3**: ZUC algorithm (128-EIA3) for LTE integrity as the integrity algorithm for security procedures.
Setup Timeout	The setup timeout duration configured for call setup for MME calls. Range: 1 to 10000. Default: 60 seconds

Field	Description
UE DB Purge Timeout	The configured timeout duration in minutes to purge UE record from UE database which is maintained by MME as cache of EPS context per UE keyed by IMSI/GUTI to allow UE to attach by GUTI and reuse previously established security parameters. This cache will be maintained in each session manager where the first attach occurred for an UE and purge after configured timeout period expires. Range: 1 to 20160. Default: 10080 mins
Maximum paging attempts	Indicates number of paging attempts configured in an MME service to send for an UE while in idle mode. Range: 1 to 10 Default: 3
Policy for Idle Mode Detach	Displays the configured user policy in an MME service for detach procedure when a UE is in IDLE mode. Possible actions are: • Explicit: Detach procedure starts after paging the UE • Implicit: Detach procedure starts without paging the UE Default: Implicit detach
NAS Max Retransmissions Count	Displays the configured maximum number of retransmissions for each configured NAS message.
Set UE Time (attach processing)	Displays the configuration of the **set-ue-time** keyword in the **policy attach** command. Possible states are Enabled or Disabled. If enabled, this field also shows the preference for delivery of EMM information message to the UE, either MME Preferred or MSC Preferred.
Reject attach with non-3GPP char APN	Displays whether the feature is enabled or disabled at MME to reject APNs with non-standard characters in Attach request.
Reject pdn connect with non-3GPP char APN	Displays whether the feature is enabled or disabled at MME to reject APNs with non-standard characters in PDN Connect request.
IMEI Query (attach processing)	Displays the mobile equipment identity query type for the UE related procedure configured in the attach policy in the MME service. Possible actions are: • IMEI: System configured to use International Mobile Equipment Identity as query type for UE related procedures. • IMEI-SV: System configured to use International Mobile Equipment Identity (IMEI) - Software Version (SV) as query type for UE related procedures. • None: System configured to not to use any type, neither IMEI or IMEI-SV, as query type for UE related procedures. Default: None

Field	Description
EIR Query (attach processing)	Displays the Equipment Identity Register query status in the attach policy configuration for the MME service. Possible states are Enabled or Disabled.
Deny-greylisted (attach processing)	Displays whether the MME will deny a call if the equipment is determined to be on the grey list during the attach procedure. By default, this option is disabled; the MME will allow this call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Deny-unknown (attach processing)	Displays whether the MME will deny a call if the Equipment Identity Register responds with EQUIPMENT STATUS UNKNOWN to a Mobile Identity Check Request during the attach procedure. By default, this option is disabled; the MME will allow the call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Allow-ECA timeout (attach processing)	Displays whether the MME will allow a call to go through if no response is received from an Equipment Identity Register for a Mobile Identity Check Request during the attach procedure. By default, this option is disabled; the MME will deny this call. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Verify Emergency (attach processing)	Displays whether the MME will query the EIR for equipment status during Emergency attach processing. By default, this option is disabled. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Set UE Time (TAU processing)	Displays the configuration of the **set-ue-time** keyword in the **policy tau** command. Possible states are Enabled or Disabled. If enabled, this field also shows the preference for delivery of EMM information message to the UE, either MME Preferred or MSC Preferred.
IMEI Query (TAU processing)	Displays the mobile equipment identity query type for the UE related procedure configured in the TAU policy in the MME service. Possible actions are: • IMEI: System configured to use International Mobile Equipment Identity as query type for UE related procedures. • IMEI-SV: System configured to use International Mobile Equipment Identity (IMEI) - Software Version (SV) as query type for UE related procedures. • None: System configured to not to use any type, neither IMEI or IMEI-SV, as query type for UE related procedures. Default: None
EIR Query (TAU processing)	Displays the Equipment Identity Register query status in the TAU policy configuration for the MME service. Possible states are Enabled or Disabled.

Field	Description
Deny-greylisted (TAU processing)	Displays whether the MME will deny a call if the equipment is determined to be on the grey list during the TAU procedure. By default, this option is disabled; the MME will allow this call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Deny-unknown (TAU processing)	Displays whether the MME will deny a call if the Equipment Identity Register responds with EQUIPMENT STATUS UNKNOWN to a Mobile Identity Check Request during the TAU procedure. By default, this option is disabled; the MME will allow the call to go through. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Allow-ECA timeout (TAU processing)	Displays whether the MME will allow a call to go through if no response is received from an Equipment Identity Register for a Mobile Identity Check Request during the TAU procedure. By default, this option is disabled; the MME will deny this call. To enable this option, refer to the verify-equipment-identity function of the **policy attach** command.
Verify Emergency (TAU processing)	Displays whether the MME will query the EIR for equipment status during Emergency TAU processing. By default, this option is disabled. To enable this option, refer to the **verify-equipment-identity** option of the **policy attach** command.
Initial Context Setup Failure-TAU	Displays the behavior of the MME when an initial context failure is received from the eNodeB during the processing of a TAU request. By default, the MME moves the UE to IDLE MODE. The MME can optionally be configured to detach the UE when a specific cause code is returned from the eNodeB. The MME matches this cause code against those defined in the specified "Cause Code Group <name>". To configure this setting, refer to the **initial-context-setup-failure** option of the **policy tau** command.
Initial Context Setup Failure-Svc Req	Displays the behavior of the MME when an initial context failure is received from the eNodeB during the processing of a service request or extended service request. By default, the MME detaches the UE. The MME can optionally be configured to move the UE to Idle Mode when a specific cause code is returned from the eNodeB. The MME matches this cause code against those defined in the specified "Cause Code Group <name>". To configure this setting, refer to the **initial-context-setup-failure** option of the **policy tau** command.
PDN reconnect type	Displays the PDN reconnect type as configured for the MME service. Possible values are multiple, reject, or restart.
Newcall Policy	Indicates whether the policy to handle new call requests for busy-out conditions on MME service is configured or not. If configured, by default it will be set to reject the new calls during busy-out condition.

Field	Description
Policy Overload	The configured policy for system to act on any new session/call request when system is crossing the threshold limits of sessions/calls in an MME service. Possible actions are: • **Drop**: Drops the packets incoming with new session requests to avoid overload on MME node • **Reject**: Rejects the new session/call request and responds with a reject message when threshold for allowed call session is crossed on MME node
Location Reporting	Displays the configuration of the Location Reporting function for the service. Possible configurations are Enabled or Disabled.
CSG Change Notification	Displays the configuration of Closed Subscriber Group notification to the SGW/PGW for the service. Possible configurations are Enabled or Disabled.
Heuristic Paging	Displays the configuration of the Heuristic Paging function for the service. Possible configurations are Enabled or Disabled.
Heuristic Paging Map	Displays the paging-map that is associated with the MME service.
ISR Capability	Displays the configuration of the Idle mode Signaling Reduction (ISR) feature. Possible configurations are Enabled or Disabled.
Policy Sctp-Down	Displays the configuration of the SCTP-Down policy function for the service. Possible configurations are Detach-UE or Idle-Mode-Entry.
Policy Inter-RAT Indirect Fwd Tunnels	Display whether indirect forwarding is allowed during 3G to 4G handovers. Possible states are Enabled or Disabled. This field shows the configuration of the **policy inter-rat indirect-forwarding-tunnels** command.
Policy Inter-RAT Ignore SGSN ContextID	Displays whether the MME to configured to ignore any Context-ID mismatch between HSS and HLR and to use the Context-ID from the HSS to override the Context-ID from the source SGSN. If this option is disabled (default), the MME will drop the PDN when there is a Context-ID mismatch. This field shows the configuration of the **policy inter-rat ignore-sgsn-context-id** command.
Policy Inter-RAT Select Topologic SGW	Displays whether the MME to configured to determine and select the topologically-closest S-GW to the P-GW for Gn/Gp handoff scenarios. This field shows the configuration of the **policy inter-rat select-topologic-sgw** command.
Policy S1-Reset	Displays the configuration of the S1-Reset policy function for the service. Possible configurations are Detach-UE or Idle-Mode-Entry.
Overcharge Protection	Displays the configuration of the Overcharging Protection feature, either "Not configured" or, when enabled, the configured S1-AP cause code group name.
Relative Capacity	Displays the configuration of the Relative Capacity function for the service. This field displays a number between 0 and 255 representing the weight of the MME to the eNodeB for load balancing pools of MMEs.
Trap S1 Initial Establishment	Displays whether traps will be sent for every initial S1 connection between the MME and the eNodeB. Possible states are Enabled or Disabled.

Field	Description
Trap S1 Path Establishment	Displays whether a trap will be sent when the S1 Path is established.
ENodeB Cache Timeout	Shows the time in minutes the ENodeB information is cached after the ENodeB terminates a connection.
Subscriber Map	Displays the name of the subscriber map associated with the service.
Lte Emergency Profile	Displays the name of the lte emergency profile associated with the mme-service. In order to support LTE emergency services, an lte emergency profile must be configured under lte-policy and be associated with the mme-services.
Network (Across All RATs)	Displays the configuration of the Network policy function for the service. Possible configurations are Dual Addressing Supported or Dual Addressing Not Supported.
Inter-RAT Mapping RNCID to eNBID	Displays the configuration specifying how Inter-RAT Target RNC-ID fields are mapped to Target eNodeB-ID fields. Possible values are maptype-default-includes-only-enb (default) and maptype1-includes-enb-tai.
MME Manager Recovery	Displays the configuration of the MME Manager Recovery function for the service. Possible configurations are Reset S1 Peers or No Reset S1 Peers.
GTPv2 Piggybacking	Displays the configuration of the GTPv2 Piggybacking function for the service. Possible configurations are Enabled or Disabled.
Important The following fields are only available in 12.2 and earlier releases.	
MME Offloading	Specifies if MME offloading is enabled or disabled.
MME Init Release Timeout	The timeout for triggering the IDLE MODE ENTRY procedure with cause "Load balancing TAU required" for UEs that are ECM_CONNECTED. This field is only visible if MME offloading is enabled.
MME Paging Init Timeout	The timeout for triggering the PAGING procedure for UEs that are ECM_IDLE. After bringing the UE back to ECM_CONNECTED, the IDLE MODE ENTRY procedure is triggered with the cause "Load balancing TAU required". This field is only visible if MME offloading is enabled.
Important The previous fields are only available in 12.2 and earlier releases.	
S1 MME IP QOS DSCP	Displays the diffserv code point marking to be used for sending packets of a particular QoS class between the MME and eNodeB as configured in the MME service.
S1AP SCTP Parameters	
SCTP Param Template Associated	Displays the name of the SCTP Parameter Template associated with the service.
SCTP Param Timestamp	Displays the time when the SCTP Parameter Template was associated with the MME service.

Field	Description
SCTP Alpha	Displays the SCTP Retransmission Timeout (RTO) alpha value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Beta	Displays the SCTP Retransmission Timeout (RTO) beta value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Checksum Type	Displays the SCTP checksum type as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are ADLER32 or CRC32.
SCTP Valid Cookie Lifetime	Displays the SCTP cookie lifetime value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max Assoc Retrans	Displays the maximum number of retransmissions for SCTP associations value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max Number of In Streams	Displays the maximum number of incoming streams for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Init Retransmissions	Displays the maximum number of retransmissions for SCTP initiations value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max MTU	Displays the maximum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Max Number of Out Streams	Displays the maximum number of outgoing streams for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Path Retransmissions	Displays the maximum number of retransmissions for SCTP paths value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Min MTU	Displays the minimum Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP RTO Initial	Displays the initial time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP RTO Max	Displays the maximum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP RTO Min	Displays the minimum time for SCTP Retransmission Timeout (RTO) value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Sack Frequency	Displays the frequency for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.

Field	Description
SCTP Sack Period	Displays the period of time for SCTP Selective Acknowledgement value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Start MTU	Displays the initial Maximum Transmission Unit (MTU) size for SCTP value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Heartbeat Status	Displays the SCTP heartbeat status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled.
SCTP HeartBeat Timer	Displays the SCTP heartbeat timer value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Bundle Status	Displays the SCTP data chunk bundle status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled.
SCTP Bundle Timer	Displays the SCTP data chunk bundle timer value as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section.
SCTP Alternate Accept Flag	Displays the SCTP additional lifetime accept flag status as configured in the SCTP Parameter Template defined at the beginning of the S1AP SCTP Parameters section. Possible values are Enabled or Disabled.
MSC	Configuration of the SRVCC MSC Server for this MME service. This is the MSC server that the MME will use to interface with for the Sv interface. MSC selection using DNS will take precedence over locally configured MSCs. MSC address will be used only when DNS-based selection is not configured OR DNS selection fails.
MSC Echo Parameters	Indicates the MSC parameter value for the following: • interval • retransmission timeout • max retransmissions • reconnect interval
NAS GMM QOS Mapped From	Displays which QOS the MME uses in NAS GMM QoS IE and GTPv1 Context response messages when the subscriber comes to MME via a handover from a GN/GP SGSN. Possible options are "Native EPS QOS" (default) or "Gn/Gp Peer SGSN QOS". Refer to the MME Service configuration command **nas gmm-qos-ie-mapping** for more information.
Condition Restricted zone code	Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone. This field has been renamed to *Restricted Zone Code* in 15.0 and later releases.

Field	Description
Condition Congestion	Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition. This field has been renamed to *Congestion* in 15.0 and later releases.
Condition Newcall policy restrict	Displays the emm-cause-code to be returned to the UE when the policy restricts new calls. This field has been renamed to *Newcall policy restrict* in 15.0 and later releases.
Restricted zone code	Displays the emm-cause-code to be returned to the UE when the UE requests access to a restricted zone during an EMM procedure.
Congestion	Displays the emm-cause-code to be returned to the UE when the system has detected a congestion condition during an EMM procedure.
Newcall policy restrict	Displays the emm-cause-code to be returned to the UE when the policy restricts new calls.
APN mismatch	Displays the emm-cause-code to be returned to the UE when the system has detected an APN mismatch condition during an EMM procedure.
VLR down	Displays the emm-cause-code to be returned to the UE when the system has detected a VLR down condition during an EMM procedure.
VLR unreachable	Displays the emm-cause-code to be returned to the UE when the system has detected a VLR unreachable condition during an EMM procedure.
Auth failure	Displays the emm-cause-code to be returned to the UE when an authentication failure occurs.
PEER NODE unknown	Displays the emm-cause-code to be returned to the UE when peer node resolution is not successful.
CTXT transfer fail SGSN	Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer SGSN occurs.
CTXT transfer fail MME	Displays the emm-cause-code to be returned to the UE when a UE context transfer failure from a peer MME occurs.
HSS unavailable	Displays the emm-cause-code to be returned to the UE when HSS resolution fails in the MME or the HSS does not respond in time.
SGW selection failure	Displays the emm-cause-code to be returned to the UE when a failure occurs during S-GW selection.
PGW selection failure	Displays the emm-cause-code to be returned to the UE when a failure occurs during P-GW selection.
GW unreachable Attach	Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM Attach procedure.
GW unreachable TAU	Displays the emm-cause-code to be returned to the UE when a gateway (S-GW or P-GW) does not respond during an EMM TAU procedure.
NO bearers active	Displays the emm-cause-code to be returned to the UE when the context received from a peer SGSN (during a TAU procedure) does not contain any active PDP contexts

Field	Description
APN not supported PLMN-RAT esm-proc	Displays the configured cause code for APN not supported PLMN-RAT in esm-proc.
APN not supported PLMN-RAT Attach	Displays the configured cause code for APN not supported PLMN-RAT for attach requests.
APN not supported PLMN-RAT TAU	Displays the configured cause code for APN not supported PLMN-RAT for TAU requests.
S13-additional-id-check:	Displays the configuration for the S13 Additional IMEI check ID feature, which is disabled by default. The following fields the feature is configured to be performed during the listed UE procedure(s).
Attach:	Indicates if S13 Additional IMEI checking is to be performed during UE attaches.
TAU:	Indicates if S13 Additional IMEI checking is to be performed during tracking area updates.
Handover:	Indicates if S13 Additional IMEI checking is to be performed during UE handovers.
Extended DRX:	
H-SFN Start	Displays the start time at which H-SFN=0 starts in the GPS or UTC time format. The UTC time format is **YYYY:MM:DD:hh:mm:ss**. For example: 2016:03:01:12:34:56.
H-SFN UTC Reference	Displays the reference time at which H-SFN=0 starts in the UTC time format **YYYY:MM:DD:hh:mm:ss**. For example: 1982:1:1:1:1:1.
Adjusted time	Displays the number of leap seconds configured.
SGW Blacklist Parameters	Specifies the configured S-GW Blacklist parameters.
timeout	Specifies the period of time the blacklisted S-GW cannot be used for call procedures. The timeout value is an integer ranging from 5 to 86400 seconds.
msg-timeouts-per-min	Specifies the configured number of message timeouts to wait, before blacklisting an S-GW locally in a session manager instance. Only Create Session Response timeout is considered. The number of messages is an integer ranging from 1 to 5000.
S1 UE Retention	
S1 UE Retention	
S1 UE Retention Timer	Specifies the timer value for retaining an SCTP association.
DDN Delay Value	Specifies the downlink-data-notification delay value in multiples of 50 milliseconds.
EPS Network	
5GS to EPS handover using N26 interface	When this feature is enabled under N1 mode, the MME allows 5GS-EPS interworking with N26 interface.
Peer AMF GUAMI	Configures Globally Unique AMF Identifier for this Peer.
Peer AMF TAI	Configures 5GS Tracking Area Information match for this Peer AMF.

Field	Description
buffer-ubreq-from-3g-to-4g	Displays the enabled and disabled bearer response during 3G-4G GnGp HO and TAU process.

show mme-service db record all

Displays the MME database records for all sessions.

Table 2: show mme-service db record imsi Command Output Descriptions

Field	Description
DB Record State	Displays the current state of the db record: • (C) - Connected • (c) - Connecting • (D) - Detached
Integrity Algorithm	Displays the integrity algorithm applied for security procedures for this subscriber: • **(S) - EIA1**: SNOW 3G synchronous stream ciphering algorithm (128-EIA1). • **(A) - EIA2**: Advance Encryption Standard (AES) ciphering algorithm (128-EIA2). • **(N) - EIA0**: No integrity protection.
Encryption Algorithms	Displays the encryption algorithm applied for security procedures for this subscriber. • **(S) - EEA1**: SNOW 3G synchronous stream ciphering algorithm (128-EEA1) for LTE encryption. • **(A) - EEA2**: Advance Encryption Standard (AES) ciphering algorithm (128-EEA2) for LTE encryption. • **(N) - EEA0**: No encryption algorithm.
Call ID	The unique call identifier value stored for a subscriber in MME database record as lookup key. Call identity is an 8 digit hex number of attached call to an MME service. Call-id will be zero if the db record is not bound to an attached call.
IMSI	The IMSI (International Mobile Subscriber Identity) value stored for a subscriber in MME database record as lookup key.
GUTI	The Globally Unique Temporary Identifier (GUTI) value stored for a subscriber in MME database record as lookup key. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
REALLOCATED GUTI	This parameter displays the reallocated GUTI if the reallocated GUTI is pending acknowledgement from UE.

show mme-service db record imsi

Displays the MME database records for sessions grouped in session instances on this system and filtered by IMSI.

Table 3: show mme-service db record imsi Command Output Descriptions 0

Field	Description
Sessmgr Instance	The instance of the running Session Manager that serves this MME database.
MME Service	The name of the MME service associated with the database record.
Lookup Keys	This group displays the various lookup key information stored in MME database record for specific Session Manager instance.
IMSI	The IMSI (International Mobile Subscriber Identity) value stored for a subscriber in MME database record as lookup key. IMSI includes the Mobile Country Code (MCC) and Mobile Network Code (MNC).
Service-id	The system-generated service ID number.
GUTI	The Globally Unique Temporary Identifier (GUTI) value stored for a subscriber in MME database record as lookup key. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
Call-ID	The unique call identifier value stored for a subscriber in MME database record as lookup key. Call identity is an 8 digit hex number of attached call to an MME service. Call-id will be zero if the db record is not bound to an attached call.
Subscription Data	This group lists the subscription data available in database record for subscriber.
IMEI	The International Mobile Equipment Identity (IMEI) value stored for a subscriber in MME database record as subscription data of that subscriber.
MSISDN	The MSISDN value stored for a subscriber in MME database record as subscription data of that subscriber.
Context Identifier	Context-identifier sent by the HSS. This represents the default APN.
RFSP Index	Indicates the RAT/Frequency Selection Priority (RFSP) Index sent by the HSS and used to identify a specific Radio Resource Management (RRM) configuration.
Charging characteristic	Indicates the charging characteristics for this subscriber sent by the HSS, for example: normal, prepaid, flat rate.

Field	Description
APN OI Replacement	Indicates the domain name to replace the APN OI when constructing the PDN-GW FQDN upon which to perform DNS queries. This replacement applies for all the APNs in the subscriber's profile.
Oper Determined Barring	Indicates that the status of the operator determined barring.
ICS Indicator	The IMS Centralized Services indicator set in the ULA, either (0) false/disabled, or (1) true/enabled.
CSG IDs	A list of all CSG IDs from the subscription data.
Max Req Bandwidth UL	The maximum bandwidth requested for upload for this UE (UE_AMBR_UL).
Max Req Bandwidth DL	The maximum bandwidth requested for download for this UE (UE_AMBR_DL).
EMM backoff Expiry Time	Displays the configuration of the extended t3346 timer.
Subscribed Periodic RAU TAU Timer Value	Displays the configuration of the extended t3412 timer.
ARD:	The following fields display either 'True' or 'False' to indicate configured subscriber ARD values received from the HSS.
UTRAN-not-allowed	True or False
GERAN-not-allowed	True or False
GAN-not-allowed	True or False
I-HSPA-Evolution-not-allowed	True or False
E-UTRAN-not-allowed	True or False
HO-To-Non-3GPP-Access-not-allowed	True or False
Dual-connectivity-NR-not-allowed	Displays True or False to identify if the ARD received from HSS indicates the DCNR feature is allowed for the given IMSI or not.
NR-in-5GS-Not-Allowed	Displays True or False.
Core Network Restrictions	This group displays core network restrictions data stored in MME database record.
5GC-not-allowed	Displays Trure or False.
Trace Data	This group displays trace data if it is provided as part of the UE subscription data from the HSS. For information about the trace data provided, refer to section 5 of 3GPP TS 32.422.
APN Config	This group displays the APN configuration data stored in MME database record.
Service Selection	The name of the APN selected.
Max Req Bandwidth UL	The maximum bandwidth requested for upload for this APN.

Field	Description
Max Req Bandwidth DL	The maximum bandwidth requested for download for this APN.
QoS Class Id	The QoS Class Identifier (QCI) configured for this APN. If the MME has not received the QCI from the HSS, "Not Available" will be displayed.
Priority level	The traffic priority level configured for this APN.
Context Identifier	The context identifier where APN is configured.
VPLMN Dynamic ADDR allowed	Indicates whether dynamic address is allowed for visiting PLMN or not.
3GPP-Chrg Characteristics	The configured charging characteristics for this APN.
PDN-GW Name	The name of the P-GW where this APN is configured.
PDN-GW Realm	The realm of the P-GW which contains the configuration for this APN.
PDN-GW Address	The IP address of the P-GW which contains the configuration for this APN.
APN Restoration Priority	Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest.
Interworking 5GS Indicator	Indicates whether the Interworking 5GS indicator is subscribed or not subscribed.
UE Tracking Information: Last Reported 5 eNBs (most recent first)	The following information is reported per eNB: • IMSI • eNB • Last Reported ECI • Last Update
UE Tracking Information: Last Reported 7 ECGIs (most recent first)	The following information is reported per ECGI: • Last Reported ECI • eNB • IMSI • Last Update
HSS-DB Data	This group displays HSS Database data information.
HSS Update Type	Displays the update type the MME must respond to when the HSS makes a request for UE reachability when the UE moves from idle-mode to connected mode. Possible update types are: • Notify Request: Specifies that the HSS will send the MME a Notify Request message and expect a Notify Response message in return. • Update Location Request: Specifies that the HSS will send a Cancel Location Request or a Reset Request message and expect an Update Location Request message in return. Cancel Location Request and Reset Request have a higher precedence then Notify Request, hence an Update Location Request is sent if a Cancel Location Request or Reset Request is received after a Notify Request, and a Notify Response is not sent.

Field	Description
ESMLC Location Estimate	This group shows information about the last known location of the UE that was derived using the E-SMLC. Refer to 3GPP TS 29.171 for more details about the information provided.
Location	Provides the Geographic Area information reported for this UE. **Type:** The Geographic Area Description (GAD) reported. **Co-ordinates:** Displays the geographical coordinates of the UE.
Positioning Data	This group displays information about the positioning estimates reported for this UE.
Positioning Data Set	Displays the following location estimate information for the UE: **Type:** Reserved, Reserved-n/w specific methods, Reserved-other technologies, CellId, E-CID, OTDOA, or U-TDOA. **Result:** Displays whether the positioning method was attempted successfully or unsuccessfully. **Used for computation:** Yes or No.
GNSS Positioning	Displays the following location estimate information provided by the Global Navigation Satellite System (GNSS): **Method:** Displays the positioning method used, such as Conventional, UE-Assisted, or UE-Based, or Reserved. **Type:** For example: Galileo, GLONASS, GPS, QZSS, Modernized GPS, SBAS, or Reserved. **Result:** Displays whether the positioning method was attempted successfully or unsuccessfully. **Used:** Displays whether the information reported was used: Yes, No, Multiple methods used, Cannot be determined, or Used to verify, but not to generate location.
Velocity Estimate	**Horizontal:** The reported Bearing and Velocity in kilometers per hour. **Vertical:** The reported Speed and Direction of travel (upward or downward).
Horizontal Uncertainty Speed	The uncertainty of the reported speed. The value gives the uncertainty speed in increments of 1 kilometer per hour, except for N=255 which indicates that the uncertainty is not specified.
Vertical Uncertainty Speed	The uncertainty of the reported speed. The value gives the uncertainty speed in increments of 1 kilometer per hour, except for N=255 which indicates that the uncertainty is not specified.
Requested Accuracy Fulfilled	Indicates if the requested accuracy is fulfilled, either Yes or No.
REALLOCATED GUTI	This group displays reallocated GUTI if the reallocated GUTI is pending acknowledgement from UE.
PLMN	Value of PLMN within the GUTI.
MME Group ID	Value of MME Group Id within the GUTI.

Field	Description
MME Code	Value MME Code within the GUTI.
M-TMSI	Value MTMSI within the GUTI.
GUTI Allocated time	Last GUTI allocated timestamp. This refers to reallocated GUTI time stamp if the Reallocated GUTI is being displayed.

show mme-service db statistics

Table 4: show mme-service db statistics Command Output Descriptions

Field	Description
Total DB record allocated	The total number of database records allocated to MME calls/UE.
Total DB record reactivated	The total number of database records for reactivated MME sessions.
Total DB record detached	The total number of database records for detached MME sessions.
Total DB record purged	The total number of database records for purged MME sessions.
Purge Type	This group The database record statistics for purged session of various types.
Timeout	The total number of sessions purged due to Timeout reason.
DB record limit reached	The total number of sessions purged due to database record limit crossed.
UE not connected	The total number of sessions purged as UE was not connected.
HSS initiated	The total number of sessions purged where purging was initiated by HSS.
IMSImgr initiated	The total number of sessions purged where purging was initiated by IMSI manager.
Others	The total number of sessions purged where purging was happened due to reasons other than listed in this table.
Current DB record count	The total record count in database including all states.
State Connecting	The total record count in database in connecting state.
State Connected	The total record count in database in connected state.
State Detached	The total record count in database in detached state.

show mme-service enodeb-association full



Important In Release 20, 21.0 and 21.1, HeNBGW is not supported. For more information, contact your Cisco account representative.

Table 5: show mme-service enodeb-association full Command Output Descriptions

Field	Description
MMEMgr	The instance number MME Manager for which the information are displayed here.
Peerid	The identifier of peer MME of which statistic are displayed.
Global ENodeB ID	The global eNodeB identifier which is associated with this peer node.
Assoc Uptime	The uptime of the association between the MME and the eNodeB. The format is 0000d00h00m (where d= day, h=hour, m=minutes) when h > =24 hrs, otherwise it will be displayed as 00h00m00s.
eNodeB Name	The eNodeB name as reported by the eNodeB.
eNodeB Type	The NodeB type, either Home or Macro, as reported by the eNodeB. (HeNB-GW) is listed if this is a Home eNodeB Gateway.
MME Service Name	The name of the MME service running on peer node.
MME Service Address	The IP address which is used by MME service to connect with eNodeB.
MME Service Port	The port number which is used by MME service to connect with eNodeB.
eNodeB Port	The port number of eNodeB which is used by eNodeb to associate with MME service.
eNodeB IP Address(s)	The IP address of eNodeB which is used by eNodeb to associate with MME service.
Crypto-map Name	The name of the crypto map supporting this EnodeB association.
Paging DRX	The paging discontinuous reception set for paging procedure between eNodeB and MME.
Supported TAI(s)	The id of supported Tracking Area Identifier of which this eNodeB and MME belongs too. The Tracking Area Identity is constructed from the MCC (Mobile Country Code), MNC (Mobile Network Code) and TAC (Tracking Area Code).
CSG ID(s)	The closed subscriber groups Ids supported per eNodeB association with an MME service. A Closed Subscriber Group is a collection of cells within an eUTRAN and UTRAN that are open to only a certain group of subscribers. Within a PLMN, a Closed Subscriber Group is identified by a Closed Subscriber Group Identity (CSG-ID). The CSG ID shall be fix length 27 bit value.

Field	Description
S1 Paging Rate Limit	The S1 paging rate limit for the eNodeB as configured using the **network-overload-protection mme-tx-msg-rate-control enb s1-paging** command.
Path Source IP Address	The local MME address to establish the path towards VLR. In case of multiple addresses, the addresses will be shown as separated by space character.
Path Destination IP Address	The VLR (peer) address in the association. In case of multiple addresses, the addresses will be shown as separated by space character.
Path State	The state of the path (Up/Down) based on Heartbeat exchanged over the path.
Flow Id	The flow Id assigned by NPU manager to the path over which the packet will reach the MME manager. This flow ID will be in the range of Flow space created for specific application.

show mme-service id summary

This command displays the current number of MME-assigned and eNodeB-assigned S1AP session IDs.

Table 6: show mme-service id summary 1

Field	Description
Total MME S1AP IDs	The number of MME-assigned session identifiers between the MME and the eNodeB on the S1AP interface.
Total eNB S1AP IDs	The number of eNodeB-assigned session identifiers between the eNodeB and the MME on the S1AP interface.

show mme-service msc-status [mme-service-name *name* | msc-name *name*]

Table 7: show mme-service msc-status [mme-service-name name | msc-name name] Command Output Descriptions

Field	Description
MSC Status	Indicates the status of the MSC.
Name	Indicates the name of the configured MSC.
IP	Indicates the IP address of the MSC.
Node Status	Indicates the node status of the MSC.
Path State	Indicates the path state of the MSC.
MME service name	Indicates the MME service name of the MSC.

Field	Description
Static/DNS IP	Indicates if the MSC has a static IP address or a DNS IP address.

show mme-service name <mme_svc_name>

Displays service and session state information for all sessions currently on the system.

Table 8: show mme-service name <mme_svc_name> Command Output Descriptions

Field	Description
Service name	The name of the MME service configured and running on the system.
Context	The name of the VPN context in which MME service configured and running on the system.
Status	Indicates whether MME service is started or not.
Access Policy	Displays the configured access-policy name. If access-policy is not associated with mme-service, this field displays "Not Defined".
Cell Tracing	Indicates whether realtime cell tracing is enabled or disabled.
Trace Extension	Indicates whether cell trace extension is enabled or disabled.
Non-Broadcast TAI	Displays the configured values for MCC, MNC, and TAC.
DCNR	Indicates whether the DCNR feature is enabled or disabled at MME service.
UE Usage Type	Configures UE usage type for disconnecting PDN for up service area
Co-located Node	Configures the collocated node name to select the collocated SPGW node IP addresses.
Unsecured redirection to GERAN not allowed	Indicates whether the unsecured redirection to GERAN not allowed is enabled or disabled at MME service

show mme-service name <mme_svc_name> offload statistics

This section provides information regarding show commands and/or their outputs in support of load rebalancing (UE offload).

Table 9: show mme-service name <mme_svc_name> offload statistics 2

Field	Description
Current Offload Status	Current offload status of the specified mme-service. Possible values are Not Started, In Progress and Completed.

Field	Description
Implicit Detach Status	The Implicit Detach Status specified in the **mme offload**command. When enabled, if the UE context is not transferred to another MME within 5 minutes then it will be implicitly detached.
Preserve VoLTE subscribers Status	Is displayed as "Enabled" when the keyword **preserve-volte-subscribers** is configured in the mme offload command. The status is displayed as "Disabled", when VoLTE preservation is not configured. By default VoLTE preservation is disabled.
Time Duration Requested	The time-duration value specified in the **mme offload**command (in seconds). This is the maximum allowed time for the offload procedure to complete.
Percentage of Subscribers Requested	The offload-percentage specified in the **mme offload** command (specified as a percentage of all UEs on this mme-service).
Total Number of Subscribers	The total number of UEs on the specified mme-service.
Total Number of Subscribers Marked for Offloading	Displays the total number of subscribers marked for offloading during the current MME offload.
Total Number of Subscribers to be Offloaded	Total number of UEs on the specified mme-service selected for offloading.
Total Cumulative Number of Subscribers Offloaded	Displays the cumulative count of subscribers offloaded.
Total Number of VoLTE Subscribers Preserved	Displays the number of preserved VoLTE subscribers during and after MME offload.
Total Cumulative Number of VoLTE Subscribers Preserved	Displays the total numbers of subscribers preserved before starting the offload timer when the **mme offload** command is executed.
Total Number of Subscribers Offloaded	The total number of UEs which have been successfully offloaded from this mme-service (UE offloading State/Event = Done).
Total Number of Subscribers Received Context Transfer	Total number of UEs which has been successfully context transferred to another MME.
Remaining Time	The number of seconds remaining to complete the offload procedure.

show mme-service session all

Displays service and session state information for all sessions currently on the system.

Table 10: show mme-service session all Command Output Descriptions

Field	Description
Attach Type	Display the attach type that the subscriber is using. The possible access types are: • **A**: Initial EPS • **B**: Combined EPS IMSI • **C**: Handover EPS • **D**: Combined Handover EPS IMSI
Security Status	Displays the security status of the session. The possible call states are: • **A**: No Integrity Check, No Ciphering • **B**: Integrity Check, No Ciphering • **C**: Integrity Check, Ciphering
ESM State	Displays the ESM state of the session. The possible call states are: • **C**: Connected • **I**: Idle
IKEv2/IPSec	Displays if IPSec is used during the session.
CALLID	The EPS subscriber's call identity in 8 digit hex number of connected call to an MME service.
MSID	Displays the EPS subscriber's mobile station identification (MSID) number.
Num PDNs	Displays the total number of PDNs connected for a UE in this session.
Num Bearers	Displays the total number of bearers activated for a UE in this session.

show mme-service session counters

Table 11: show mme-service session counters Command Output Descriptions

Field	Description
Username	Displays the EPS subscriber's username.
Callid	The EPS subscriber's call identity in 8 digit hex number of connected call to an MME service.
MSID	Displays the EPS subscriber's mobile station identification (MSID) number.
EMM Events	This group displays the statistics of all Evolved Mobility Management (EMM) events associated with all MME services on the system.

Field	Description
Authentications	This group displays the all EMM authentication attempts/successes/failures with EMM events associated with all MME services on the system.
Attempted	The total number of EMM authentication attempts made for all MME services on the system.
Success	The total number of successful EMM authentication attempts for all MME services on the system.
Failures	The total number of failed EMM authentication attempts for all MME services on the system.
Tracking Area Update Events	This group displays the all tracking area update (TAU) event attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of EMM TAU attempts made for all MME services on the system.
Success	The total number of successful EMM TAU attempts for all MME services on the system.
Failures	The total number of failed EMM TAU attempts for all MME services on the system.
ECM Events	This group displays the statistics of all EMM Control Management (ECM) events associated with all MME services on the system.
Idle Mode Entry Events	This group displays the all idle mode entry event attempts/successes/failures associated with all MME services on the system.
Service Request Events	This sub-group displays the ECM service request event attempts/successes/ failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **UE Requested Service Request Events** and **NW Initiated Service Request Events** groups.
UE Requested Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been requested by the UE for all MME services on the system.
NW Initiated Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been initiated by the network for all MME services on the system.
Paging Initiation Events	This group displays the all paging initiation event attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for specific ECM event associated with all MME services on the system.
Success	The total number of successful attempts for specific ECM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific ECM event associated with all MME services on the system.

Field	Description
ESM Events	This group displays the statistics of all EPS Session Management (ESM) events associated with all MME services on the system.
PDN Connections	This group displays the all statistics for PDN connection attempts/successes/failures associated with all MME services on the system.
PDN Disconnections	This group displays the all statistics for PDN disconnection attempts/successes/failures associated with all MME services on the system.
Default Bearer Activation	This group displays the all statistics of all default EPS bearer activation attempts/successes/failures associated with all MME services on the system.
NW Initiated Dedicated Bearer Activation	This group displays the all statistics of all network-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
UE Initiated Dedicated Bearer Activations	This group displays the all statistics of all UE-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Bearer Deactivations	This group displays the all statistics of all P-GW/S-GW-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system.
MME Initiated Bearer Deactivations	This group displays the all statistics of all MME-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system.
UE Initiated Bearer Deactivations	This group displays the all statistics of all UE-initiated EPS bearer deactivation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Bearer Modifications	This group displays the all statistics of all P-GW/S-GW-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system.
HSS Initiated Bearer Modifications	This group displays the all statistics of all HSS-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system.
UE Initiated Bearer Modifications	This group displays the all statistics of all UE-initiated EPS bearer modification attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for specific ESM event associated with all MME services on the system.
Success	The total number of successful attempts for specific ESM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific ESM event associated with all MME services on the system.
Handover Events	This group displays the statistics of all handover events associated with all MME services on the system.
X2-based handovers	This group displays the all X2-based (intra-MME) handover attempt/success/failure events associated with all MME services on the system.
S1-based handovers	This group displays the all S1-based (Inter-MME) handover attempt/success/failure events associated with all MME services on the system.

Field	Description
Attempted	The total number of attempts made for specific EPS handover event associated with all MME services on the system.
Success	The total number of successful attempts for specific EPS handover event associated with all MME services on the system.
Failures	The total number of attempts failed for specific EPS handover event associated with all MME services on the system.
Total NAS Control Messages	This group displays the statistics of all NAS control messages sent or received by an MME services on the system.
Sent	This sub-group displays the statistics of all NAS control messages sent by an MME services on the system.
Clear-text messages	The total number of NAS control messages with "clear-text" flag received by all MME services on the system.
Integrity-check enabled	The total number of NAS control messages with "Integrity-Check Enabled" flag received by all MME services on the system.
Ciphered messages	The total number of NAS control messages with "Ciphered" flag received by all MME services on the system.
Retransmissions sent	The total number of NAS control messages with "retransmission-sent" flag sent by all MME services on the system.
Failures	The total number of NAS control messages with "failure" flag sent by all MME services on the system.
Received	This sub-group displays the statistics of all NAS control messages received by an MME services on the system.
Clear-text messages	The total number of NAS control messages with "clear-text" flag received by all MME services on the system.
Integrity-check enabled	The total number of NAS control messages with "Integrity-Check Enabled" flag received by all MME services on the system.
Ciphered messages	The total number of NAS control messages with "Ciphered" flag received by all MME services on the system.
Accepted	The total number of NAS control messages received with "Accepted" flag by all MME services on the system.
Discarded	The total number of NAS control messages received with "Discarded" flag by all MME services on the system.
Denied	The total number of NAS control messages received with "Denied" flag by all MME services on the system.
Decode failures	The total number of NAS control messages received with "Decode failure" flag by all MME services on the system.

show mme-service session full

Table 12: show mme-service session full Command Output Descriptions

Field	Description
SessMgr Instance	The Session Manager instance managing this session.
MSID	The UE identity (MS Identity) of connected subscriber to an MME service, and whether the subscriber is unauthenticated (such as during emergency attach).
Callid	The call identity in 8 digit hex number of connected call to an MME service.
MME Service	The name of the serving MME service of which information is displayed.
MME HSS Service	The name of the serving MME-HSS service which is used for AAA for this subscriber with HSS on S6a interface.
EGTP S11 Service	The name of the serving eGTP service which is used for connectivity between MME and S-GW on S11 interface.
MME S1 Address	The IP address of MME used for connecting with eNodeB on S1-MME interface.
EGTP S11 Address	The IP address assigned to eGTP service which is used for connectivity between MME and S-GW on S11 interface.
ME Identity	The mobile equipment identity of connected UE.
GUTI	The Globally Unique Temporary Identifier (GUTI) used for this subscriber session. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
MSISDN	The Mobile Station International ISDN Number (MSISDN) of connected EPS subscriber to an MME service.
EMM State	The status of EPS Mobility Management (EMM) session of connected subscriber. Possible status are: • Registered • Connected

Field	Description
ECM State	The status of EPS Connection Management (ECM) session of connected subscriber. Possible status are: • Registered • Connected • Idle
Attach type	Indicate the type of UE attachment of active subscriber to MME service, for example: Emergency or Initial EPS.
Active SGW S11 Addr	The IP address of S-GW connected to MME on S11 interface.
SGW Control TEID	Displays the TEID of the S-GW currently serving the UE.
UE Offloading	Displays the UE offload state for load rebalancing. Possible values are None, Marked, In-Progress and Done.
UE Reachability Timer	The configured value of the mobile reachability timer set for tracking UE in EMM session.
Remaining Time	The remaining time in seconds out of the configured value of the mobile reachability timer in the EMM session.
Paging Proceed Flag (PPF)	The current state of the Paging Proceed Flag indicating whether or not the UE is sending periodic TAUs within the span of the mobile reachability timer. If the UE fails to send a TAU within the timer value, this flag is set to "Paging Disabled" indicating that the MME is no longer paging the UE.
ISR Status	Displays if the session is using Idle mode Signaling Reduction (ISR). Possible configurations are Activated or Not activated.
Low Access Priority Indication	Displays whether this session has LAPI indicator in any of attach/extended service/TAU/bearer resource allocation/bearer resource modification/PDN connectivity requests.
Initial UE establishment cause	Displays the establishment cause as set in the Initial UE message: Delay Tolerant Access / High Priority Access / Emergency / MT-Access / Unknown
Peer SGSN	Displays the IP address of the SGSN which has a context for this UE in support of Idle mode Signaling Reduction (ISR). A Peer SGSN address is only shown when ISR is activated for this session.
UE Capability Information	This group shows the UE Capability information for connected UE received by an MME service.
Radio Capability	The radio capability information received by an MME service for connected UE in UE capability exchange message.
Radio Capability for Paging	The radio capability information received by an MME service for paging the UE. This field displays the value in hexadecimal format if the UE receives "UE Radio Capability for Paging" IE in S1 "UE-CAPABILITY-INFO-INDICATION" message from eNB. Otherwise, this field displays N/A.

Field	Description
Supported Codec List	The Supported Codec List information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 2	The Mobile Station Classmark 2 information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 3	The Mobile Station Classmark 3 information received by an MME service for connected UE in UE capability exchange message.
Security Mode Information	This group shows the status of NAS integrity check and NAS ciphering along with applicable algorithm as security mode information. It contains following information: • NAS Integrity Check • NAS Integrity Check Algorithm • NAS Ciphering • NAS Ciphering Algorithm
Active ENodeB information	This group shows the information of active eNodeB serving to this session.
Global ENodeB ID	The global identifier of active eNodeB serving to this session.
S1AP End Point	The IP address used by eNodeB on S1AP interface to connect with MME service.
Crypto-map Name	The name of the crypto map supporting this EnodeB association.
MME UE S1AP ID	Indicates the session identifier between MME and UE on S1AP interface serving to this session.
ENodeB UE S1AP ID	Indicates the session identifier between eNodeB and UE on S1AP interface serving to this session.
MME UE S1AP ID (stack):	Indicates up to three MME UE S1AP session identifiers present in this S1AP stack.
ENodeB UE S1AP ID (stack):	Indicates up to three eNodeB UE S1AP session identifiers present in this S1AP stack.
Total S1AP ID (stack)	Indicates the total count of S1AP session identifiers present in the stack.
Idle Mode Information Data	This group shows the information for the sessions in ECM idle mode.
Last TAI	Tracking Area Identity of the last Tracking Area visited by UE.
Last ECGI	E-UTRAN Cell Global Identifier of the last Cell visited by UE.
Last Connected ENodeB	Displays information about the ENodeB to which the session was last connected. • **Global ENodeB ID:** Global ENodeB Identifier of the ENodeB to which the UE last connected. • **S1AP End Point:** End Point IP Address of the ENodeB to which the UE last connected.

Field	Description
UE Subscription Data	This group shows the subscribed aggregate maximum bit rate applicable for connected UE in this session.
UE-UL-AMBR	The subscribed aggregate maximum bit rate in bits per second in upload traffic for connected UE in this session.
UE-DL-AMBR	The subscribed aggregate maximum bit rate in bits per second in download traffic for connected UE in this session.
Enforced UE-UL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in upload traffic for connected UE at eNodeB in this session.
Enforced UE-DL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in download traffic for connected UE at eNodeB in this session.
PDN Information	This group shows the information of PDNs connected for this session.
APN Name	The APN name which is serving for this PDN in this session.
UE Requested APN	Displays the UE requested APN with non-standard characters in hexadecimal format and standard characters in normal string format.
APN Restriction	The total number of APN restriction applied to this PDN.
PDN Type	The type of PDN (IPv4 and/or IPv6) which is serving in this session for PDN.
PGW Address	The IP address of the P-GW which is serving this session for connected PDN.
PGW control TEID	The control tunnel end identifier at P-GW on S5/S8 interface for control messaging serving to this session.
UE IPv4 Address	The IP address allocated to UE while connected to PDN in this session.
APN-UL-AMBR	The applicable aggregate maximum bit rate in bits per second in upload traffic for APN serving this PDN.
APN-DL-AMBR	The applicable aggregate maximum bit rate in bits per second in download traffic for APN serving this PDN.
Bearer Suspension State	The current suspension state of the bearer.
CSG Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a closed CSG cell.
CSG Subscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell as a subscribed member of the CSG in question.
CSG Unsubscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell with unsubscribed (non-member) status of the CSG in question
Marked for Deletion	Displays whether the PDN has marked for deletion flag set.

Field	Description
APN Restoration Priority	Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest.
Low Access Priority Indication	Displays whether this PDN has LAPI indicator set as received in PDN connectivity requests.
Bearer Id	The identifier used for bearer between eNodeB and S-GW while connected to PDN in this session.
QCI	The quality class identifier applicable for this MME session.
AMBR	The applicable aggregate maximum bit rate in bits per second in download/upload direction for APN serving this PDN.
S1U ENodeB TEID	Indicate the tunnel end identifier at eNodeB on S1-U interface serving to this session.
S1U SGW TEID	Indicate the tunnel end identifier at S-GW on S1-U interface serving to this session.
S5S8 PGW TEID	Indicate the tunnel end identifier at P-GW on S5/S8 interface serving to this session.
S1U ENodeB IPv4 Addr	Indicate the IPv4 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U ENodeB IPv6 Addr	Indicate the IPv6 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U SGW IPv4 Addr	Indicate the IPv4 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S1U SGW IPv6 Addr	Indicate the IPv6 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S5S8 PGW Addr	Indicate the IP address used at P-GW while connecting to S-GW on S5/S8 interface serving to this session.
ESM State	The EPS session Management status serving to this session.
Bearer Type	The type of bearer used for this session. Possible values are: • Default • Dedicated
ARP	The Allocation Retention Priority value assigned to the bearer. The HSS assigns the value for default bearers and the P-GW assigns it for dedicated bearers.
PCI	Specifies the ARP Pre-emption Capability Indicator, either Enabled or Disabled.
PVI	Specifies the ARP Pre-emption Vulnerability Indicator, either Enabled or Disabled.
PGW-C+SMF Selected	Specifies that Combined PGW-C/SMF selection indicator, either Yes or No.
Marked for Deletion	Displays whether the bearer has marked for deletion flag set.
Total PDNs	The total number of PDNs connected through this session for a subscriber.

Field	Description
Total Bearers	The total number of bearers created for UE to use in this session.
Max APN Restrictions	The maximum number of APN restrictions applied to this PDN.
Tracking Area Information	This group displays the tracking area information available for this session.
TAI of last TAU	The tracking area identifier used in last Tracking Area Update (TAU) message received for TAU procedure in this session.
Current Tracking Area List	The tracking area list used for TAU procedure in this session.
CSG Information	This group displays Closed Subscriber Group information relating to this session.
CSG ID at Last Connection	Displays the CSG ID for this session. This is a unique identifier within the scope of PLMN which identifies a Closed Subscriber Group (CSG) in the PLMN.
CSG Cell Type	Displays the Closed Subscriber Group cell access mode (type) for this session, either Closed or Hybrid.
CSG Membership Status	Displays if the session is a member of the cell's CSG. Possible values are Member or Non-Member.
Operator Policy Association	The operator policy associated with this PDN.
CSFB Information	This group displays the Circuit-Switched Fall Back configuration associated with the session.
SGS Assoc State	The state of the SGs association with the VLR for the UE as determined by the MME. Possible states are: • SGs-NULL: Specifies that there is no SGs association with the VLR for the UE. In this state, no fields in this group will display information. • LA_UPDATE_REQUESTED: Specifies that the MME has requested an update location from the VLR before sending a response to the UE • SGs-ASSOCIATED: Specifies that the MME has stored an SGs association for the UE.
SGS Service	The name of the configured SGs service associated with the session.
VLR	The name of the VLR, as configured in the SGs service, associated with the session.
LAI	The Location Area Identifier to which the UE is mapped.
Pool Area	The name of the configured Location Area Code (LAC) pool area associated with the SGs service and the session.
P-TMSI	The Packet-Temporary Mobile Subscriber Identifier allocated by the MSC for the UE.

Field	Description
Flags	The current active variables associated with the UE. Possible states are: • SMS-Only: Specifies that the UE is combined attached for SMS services only. • MME Reset Indicator: Specifies that the MME has restarted after a failure. • VLR Reliable Indicator: Specifies that the MME has received a reset indication from the VLR. • VLR Offload: Specifies that the UE is set to offload state. • Non-EPS Alert: Specifies that the VLR is requesting from the MME an indication when any signaling activity from the UE is detected.
CIoT Optimisation Information	Displays the CIoT optimization information.
NB-IoT RAT	Displays if the RAT type NB-IoT is either enabled or disabled.
Attach Without PDN Support	Displays if attach without PDN support is either enabled or disabled.
UE capable of operating in CE-mode-B	Displays "TRUE" or "FALSE" to indicate if UE is operating in CE Mode-B.
Access Profile Association	Displays the configured access-profile name.
DECOR Information:	
UE Usage type	Displays the configured UE usage types.
DCN Id	Displays the configured DCN identifier.
UE DC-NR Information:	
DC-NR capable UE	Indicates whether the UE is DCNR capable.
DC-NR operation allowed	Indicates whether the DCNR operation is allowed by MME for the DCNR capable UE.
UE N1-Mode Information	
N1-mode capable UE	Indicates whether the UE N1 mode information is allowed by MME for the N1-mode capable UE.

show mme-service session full all | grep Paging

Table 13: show mme-service session full all | grep Paging Command Output Descriptions

Field	Description
SessMgr Instance	The Session Manager instance managing this session.

Field	Description
Paging eDRX	The following are the paging eDRX parameters: • eDRX cycle length • PTW
MSID	The UE identity (MS Identity) of a connected subscriber to an MME service, and whether the subscriber is unauthenticated (such as during emergency attach).
Callid	The call identity in 8 digit hex number of connected calls to an MME service.
MME Service	The name of the serving MME service of which information is displayed.
MME HSS Service	The name of the serving MME-HSS service which is used for AAA for this subscriber with HSS on S6a interface.
EGTP S11 Service	The name of the serving eGTP service which is used for connectivity between MME and S-GW on S11 interface.
MME S1 Address	The IP address of MME used for connecting with eNodeB on S1-MME interface.
EGTP S11 Address	The IP address assigned to eGTP service which is used for connectivity between MME and S-GW on S11 interface.
ME Identity	The mobile equipment identity of connected UE.
GUTI	The Globally Unique Temporary Identifier (GUTI) used for this subscriber session. GUTI is constructed with following identifiers: • PLMN (MMC and MNC) • MME Group ID (MMEGI) • MME Code (MMEC) • MME TMSI (M-TMSI)
MSISDN	The Mobile Station International ISDN Number (MSISDN) of connected EPS subscriber to an MME service.
EMM State	The status of EPS Mobility Management (EMM) session of connected subscriber. Possible status are: • Registered • Connected
ECM State	The status of EPS Connection Management (ECM) session of connected subscriber. Possible status are: • Registered • Connected • Idle

Field	Description
Attach type	Indicates the type of UE attachment of active subscriber to MME service, for example: Emergency or Initial EPS.
Active SGW S11 Addr	The IP address of S-GW connected to MME on S11 interface.
SGW Control TEID	Displays the TEID of the S-GW currently serving the UE.
UE Offloading	Displays the UE offload state for load rebalancing. Possible values are None, Marked, In-Progress and Done.
UE Reachability Timer	The configured value of the mobile reachability timer set for tracking UE in EMM session.
Remaining Time	The remaining time in seconds out of the configured value of the mobile reachability timer in the EMM session.
Paging Proceed Flag (PPF)	The current state of the Paging Proceed Flag indicating whether or not the UE is sending periodic TAUs within the span of the mobile reachability timer. If the UE fails to send a TAU within the timer value, this flag is set to "Paging Disabled" indicating that the MME is no longer paging the UE.
ISR Status	Displays if the session is using Idle mode Signaling Reduction (ISR). Possible configurations are Activated or Not activated.
Low Access Priority Indication	Displays whether this session has LAPI indicator in any of attach/extended service/TAU/bearer resource allocation/bearer resource modification/PDN connectivity requests.
Initial UE establishment cause	Displays the establishment cause as set in the Initial UE message: Delay Tolerant Access / High Priority Access / Emergency / MT-Access / Unknown
Peer SGSN	Displays the IP address of the SGSN which has a context for this UE in support of Idle mode Signaling Reduction (ISR). A Peer SGSN address is only shown when ISR is activated for this session.
UE Capability Information	This group shows the UE Capability information for connected UE received by an MME service.
Radio Capability	The radio capability information received by an MME service for connected UE in UE capability exchange message.
Radio Capability for Paging	The radio capability information received by an MME service for paging the UE. This field displays the value in hexadecimal format if the UE receives "UE Radio Capability for Paging" IE in S1 "UE-CAPABILITY-INFO-INDICATION" message from eNB. Otherwise, this field displays N/A.
Supported Codec List	The Supported Codec List information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 2	The Mobile Station Classmark 2 information received by an MME service for connected UE in UE capability exchange message.
Mobile Station Classmark 3	The Mobile Station Classmark 3 information received by an MME service for connected UE in UE capability exchange message.

Field	Description
Security Mode Information	This group shows the status of NAS integrity check and NAS ciphering along with applicable algorithm as security mode information. It contains following information: • NAS Integrity Check • NAS Integrity Check Algorithm • NAS Ciphering • NAS Ciphering Algorithm
Active ENodeB information	This group shows the information of active eNodeB serving to this session.
Global ENodeB ID	The global identifier of active eNodeB serving to this session.
S1AP End Point	The IP address used by eNodeB on S1AP interface to connect with MME service.
Crypto-map Name	The name of the crypto map supporting this EnodeB association.
MME UE S1AP ID	Indicates the session identifier between MME and UE on S1AP interface serving to this session.
ENodeB UE S1AP ID	Indicates the session identifier between eNodeB and UE on S1AP interface serving to this session.
MME UE S1AP ID (stack):	Indicates up to three MME UE S1AP session identifiers present in this S1AP stack.
ENodeB UE S1AP ID (stack):	Indicates up to three eNodeB UE S1AP session identifiers present in this S1AP stack.
Total S1AP ID (stack)	Indicates the total count of S1AP session identifiers present in the stack.
Idle Mode Information Data	This group shows the information for the sessions in ECM idle mode.
Last TAI	Tracking Area Identity of the last Tracking Area visited by UE.
Last ECGI	E-UTRAN Cell Global Identifier of the last Cell visited by UE.
Last Connected ENodeB	Displays information about the ENodeB to which the session was last connected. • **Global ENodeB ID:** Global ENodeB Identifier of the ENodeB to which the UE last connected. • **S1AP End Point:** End Point IP Address of the ENodeB to which the UE last connected.
UE Subscription Data	This group shows the subscribed aggregate maximum bit rate applicable for connected UE in this session.
UE-UL-AMBR	The subscribed aggregate maximum bit rate in bits per second in upload traffic for connected UE in this session.
UE-DL-AMBR	The subscribed aggregate maximum bit rate in bits per second in download traffic for connected UE in this session.

Field	Description
Enforced UE-UL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in upload traffic for connected UE at eNodeB in this session.
Enforced UE-DL-AMBR at eNodeB	The enforced aggregate maximum bit rate in bits per second in download traffic for connected UE at eNodeB in this session.
PDN Information	This group shows the information of PDNs connected for this session.
APN Name	The APN name which is serving for this PDN in this session.
UE Requested APN	Displays the UE requested APN with non-standard characters in hexadecimal format and standard characters in normal string format.
APN Restriction	The total number of APN restriction applied to this PDN.
PDN Type	The type of PDN (IPv4 and/or IPv6) which is serving in this session for PDN.
PGW Address	The IP address of the P-GW which is serving this session for connected PDN.
PGW control TEID	The control tunnel end identifier at P-GW on S5/S8 interface for control messaging serving to this session.
UE IPv4 Address	The IP address allocated to UE while connected to PDN in this session.
APN-UL-AMBR	The applicable aggregate maximum bit rate in bits per second in upload traffic for APN serving this PDN.
APN-DL-AMBR	The applicable aggregate maximum bit rate in bits per second in download traffic for APN serving this PDN.
Bearer Suspension State	The current suspension state of the bearer.
CSG Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a closed CSG cell.
CSG Subscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell as a subscribed member of the CSG in question.
CSG Unsubscribed Hybrid Cell Change Notification	Displays CSG Information Reporting as specified by the PGW. If enabled, the MME sends notification when the UE enters or leaves a hybrid cell with unsubscribed (non-member) status of the CSG in question
Marked for Deletion	Displays whether the PDN has marked for deletion flag set.
APN Restoration Priority	Displays the priority for reactivating impacted PDNs following a P-GW Restart Notification (PRN) where 1 is highest priority, 16 is lowest.
Low Access Priority Indication	Displays whether this PDN has LAPI indicator set as received in PDN connectivity requests.
Bearer Id	The identifier used for bearer between eNodeB and S-GW while connected to PDN in this session.
QCI	The quality class identifier applicable for this MME session.

Field	Description
AMBR	The applicable aggregate maximum bit rate in bits per second in download/upload direction for APN serving this PDN.
S1U ENodeB TEID	Indicates the tunnel end identifier at eNodeB on S1-U interface serving to this session.
S1U SGW TEID	Indicates the tunnel end identifier at S-GW on S1-U interface serving to this session.
S5S8 PGW TEID	Indicates the tunnel end identifier at P-GW on S5/S8 interface serving to this session.
S1U ENodeB IPv4 Addr	Indicates the IPv4 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U ENodeB IPv6 Addr	Indicates the IPv6 address used at eNodeB while connecting to S-GW on S1-U interface serving to this session.
S1U SGW IPv4 Addr	Indicates the IPv4 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S1U SGW IPv6 Addr	Indicates the IPv6 address used at S-GW while connecting to eNodeB on S1-U interface serving to this session.
S5S8 PGW Addr	Indicates the IP address used at P-GW while connecting to S-GW on S5/S8 interface serving to this session.
ESM State	The EPS session Management status serving to this session.
Bearer Type	The type of bearer used for this session. Possible values are: • Default • Dedicated
ARP	The Allocation Retention Priority value assigned to the bearer. The HSS assigns the value for default bearers and the P-GW assigns it for dedicated bearers.
PCI	Specifies the ARP Pre-emption Capability Indicator, either Enabled or Disabled.
PVI	Specifies the ARP Pre-emption Vulnerability Indicator, either Enabled or Disabled.
PGW-C+SMF Selected	Specifies that Combined PGW-C/SMF selection indicator, either Yes or No.
Marked for Deletion	Displays whether the bearer has marked for deletion flag set.
Total PDNs	The total number of PDNs connected through this session for a subscriber.
Total Bearers	The total number of bearers created for UE to use in this session.
Max APN Restrictions	The maximum number of APN restrictions applied to this PDN.
Tracking Area Information	This group displays the tracking area information available for this session.
TAI of last TAU	The tracking area identifier used in last Tracking Area Update (TAU) message received for TAU procedure in this session.

Field	Description
Current Tracking Area List	The tracking area list used for TAU procedure in this session.
CSG Information	This group displays Closed Subscriber Group information relating to this session.
CSG ID at Last Connection	Displays the CSG ID for this session. This is a unique identifier within the scope of PLMN which identifies a Closed Subscriber Group (CSG) in the PLMN.
CSG Cell Type	Displays the Closed Subscriber Group cell access mode (type) for this session, either Closed or Hybrid.
CSG Membership Status	Displays if the session is a member of the cell's CSG. Possible values are Member or Non-Member.
Operator Policy Association	The operator policy associated with this PDN.
CSFB Information	This group displays the Circuit-Switched Fall Back configuration associated with the session.
SGS Assoc State	The state of the SGs association with the VLR for the UE as determined by the MME. Possible states are: • SGs-NULL: Specifies that there is no SGs association with the VLR for the UE. In this state, no fields in this group will display information. • LA_UPDATE_REQUESTED: Specifies that the MME has requested an update location from the VLR before sending a response to the UE • SGs-ASSOCIATED: Specifies that the MME has stored an SGs association for the UE.
SGS Service	The name of the configured SGs service associated with the session.
VLR	The name of the VLR, as configured in the SGs service, associated with the session.
LAI	The Location Area Identifier to which the UE is mapped.
Pool Area	The name of the configured Location Area Code (LAC) pool area associated with the SGs service and the session.
P-TMSI	The Packet-Temporary Mobile Subscriber Identifier allocated by the MSC for the UE.
Flags	The current active variables associated with the UE. Possible states are: • SMS-Only: Specifies that the UE is combined attached for SMS services only. • MME Reset Indicator: Specifies that the MME has restarted after a failure. • VLR Reliable Indicator: Specifies that the MME has received a reset indication from the VLR. • VLR Offload: Specifies that the UE is set to offload state. • Non-EPS Alert: Specifies that the VLR is requesting from the MME an indication when any signaling activity from the UE is detected.
CIoT Optimisation Information	Displays the CIoT optimization information.

Field	Description
NB-IoT RAT	Displays if the RAT type NB-IoT is either enabled or disabled.
Attach Without PDN Support	Displays if attach without PDN support is either enabled or disabled.
UE capable of operating in CE-mode-B	Displays "TRUE" or "FALSE" to indicate if UE is operating in CE Mode-B.
Access Profile Association	Displays the configured access-profile name.
DECOR Information:	
UE Usage type	Displays the configured UE usage types.
DCN Id	Displays the configured DCN identifier.
UE DC-NR Information:	
DC-NR capable UE	Indicates whether the UE is DCNR capable.
DC-NR operation allowed	Indicates whether the DCNR operation is allowed by MME for the DCNR capable UE.
UE N1-Mode Information	
N1-mode capable UE	Indicates whether the UE N1 mode information is allowed by MME for the N1-mode capable UE.

show mme-service session summary

Table 14: show mme-service session summary Command Output Descriptions

Field	Description
Total connected sessions	The total number of MME sessions in ECM-CONNECTED mode.
Total idle-mode sessions	The total number of MME sessions in ECM-IDLE mode.
Total attached sessions	The total number of sessions attached to this MME.
Total LAPI sessions	The current number of sessions with LAPI indicator set.
Total connected PDNs	The total number of PDNs associated with UEs in ECM-CONNECTED mode.
Total idle-mode PDNs	The total number of PDNs associated with UEs in ECM-IDLE mode.
Total attached PDNs	The total number of PDNs present in this MME.
Total IPv4 PDNs	The total number of PDNs with IPv4 addresses.
Total IPv6 PDNs	The total number of PDNs with IPv6 addresses.
Total IPv4+IPv6 PDNs	The total number of PDNs with dual addressing.

Field	Description
Total connected dedicated bearers	The total number of dedicated bearers associated with UEs in ECM-CONNECTED mode.
Total idle-mode dedicated bearers	The total number of dedicated bearers associated with UEs in ECM-IDLE mode.
Total attached dedicated bearers	The total number of dedicated bearers present in this MME.
Total combined-attached subscribers	The total number of MME sessions which are both PS and CS attached.
Total EPS-only attached subscribers	The total number of MME sessions which are PS attached only.
Total ISR-activated sessions	The total number of MME sessions which are activated for ISR.

show mme-service sgw-blockedlist [mme-service-name] [smgr-instance]

Table 15: show mme-service sgw-blockedlist [mme-service-name] [smgr-instance] Command Output Descriptions

Field	Description
Node Level	Specifies the number of Blockedlisted SGWs at a Node Level.
Instance Level	Specifies the number of Blockedlisted SGWs at a Node Level.
SGW IP	Specifies the IP Address of the Blockedlisted SGW.
Blockedlist Type	Specifies if the Blockedlist Type is either Node level or Instance level.
Expiry Timestamp	Specifies the SGW Blockedlisting expiry time.
Blockedlist Time left	Specifies the time left for SGW blockedlisting .

show mme-service statistics

Table 16: show mme-service statistics Output Descriptions

Field	Description
SCTP Statistics	
Transmitted SCTP Data	This sub-group displays the statistics of the total data processed and transmitted over Stream Control Transmission Protocol (SCTP) interface by this MME manager.

Field	Description
Init Chunks	The total SCTP packets with INIT transmitted over SCTP interface by this MME manager.
Init Ack Chunks	The total SCTP packets with INIT-ACK transmitted over SCTP interface by this MME manager.
Shutdown Chunks	The total SCTP packets with SHUTDOWN transmitted over SCTP interface by this MME manager.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK transmitted over SCTP interface by this MME manager.
Cookie Chunks	The total SCTP packets with COOKIE transmitted over SCTP interface by this MME manager.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK transmitted over SCTP interface by this MME manager.
Data Chunks	The total SCTP packets with DATA transmitted over SCTP interface by this MME manager.
Data Ack Chunks	The total SCTP packets with DATA-ACK transmitted over SCTP interface by this MME manager.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE transmitted over SCTP interface by this MME manager.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT transmitted over SCTP interface by this MME manager.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK transmitted over SCTP interface by this MME manager.
Abort Chunks	The total SCTP packets with ABORT transmitted over SCTP interface by this MME manager.
Error Chunks	The total SCTP packets with ERROR transmitted over SCTP interface by this MME manager.
Received SCTP Data	This sub-group displays the statistics of the total data received over SCTP interface and processed by this MME manager.
Init Chunks	The total SCTP packets with INIT received over SCTP interface by this MME manager.
Init Ack Chunks	The total SCTP packets with INIT-ACK received over SCTP interface by this MME manager.
Shutdown Chunks	The total SCTP packets with SHUTDOWN received over SCTP interface by this MME manager.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK received over SCTP interface by this MME manager.

Field	Description
Cookie Chunks	The total SCTP packets with COOKIE received over SCTP interface by this MME manager.
Cookie Ack Chunks	The total SCTP packets with COOKIE-ACK received over SCTP interface by this MME manager.
Data Chunks	The total SCTP packets with DATA received over SCTP interface by this MME manager.
Data Ack Chunks	The total SCTP packets with DATA-ACK received over SCTP interface by this MME manager.
Shutdown Complete Chunks	The total SCTP packets with SHUTDOWN-COMPLETE received over SCTP interface by this MME manager.
Heartbeat Chunks	The total SCTP packets with HEARTBEAT received over SCTP interface by this MME manager.
HeartBeat Ack Chunks	The total SCTP packets with HEARTBEAT-ACK received over SCTP interface by this MME manager.
Abort Chunks	The total SCTP packets with ABORT received over SCTP interface by this MME manager.
Error Chunks	The total SCTP packets with ERROR received over SCTP interface by this MME manager.
Receive Window Adjusted	The number of times the SCTP stack adjusts the SCTP peer receive window size.
Retransmitted SCTP Data	This sub-group displays the statistics of the total data processed and retransmitted over SCTP interface by this MME manager.
Init Chunks	The total SCTP packets with INIT retransmitted over SCTP interface by this MME manager.
Shutdown Chunks	The total SCTP packets with SHUTDOWN retransmitted over SCTP interface by this MME manager.
Shutdown Ack Chunks	The total SCTP packets with SHUTDOWN-ACK retransmitted over SCTP interface by this MME manager.
Cookie Chunks	The total SCTP packets with COOKIE retransmitted over SCTP interface by this MME manager.
Data Chunks	The total SCTP packets with DATA transmitted over SCTP interface by this MME manager.
Total Bytes Sent	The total bytes processed and sent over SCTP interface by this MME manager.
Total Bytes Received	The total bytes received over SCTP interface by this MME manager for processing.
Total Packets Sent	The total packets processed and sent over SCTP interface by this MME manager.

Field	Description
Total Packets Received	The total packets received over SCTP interface by this MME manager for processing.
TAI Statistics	
PDN type IPv4 only	Counter for PDN Connectivity Reject with cause 50.
PDN type IPv6 only	Counter for PDN Connectivity Reject with cause 51.
S1AP Statistics	
Transmitted S1AP Data	This sub-group displays the statistics of the total data processed and transmitted over S1 Application Protocol (S1AP) interface by this MME manager to eNodeB.
S1 Setup Resp	The total number of S1 SETUP RESPONSE messages for S1 setup procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
S1 Setup Fail	The total number of S1 SETUP FAILURE messages for S1 setup procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Reset	The total number of S1 RESET messages for S1 reset procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Reset Ack	The total number of S1 RESET-ACK messages for S1 reset procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Overload Start	The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Overload Stop	The total number of OVERLOAD-START messages for S1 overload start procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
MME Dir Information Transfer	The total number of MME DIRECT INFORMATION TRANSFER messages for MME Direct Information Transfer procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
Paging	The total number of PAGING messages for paging procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
eNB Config Update Ack	The total number of ENB CONFIGURATION UPDATE ACK messages for eNodeB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
eNB Config Update Fail	The total number of ENB CONFIGURATION UPDATE FAILURE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
S1AP Msg Encode Fail	The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
E-RAB Setup Req	The total number of E-RAB setup request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.

Field	Description
E-RAB Modify Req	The total number of E-RAB modify request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
E-RAB Release Command	The total number of E-RAB release request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
E-RAB Bearer Setup Attempted	The total number of bearers for which E-RAB setup request message was sent.
E-RAB Bearer Setup Success Rate	The percentage of total number of E-RABs successfully setup at RAN, as perceived on MME from S1-AP messages
E-RAB Bearer Setup Failure Rate	The percentage of total number of E-RABs failed to setup at RAN, as perceived on MME from S1-AP messages
E-RAB Bearer Modify Attempted	The total number of bearers for which E-RAB modification request message was sent.
E-RAB Bearer Modify Success Rate	The percentage of total number of E-RABs successfully modified at RAN, as perceived on MME from S1-AP messages
E-RAB Bearer Modify Failure Rate	The percentage of total number of E-RABs failure to modified at RAN, as perceived on MME from S1-AP messages
E-RAB Modification Cfm	Indicates the number of E-RAB Modification Confirm messages sent by MME upon successful E-RAB modification procedure.
Initial Ctxt Setup Req	The total number of initial context setup request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
UE Ctxt Release Command	The total number of initial UE context release command messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
UE Context Modify Req	The total number of UE context modify request messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Downlink NAS Transport	The total number of NAS Transport in downlink messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Error Ind	The total number of S1AP messages with error-indication processed and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Command	The total number of S1AP messages with handover command processed and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Prep Fail	The total number of S1AP messages generated for handover preparation failure procedure and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Request	The total number of S1AP messages with handover request processed and transmitted over S1AP interface by this MME manager to eNodeB.
Handover Cancel Ack	The total number of HANDOVER_CANCEL_ACK messages processed and transmitted over S1AP interface by this MME manager to eNodeB.

Field	Description
Path Switch Request Ack	The total number of PATH_SWITCH_REQ_ACK messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Path Switch Request Fail	The total number of PATH_SWITCH_REQ_FAIL messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
Downlink S1 CDMA2000	The total number of CDMA2000 request messages processed and transmitted over S1AP interface by S1 tunneling to interact with cdma2000 network in downlink direction by this MME manager to eNodeB.
Trace Start	The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace started for specific session by this MME manager to eNodeB.
Deactivate Trace	The total number of messages processed and transmitted over S1AP interface to indicate that Session Trace deactivated for specific session by this MME manager to eNodeB.
MME Status Transfer	The total number of messages processed and transmitted over S1AP interface to indicate the MME status by this MME manager to eNodeB.
Loc Report Control	The total number of LOCATION REPORT CONTROL messages sent by the MME to the eNodeB requesting the current location of the UE.
MME Config Update	The total number of MME CONFIGURATION UPDATE messages sent by the MME to the eNodeB for the purpose of updating the Transport Network Layer (TNL) association. The TNL association is required for the MME and eNodeB to interoperate correctly across the S1 interface.
S1AP Encode Fail	The total number of failure occurred during S1AP encode procedure and S1AP ENCODE FAILURE messages processed and transmitted over S1AP interface by this MME manager to eNodeB.
MME Config Transfer	The total number of MME CONFIGURATION TRANSFER messages sent by the MME to the eNodeB for the purpose of transferring RAN configuration information.
Paging Dropped	The total number of S1 Paging requests dropped for all MME services. This counter increments when an S1 paging request is dropped because the number of S1 paging requests received exceeded the S1 paging rate threshold as configured in the Global Config Mode command: **network-overload-protection mme-tx-msg-rate-control enb s1-paging**.
Downlink Non-UE LPPaTpt	The total number of non-UE downlink transport messages sent by the MME to the eNodeB for LPPa (LTE Positioning Protocol annex).
Downlink UE LPPaTpt	The total number of UE downlink transport messages sent by the MME to the eNodeB for LPPa.
Kill Request	The total number of CMAS Kill Request messages sent by the MME to the eNodeB. This message is forwarded by the MME to eNodeB to cancel an already ongoing broadcast of a warning message.

Field	Description
Write-Replace Warn Req	The total number of CMAS Write-Replace Warning Request messages sent by the MME to the eNodeB. This message is sent by the MME to request the start or overwrite of the broadcast of a warning message.
Received S1AP Data	This sub-group displays the statistics of the total data received over S1AP interface by this MME manager from eNodeB.
S1 Setup Req	The total number of S1 SETUP REQUEST messages for S1 setup procedure received over S1AP interface by this MME manager from eNodeB.
Reset	The total number of S1 RESET messages for S1 reset procedure received over S1AP interface by this MME manager from eNodeB.
Reset Ack	The total number of S1 RESET-ACK messages for S1 reset procedure received over S1-P interface by this MME manager from eNodeB.
eNB Dir Info Transfer	The total number of ENB DIRECT INFORMATION TRANSFER messages for eNodeB Direct Information Transfer procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
eNB Config Update	The total number of ENB CONFIGURATION UPDATE messages for eNB Configuration Update procedure processed and transmitted over S1AP interface by this MME manager to eNodeB.
S1AP Msg Decode Failure	The total number of failure occurred during S1AP control message decoding procedure by eNodeB and S1AP DECODE FAILURE messages received over S1AP interface by this MME manager from eNodeB.
S1AP Msg Unexpected	The total number of failure occurred due to unexpected events during S1AP control message procedure at eNodeB and S1AP UNEXPECTED EVENT messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Setup Resp	The total number of E-RAB setup request response messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Modify Resp	The total number of E-RAB modify request response messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Release Resp	The total number of E-RAB release request response messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Release Ind	The total number of E-RAB release indicator messages received over S1AP interface by this MME manager from eNodeB.
E-RAB Mod Ind	Indicates the number of E-RAB Modification Indication messages received from the master eNodeB.
Initial Ctxt Setup Resp	The total number of initial context setup request response messages received over S1AP interface by this MME manager from eNodeB.
Initial Ctxt Setup Fail	The total number of initial UE context setup failure messages received over S1AP interface by this MME manager from eNodeB.

Field	Description
UE Contxt Release Req	The total number of initial UE context release command messages received over S1AP interface by this MME manager from eNodeB.
UE Ctxt Release Comp	The total number of UE context release request messages received over S1AP interface by this MME manager from eNodeB.
UE Context Modify Resp	The total number of UE context modify request messages received over S1AP interface by this MME manager from eNodeB.
UE Ctxt Modify Fail	The total number of UE context modify request failure messages received over S1AP interface by this MME manager from eNodeB.
Initial UE Message	The total number of initial UE messages received over S1AP interface by this MME manager from eNodeB.
Uplink NAS Transport	The total number of NAS Transport in Uplink direction messages received over S1AP interface by this MME manager from eNodeB.
NAS Non-Delivery Ind	The total number of S1AP messages for NAS non delivery indication received over S1AP interface by this MME manager from eNodeB.
Error Indication	The total number of S1AP messages with error-indication received over S1AP interface by this MME manager from eNodeB.
Handover Request Ack	The total number of ACK messages for handover request received over S1AP interface by this MME manager from eNodeB.
Handover Cancel	The total number of handover cancel messages received over S1AP interface by this MME manager from eNodeB.
Handover Required	The total number of handover required messages received over S1AP interface by this MME manager from eNodeB.
Handover Fail	The total number of HANDOVER_FAILURE messages received over S1AP interface by this MME manager from eNodeB.
Handover Notify	The total number of HANDOVER_NOTIFY messages received over S1AP interface by this MME manager from eNodeB.
Path Switch Req	The total number of PATH_SWITCH_REQ messages received over S1AP interface by this MME manager from eNodeB.
eNB Status Transfer	The total number of messages received for eNodeB status transfer message over S1AP interface by this MME manager from eNodeB.
UE Capability Info Ind	The total number of messages with UE capability information indication received over S1AP interface by this MME manager from eNodeB.
Uplink S1 CDMA2000	The total number of response messages for S1 tunneling with cdma2000 network in uplink direction received over S1AP interface by this MME manager from eNodeB.

Field	Description
Trace Failure Ind	The total number of response messages with Session Trace failure indication for specific session received over S1AP interface by this MME manager from eNodeB.
Location Report	The total number of LOCATION REPORT messages sent by the eNodeB to the MME providing the UE's location.
Loc Report Fail Ind	The total number of LOCATION REPORT FAILURE INDICATION messages sent by the eNodeB to the MME indicating that a LOCATION REPORT CONTROL procedure has failed due to an interaction with a handover procedure.
S1AP Decode Fail	The total number of response message indicating S1AP decode failure received over S1AP interface by this MME manager from eNodeB.
MME Config Update Fail	The total number of MME CONFIGURATION UPDATE FAILURE messages sent by the eNodeB to the MME indicating an S1-MME configuration update failure.
MME Config Update Ack	The total number of MME CONFIGURATION UPDATE ACKNOWLEDGEMENT messages sent by the eNodeB indicating the receipt of the Transport Network Layer (TNL) association information.
S1AP Unexpected Event	The total number of message indicating failure due to unexpected event received over S1AP interface by this MME manager from eNodeB.
eNB Config Transfer	The total number of ENB CONFIGURATION TRANSFER message received by the MME from the eNodeB for the purpose of transferring RAN configuration information.
Uplink Non-UE LPPaTpt	The total number of non-UE uplink transport messages received by the MME from the eNodeB for LPPa (LTE Positioning Protocol annex).
Uplink UE LPPaTpt	The total number of UE uplink transport messages received by the MME from the eNodeB for LPPa.
Kill Response	The total number of CMAS Kill Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to indicate the list of warning areas where cancellation of the broadcast of the identified message was successful and unsuccessful.
Write-Replace Warn Resp	The total number of CMAS Write-Replace Warning Response messages received by the MME from the eNodeB. This message is sent by the eNodeB to acknowledge the MME on the start or overwrite request of a warning message.
Cell Traffic Trace	The total number of Cell Traffic Trace messages by the MME from eNodeB.
Radio Network Error Statistics	This sub-group displays error indication statistics between the MME and the eNodeB.
Unknown MME UE S1AP Id	The total number of times an MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.
Unknown ENB UE S1AP Id	The total number of times an ENB UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.

Field	Description
Unknown UE S1AP Id Pair	The total number of times an ENB and MME UE S1AP ID was not included in an error indication message received by the MME from the eNodeB.
Protocol Error Statistics	This sub-group displays protocol error statistics for S1AP messages received by the MME.
Transfer Syntax Error	The total number of messages received by the MME from the eNodeB containing a Transfer Syntax Error.
Semantic Error	The total number of messages received by the MME from the eNodeB containing a Semantic Error.
Message Not Compatible	The total number of messages received by the MME from the eNodeB that were not compatible with the receiver state.
Abstract Syntax Error	This sub-group displays abstract syntax error statistics for S1AP messages received by the MME from the eNodeB.
Reject	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "reject".
Ignore And Notify	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error with a criticality of "ignore and notify".
Falsely Constr Msg	The total number of S1AP messages received by the MME from the eNodeB containing an Abstract Syntax Error because the message contained IEs or IE groups in the wrong order or with too many occurrences.
eNodeB Statistics	This sub-group displays eNodeB statistics for S1AP messages received by the MME from the eNodeB.
Total eNodeB Associations	The total number of eNodeB associations
EMM (Evolved Mobility Management) Statistics	
EPS Associations by Attach using IMSI	This sub-group displays all EMM Evolved Packet System (EPS) IMSI attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations for Emergency Bearer Services	This sub-group displays all EMM Emergency Bearer Service attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by Attach using IMEI	This sub-group displays all EMM IMEI (International Mobile Equipment Identity) attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by Attach using Local GUTI	This sub-group displays all EMM EPS local GUTI (Globally Unique Temporary ID) attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by Attach using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI attach association attempts/successes/failures associated with all MME services on the chassis.

Field	Description
EPS Associations by Attach using P-TMSI	This sub-group displays all EMM EPS P-TMSI (Packet Temporary Mobile Subscriber Identity) attach association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by TAU using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI tracking area update association attempts/successes/failures associated with all MME services on the chassis.
EPS Associations by TAU using P-TMSI	This sub-group displays all EMM EPS P-TMSI tracking area update association attempts/successes/failures associated with all MME services on the chassis.
Associations by Combined Attach using IMSI	This sub-group displays all EMM EPS IMSI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined Attach using Local GUTI	This sub-group displays all EMM EPS local GUTI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined Attach using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined Attach using P-TMSI	This sub-group displays all EMM EPS P-TMSI combined attach association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.

Field	Description
Associations by Combined TAU using Foreign GUTI	This sub-group displays all EMM EPS foreign GUTI combined tracking area update association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Associations by Combined TAU using P-TMSI	This sub-group displays all EMM EPS P-TMSI combined tracking area update association attempts, successes, EPS Only successes, and failures associated with all MME services on the chassis. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Authentications	This sub-group displays all EMM authentication attempts/successes/failures associated with all MME services on the system.
Identity	This sub-group displays all EMM identity event attempts/successes/failures associated with all MME services on the system.
Security	This sub-group displays all EMM security event attempts/successes/failures associated with all MME services on the system.
Dynamic TAI List Periodic TAU	This sub-group displays the number of attempts, successes, and failures of Dynamic TAI list periodic tracking area update (TAU).
Dynamic TAI List Normal TAU without SGW Relocation	This sub-group displays the number of Dynamic TAI List Norma TAU, without S-GW relocation, attempts, successes, or failures associated with all MME services.
Dynamic TAI List TAU with Bearer Activation	This sub-group displays the number of Dynamic TAI list TAU, with bearer actvation, attempts, successes, or failures associated with all MME services.
Dynamic TAI List TAU with SGW Relocation	This sub-group displays the number of Dynamic TAI List TAU, with S-GW relocation, attempts, successes, or failures associated with all MME services.
ESM (Evolved S Management) Statistics	
PDN type IPv4 only	Counter for PDN Connectivity Reject with cause 50.
PDN type IPv6 only	Counter for PDN Connectivity Reject with cause 51.
GUTI Relocation	This sub-group displays all GUTI relocation event attempts/successes/failures associated with all MME services on the system.
Periodic TAU	This sub-group displays all periodic tracking area update (TAU) attempts/successes/failures associated with all MME services on the system.

Field	Description
Normal TAU without SGW Relocation	This sub-group displays all EMM normal tracking area update, without S-GW relocation, attempts/successes/failures associated with all MME services on the chassis. **Important** In Release 15.0 and later, this counter will only display EPC related TAU.
TAU with Bearer Activation	This sub-group displays all EMM tracking area update, with bearer activation, attempts/successes/failures associated with all MME services on the chassis.
TAU with SGW Relocation	This sub-group displays all EMM tracking area update, with S-GW relocation, attempts/successes/failures associated with all MME services on the chassis. **Important** In Release 15.0 and later, this counter will only display EPC related TAU.
Combined TA/LA Updating without SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating" and the signaled Tracking area did not need SGW relocation.
Attempted	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area does not need SGW relocation.
Success	The total number of TAU procedures with update type "combined TA/LA updating" that is executed successfully by the MME.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating" that failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating" that failed. Usually, this would be the case where no SGW could be found for the tracking area.
Combined TA/LA Updating with SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating" and the signaled Tracking area required change of the SGW.
Attempted	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW.
Success	The total number of TAU procedures with update type "combined TA/LA updating" successfully attempted by the UE and the signaled Tracking area required change of the SGW.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure.

Field	Description
TAU with IMSI attach without SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating with IMSI attach" and the signaled Tracking area did not require change of the SGW.
Attempted	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW.
Success	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" successfully attempted by the UE and the signaled Tracking area did not require change of the SGW.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW, and failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area did not require change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure.
TAU with IMSI attach and SGW Relocation	This sub-group displays all TAU procedures with update type "combined TA/LA updating with IMSI attach" and the signaled Tracking area required change of the SGW
Attempted	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW.
Success	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" successfully attempted by the UE and the signaled Tracking area required change of the SGW.
Success EPS Only	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during updating the VLR.
Failure	The total number of TAU procedures with update type "combined TA/LA updating with IMSI attach" attempted by the UE and the signaled Tracking area required change of the SGW, and failed during EPC procedures. Usually, during SGW relocation procedure.
Detaches UE Initiated	This sub-group displays all UE-initiated detach attempts/successes/failures associated with all MME services on the system.
Detaches NW Initiated	This sub-group displays all network-initiated detach attempts/successes/failures associated with all MME services on the system.
Detaches HSS Initiated	This sub-group displays all HSS-initiated (Home Subscriber Server) detach attempts/successes/failures associated with all MME services on the system.

Field	Description
Mobile Terminated Location Service	This sub-group displays all Mobile Terminated Location Request (MT-LR) Location Service (LCS) attempts/successes/failures associated with all MME services on the system.
Network Induced Location Request	This sub-group displays all Network Induced Location Request (NI-LR) Location Service (LCS) attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for specific EMM event associated with all MME services on the system.
Success	The total number of successful attempts for specific EMM event associated with all MME services on the system.
Success EPS Only	The total number of successful, EPS-only, attempts for specific EMM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific EMM event associated with all MME services on the system.
SGW Selection	Specifies the Blackisted SGW selected.
Blacklisted SGW chosen	specifies the number of times a blacklisted SGW is selected when all SGWs are blacklisted.
ECM Statistics	This group displays the statistics of all EMM Control Management (ECM) events associated with all MME services on the system.
Idle Mode Entry Events	This sub-group displays all idle mode entry event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for the specific ECM event associated with all MME services on the system.
Success	The total number of successful attempts for the specific ECM event associated with all MME services on the system.
Failures	The total number of attempts failed for the specific ECM event associated with all MME services on the system.
Service Request Events	This sub-group displays the ECM service request event attempts/successes/ failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **UE Requested Service Request Events** and **NW Initiated Service Request Events** groups.
UE Initiated Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been initiated by the UE for all MME services on the system.
NW Initiated Service Request Events	This group displays the ECM service request event attempts/successes/failures which have been initiated by the network for all MME services on the system.

Field	Description
Paging Initiation Events	This group displays all paging initiation event attempts/successes/failures associated with all MME services on the system. **Important** In Release 15.0 and later, this group of counters is deprecated and replaced by the more granular groups, such as:**Paging Initiation Events for PS QCI-*n* Events**, **Paging Initiation Events for CS Voice Events**, **Paging Initiation Events for CS SMS Events**, and **Paging Initiation Events for CS Other Events**.
Attempted	The total number of attempts made for the specific ECM event associated with all MME services on the system.
Success	The total number of successful attempts for the specific ECM event associated with all MME services on the system.
Failures	The total number of attempts failed for the specific ECM event associated with all MME services on the system.
Success at Last eNBs	The total number of successful pages where the UE responded at the last known eNodeB. **Important** In Release 14.0 and later, this output field has been replaced by the following "Success at Last n eNBs" output field.
Success at Last n eNBs	The total number of successful pages where the UE responded at the last n known eNodeBs.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked.
Paging Initiation for PS QCI-*n* Events	This group displays the ECM Paging Initiation Events for PS Event attempts/successes/failures associated with all MME services on the system. Statistics are grouped according to the QoS Class Identifier (QCI) value, where *n* represents the specific QCI value.
Attempted	The total number of attempts made for PS events.
Success	The total number of successful attempts made for PS events.
Failures	The total number of attempts failed for PS events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for PS events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for PS events.

Field	Description
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for PS events.
Paging Initiation for CS Voice Events	This group displays the ECM Paging Initiation Events for CS Voice Event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for CS Voice events.
Success	The total number of successful attempts made for CS Voice events.
Failures	The total number of attempts failed for CS Voice events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for CS Voice events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS Voice events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for CS Voice events.
Paging Initiation for CS SMS Events	This group displays the ECM Paging Initiation Events for CS SMS Event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for CS SMS events.
Success	The total number of successful attempts made for CS SMS events.
Failures	The total number of attempts failed for CS SMS events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for CS SMS events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS SMS events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for CS SMS events.
Paging Initiation for CS Other Events	This group displays the ECM Paging Initiation Events for CS Other Event attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts made for CS Other events.
Success	The total number of successful attempts made for CS Other events.
Failures	The total number of attempts failed for CS Other events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for CS Other events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for CS Other events.

Field	Description
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for CS Other events.
Paging Initiation for CS Unknown UE:	
Attempted	Displays the number of times when the session manager sends paging request to at least 1 MME manager.
Skipped	Displays the number of times when the session manager skips sending paging request to at least 1 busy MME manager.
Paging Initiation for SIGNALING IDR Events	This group displays the ECM Paging Initiation Events for IDR Signaling attempts/successes/failures associated with all MME services on the system
Attempted	The total number of attempts made for IDR Signaling events.
Success	The total number of successful attempts made for IDR Signaling events.
Failures	The total number of attempts failed for IDR Signaling events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for IDR Signaling events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for IDR Signaling events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for IDR Signaling events.
Paging Initiation for SIGNALING DETACH Events	This group displays the ECM Paging Initiation Events for Detach Signaling attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for Detach Signaling events.
Success	The total number of successful attempts made for Detach Signaling events.
Failures	The total number of attempts failed for Detach Signaling events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for Detach Signaling events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for Detach Signaling events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for Detach Signaling events.
Paging Initiation for SIGNALING LCS Events	This group displays the ECM Paging Initiation Events for Location Services Signaling attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for Location Services Signaling events.

Field	Description
Success	The total number of successful attempts made for Location Services Signaling events.
Failures	The total number of attempts failed for Location Services Signaling events.
Success at Last n eNB	The total number of successful pages where the UE responded at the last n known eNodeBs for Location Services Signaling events.
Success at Last TAI	The total number of successful pages where the UE responded at the last known Tracking Area Identifier for Location Services Signaling events.
Success at TAI List	The total number of successful pages where the UE responded after the entire TAI list was checked for Location Services Signaling events.
Paging Initiation for SIGNALING Node Restoration Events	This group displays the ECM Paging Initiation Events for Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) Signaling attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that were attempted.
Success	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that were successful.
Failures	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that failed.
Success at Last n eNB	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at the last known eNodeB (paging profile used: last-n-enb-last-tai).
Success at Last TAI	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at an eNodeB in the TAI from which the UE was last heard (paging profile used: all-enb-last-tai).
Success at TAI List	The total number of ECM Statistics-related Paging requests to deactive a PDN due to Node Restoration (P-GW Restart Notification) that succeeded at an eNodeB in all TAIs present in the TAI list assigned to the UE (paging profile used: all-enb-all-tai).
S1 release for load rebalancing	The number of S1 releases occurring due to IDLE MODE ENTRY procedure with a load rebalancing cause.
CSFB Statistics	
UE Initiated Voice Procedures	This group displays the total number of CSFB Statistics-related UE initiated Voice procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for UE initiated Voice procedures.
Success	The total number of successful attempts for UE initiated Voice procedures.

Field	Description
Failures	The total number of failed attempts for UE initiated Voice procedures.
NW Initiated Voice Procedures	This group displays the total number of CSFB Statistics-related network initiated Voice procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for network initiated Voice procedures.
Success	The total number of successful attempts for network initiated Voice procedures.
Failures	The total number of failed attempts for network initiated Voice procedures.
UE Initiated SMS Procedures	This group displays the total number of CSFB Statistics-related UE initiated SMS procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for UE initiated SMS procedures.
Success	The total number of successful attempts for UE initiated SMS procedures.
Failures	The total number of failed attempts for UE initiated SMS procedures.
NW Initiated SMS Procedures	This group displays the total number of CSFB Statistics-related network initiated SMS procedures attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for network initiated SMS procedures.
Success	The total number of successful attempts for network initiated SMS procedures.
Failures	The total number of failed attempts for network initiated SMS procedures.
UE Initiated IMSI Detaches	This group displays the total number of CSFB Statistics-related UE initiated IMSI detaches attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for UE initiated IMSI detaches.
Success	The total number of successful attempts for UE initiated IMSI detaches.
Failures	The total number of failed attempts for UE initiated IMSI detaches.
NW Initiated IMSI Detaches	This group displays the total number of CSFB Statistics-related network initiated IMSI detaches attempts/successes/ failures associated with all MME services on the system.
Attempted	The total number of attempts for network initiated IMSI detaches.
Success	The total number of successful attempts for network initiated IMSI detaches.
Failures	The total number of failed attempts for network initiated IMSI detaches.
Total EMM Control Messages	

Field	Description
Sent	This sub-group displays the total number of EPS Mobility Management (EMM) control messages sent for specific event associated with all MME services on the system.
Clear-text messages	The total number of plain EMM messages (neither integrity protected nor ciphered) sent by all MME services on the system.
Integrity-check enabled	The total number of integrity protected EMM messages sent by all MME services on the system.
Ciphered messages	The total number of ciphered EMM messages sent by all MME services on the system.
Retransmissions sent	The total number of EMM retransmission messages sent by all MME services on the system. For example, an Attach Accept may be retransmitted *n* number of times if no response (Attach Complete) is received from the UE.
Failures	The total number of EMM control messages not sent due to lower layer failure for all MME services on the system.
Attach Accept	The total number of EMM Attach Accept messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Attach Accept messages sent for a specific ECM event associated with all MME services on the system.
IMSI Unknown in HSS	The total number of EMM Control messages sent – Attach Accept with a cause code of IMSI unknown.
MSC Unreachable	The total number of EMM Control messages sent – Attach Accept with a cause code of MSC not available.
Network Failure	The total number of EMM Control messages sent – Attach Accept with a cause code of Network Failure.
CS Domain Not Available	The total number of EMM Control messages sent – Attach Accept with a cause code of CS domain not available.
Congestion	The total number of EMM Control messages sent – Attach Accept with a cause code of Congestion.
Attach Reject	The total number of EMM Attach Reject messages sent.
IMSI Unknown in HSS	The total number of EMM Attach Reject messages sent, with the cause code #2: "IMSI Unknown in HSS".
Illegal UE	The total number of EMM Attach Reject messages sent with the cause code #3: "Illegal UE".
Illegal ME	The total number of EMM Attach Reject messages sent with the cause code #6: "Illegal ME".

Field	Description
EPS Not Allowed	The total number of EMM Attach Reject messages sent with the cause code #7: "EPS Services Not Allowed".
Network Failure	The total number of EMM Attach Reject messages sent with the cause code #17: "Network Failure".
CSG Not Subscribed	The total number of EMM Attach Reject messages sent with the cause code of #25: "Not authorized for this CSG".
Decode Failure	The total number of EMM Attach Reject messages sent with the cause code #23: "Decode Failure".
IMEI Not Accepted	The total number of EMM Attach Reject messages sent with the cause code #5: "IMEI Not Accepted".
Roaming restricted TA	The total number of EMM Attach Reject messages sent with the cause code #13: "Roaming restricted in TA".
PLMN not allowed	The total number of EMM Attach Reject messages sent with the cause code #11: "PLMN not allowed".
TA not allowed	The total number of EMM Attach Reject messages sent with the cause code #12: "Tracking Area not allowed".
No suitable cells in TA	The total number of EMM Attach Reject messages sent with the cause code #15: "No suitable cells in TA".
EPS non-EPS Not Allwd	The total number of EMM Attach Reject messages sent with the cause code #8: "EPS services and non-EPS services not allowed".
No EPS Svc in this PLMN	The total number of EMM Attach Reject messages sent with the cause code #14: "EPS service not allowed in this plmn".
Congestion	The total number of EMM Attach Reject messages sent with cause #22: "Congestion".
Severe Network Failure	The total number of EMM Attach Reject messages sent with cause #42: "Severe Network Failure".
ESM Failure	The total number of EMM Attach Reject messages sent with the cause "ESM Failure" for a specific ECM event associated with all MME services on the system.
Rejected by PGW/SGW	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #30: "Rejected by PGW/SGW".
Authentication Failed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #29: "Authentication Failed".
Svc Opt Not Supported	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #32: "Svc Opt Not Supported".
Svc Opt Not Subscribed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #33: "Svc Opt Not Subscribed".

Field	Description
Unknown APN	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #27: "Unknown or Missing APN".
Opr Determined Barring	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #8: "Operator Determined Barring".
Insufficient Resource	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #26: "Insufficient Resources".
Activation Rejected	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #31: "Request rejected, unspecified".
Svc Opt Tmp OutofOrder	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #34: "Service Option Temporarily Out of Order".
Protocol Errors	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with any of the following Protocol Error cause codes: #95-101, or #111.
APN Restrict Incomt	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content".
No Attach Reject/Accept	The total number of Attach Accept or Reject messages not sent for Attach requests.
Authentication Fail	The total number of authentication failed and an Attach Accept or Reject message is not sent.
UE initiated detach	The total number of attach requests failed due to collision between an attach request and UE initiated detach and an Attach Accept or Reject message is not sent.
Detach in progress	The total number of attach requests failed due to collision between an attach request and NW initiated detach and an Attach Accept or Reject message is not sent.
Different Attach Recvd	The total number of attach request failed due to collision between two different attach requests with different IEs and the first attach request is dropped and an Attach Accept or Reject message is not sent.
Authentication Reject	The total number of EMM Attach Reject messages sent with the cause "Authentication Reject".
Authentication Request	The total number of EMM Authentication Request messages sent.
Retransmissions	The total number of retransmitted EMM Authentication Request messages sent.
Detach Request	The total number of EMM Detach Request messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Detach Request messages sent for a specific ECM event associated with all MME services on the system.
Reattach Required	The total number of EMM Detach Request messages sent, with the reason "Reattach Required", for a specific ECM event associated with all MME services on the system.

Field	Description
Reattach Not Required	The total number of EMM Detach Request messages sent, with the reason "Reattach Not Required", for a specific ECM event associated with all MME services on the system.
IMSI Detach	The total number of EMM Detach Request messages sent, with the reason "IMSI Detach", for a specific ECM event associated with all MME services on the system. **Important** This statistic is available in Releases prior to 12.2 as well as 15.0 and later.
CSG Not Subscribed	The total number of EMM Detach Request messages sent with the cause code of #25: "Not authorized for this CSG". This occurs when the Initial UE Message sent from the eNodeB specifies a non-hybrid CSG cell whose CSG ID is not included in the UE's CSG subscription list. In this circumstance, the MME initiates a Detach procedure with this cause code.
Detach Accept	The total number of EMM Detach Accept messages sent for a specific ECM event associated with all MME services on the system.
Downlink NAS Transport	The total number of EMM Downlink NAS Transport messages sent for a specific ECM event associated with all MME services on the system.
EMM Information	The total number of EMM Information messages sent for a specific ECM event associated with all MME services on the system.
EMM Status	The total number of EMM Status messages sent for a specific ECM event associated with all MME services on the system.
GUTI Relocation	The total number of EMM GUTI Relocation messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM GUTI Relocation messages sent for a specific ECM event associated with all MME services on the system.
Identity Request	The total number of EMM Identity Request messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Identity Request messages sent for a specific ECM event associated with all MME services on the system.
Security Mode Command	The total number of EMM Security Mode Command messages sent for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Security Mode Command messages sent for a specific ECM event associated with all MME services on the system.
Service Reject	The total number of EMM Service Reject messages sent.
UE Identity Unknown	The total number of EMM Service Reject messages sent, with a cause code of #9:"UE identity cannot be derived by the network".

Field	Description
Implicitly Detached	The total number of EMM Service Reject messages sent, with a cause code of #10: "Implicitly Detached".
No Bearer Active	The total number of EMM Service Reject messages sent, with a cause code of #40: "No EPS bearer context activated".
CSG Not Subscribed	The total number of EMM Service Reject messages sent, with a cause code of #25: "Not authorized for this CSG".
Roaming Restricted TA	The total number of EMM Service Reject messages sent, with a cause code of #13: "Roaming not allowed in this tracking area".
No suitable cells in TA	The total number of EMM Service Reject messages sent, with a cause code of #15: "No suitable cells in tracking area".
TA Not Allowed	The total number of EMM Service Reject messages sent, with a cause code of #12: "Tracking area not allowed".
Congestion	The total number of EMM Service Reject messages sent with cause #22: "Congestion".
TAU Accept Total	The total number of EMM TAU Accept messages sent (for either an Inter- or Intra-MME TAU request). **Note:** If the MME retransmits a TAU Accept message, only the "Retransmissions" counter will be incremented.
Retransmissions	The total number of EMM TAU Accept messages retransmitted (for either an Inter- or Intra-MME TAU request).
IMSI Unknown in HSS	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #22: "Congestion".
TAU Accept Intra MME	The total number of TAU Accept messages sent for an Intra-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".

Field	Description
MSC Unreachable	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #22: "Congestion".
TAU Accept Inter MME	The total number of TAU Accept messages sent for an Inter-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #22: "Congestion".
TAU Reject Total	The total number of EMM TAU Reject messages sent.
IMSI Unknown in HSS	The total number of EMM TAU Reject messages sent with the cause code #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #5: "IMEI not accepted".

Field	Description
ESM Failure	The total number of EMM TAU Reject messages sent with the cause "ESM Failure". **Important** This statistic has been deprecated in Release 12.2.
Decode Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #25: Not authorized for this CSG.
EPS non-EPS not Allwd	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #8: EPS services and non-EPS services not allowed.
Congestion	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with cause #22: "Congestion".
Severe Network Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with cause #42: "Severe Network Failure".
TAU Reject Intra MME	The total number of TAU Reject messages sent for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #2: IMSI unknown in HSS.

Field	Description
Illegal UE	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".
Congestion	The total number of TAU Reject messages sent for an Intra-MME TAU request, with cause #22: "Congestion".
Severe Network Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request, with cause #42: "Severe Network Failure".

Field	Description
TAU Reject Inter MME	The total number of TAU Reject messages sent for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".

Field	Description
Congestion	The total number of TAU Reject messages sent for an Inter-MME TAU request, with cause #22: "Congestion".
Severe Network Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with cause #42: "Severe Network Failure".
No TAU Rej/Accept Total	The total number of TAU Accept or Reject messages not sent for TAU (Intra-MME + Inter-node) requests.
Authentication Failed	The total number of TAU (Intra-MME + Inter-node) requests failed due to authentication failures and no TAU Accept or Reject message is sent.
UE initiated detach	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and UE initiated detach and no TAU Accept or Reject message is sent.
Detach in progress	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and NW initiated detach and no TAU Accept or Reject message is sent.
Different TAU Recvd	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between two different TAU (Intra-MME or Inter-node) requests with different IEs and the first TAU request is dropped and no TAU Accept or Reject message is sent.
Attach awaits MBResp	The total number of TAU (Intra-MME + Inter-node) requests failed due to collision between a TAU (Intra-MME or Inter-node) request and an Attach waiting for a Modify Bearer Response and no TAU Accept or Reject message is sent.
No IntraMME TAU Rej/Act	The total number TAU Accept or Reject messages not sent for Intra-MME TAU requests.
Authentication Failed	The total number Intra-MME TAU requests failed due to authentication failures and no TAU Accept or Reject message is sent.
UE initiated detach	The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and UE initiated detach and no TAU Accept or Reject message is sent.
Detach in progress	The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and NW initiated detach and no TAU Accept or Reject message is sent.
Different TAU Recvd	The total number of Intra-MME TAU requests failed due to collision between two different Intra-MME TAU requests with different IEs and the first TAU request is dropped and no TAU Accept or Reject message is sent.
Attach awaits MBResp	The total number of Intra-MME TAU requests failed due to collision between an Intra-MME TAU request and an Attach waiting for a Modify Bearer Response and no TAU Accept or Reject message is sent.
No InterNode TAU Rej/Act	The total number of TAU Accept or Reject messages not sent for Inter-node TAU requests.

Field	Description
Authentication Failed	The total number of Inter-node TAU requests failed due to authentication failure and a TAU Accept or Reject message is not sent.
UE initiated detach	The total number of Inter-node TAU requests failed due to collision between an Inter-node TAU request and UE initiated detach and a TAU Accept or Reject message is not sent.
Different TAU Recvd	The total number of Inter-node TAU requests failed due to collision between two different Inter-node TAU requests with different IEs and the first TAU request is dropped and a TAU Accept or Reject message is not sent.
CS Service Notification	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #100: "CS Service notification".
Received	This sub-group displays the statistics of all EPS Mobility Management (EMM) control messages received by an MME services on the system.
Clear-text messages	The total number of plain EMM messages (neither integrity protected nor ciphered) received by all MME services on the system.
Integrity-check enabled	The total number of integrity protected EMM messages received by all MME services on the system.
Ciphered messages	The total number of ciphered EMM messages received by all MME services on the system.
Accepted	The total number of EMM messages received by all MME services on the system and accepted for further processing.
Ignored messages	The total number of EMM control messages received by all MME services on the system, but were ignored because the MME was busy processing some other procedure.
Denied	The total number of EMM control messages received by all MME services on the system, but the security check failed for the EMM message.
Decode failures	The total number of EMM control messages received by all MME services on the system, but the MME was unable to decode the EMM message as per 3GPP TS 24.301.
Attach Complete	The total number of EMM Attach Complete messages received for a specific ECM event associated with all MME services on the system.
Attach Request	The total number of EMM Attach Request messages received for a specific ECM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted EMM Attach Request messages received for a specific ECM event associated with all MME services on the system. **Important** This field was deprecated in Release 14.0. It was introduced again in Release 15.0.

Field	Description
Authentication Failure	The total number of EMM Authentication Failure messages received for a specific ECM event associated with all MME services on the system.
Authentication Response	The total number of EMM Authentication Response messages received for a specific ECM event associated with all MME services on the system.
Identity Response	The total number of IMSI Identity Response messages received for a specific ECM event associated with all MME services on the system.
Detach Request	The total number of EMM Detach Request messages received for a specific ECM event associated with all MME services on the system.
Switch Off	The total number of EMM Detach Request messages received, with the reason "Switch Off", for a specific ECM event associated with all MME services on the system.
Not Switch Off	The total number of EMM Detach Request messages received, with the reason "Not Switch Off", for a specific ECM event associated with all MME services on the system.
IMSI Detach	The total number of EMM Detach Request messages received, with the reason "IMSI Detach", for a specific ECM event associated with all MME services on the system.
EMM Status	The total number of EMM Status messages received for a specific ECM event associated with all MME services on the system.
GUTI Reloc Complete	The total number of EMM GUTI Reloc Complete messages received for a specific ECM event associated with all MME services on the system.
Security Mode Complete	The total number of EMM Security Mode Complete messages received for a specific ECM event associated with all MME services on the system.
Security Mode Reject	The total number of EMM Security Mode Reject messages received for a specific ECM event associated with all MME services on the system.
Service Request	The total number of EMM Service Request messages received for a specific ECM event associated with all MME services on the system.
TAU Request Total	The total number of TAU Request messages received (either an Inter- or Intra-MME TAU request). **Note:** If the MME receives a TAU Request message for the same UE while the first TAU Request is in process, both the "TAU Request Total" and "Retransmissions" counters will be incremented.
Retransmissions	The total number of retransmitted TAU Request messages received (includes both Inter- and Intra-MME TAU requests). **Important** This field was deprecated in Release 14.0. It was introduced again in Release 15.0.
TAU Request Intra-MME	The total number of Intra-MME TAU Request messages received.

Field	Description
Retransmissions	The total number of retransmitted Intra-MME TAU Request messages received.
TAU Request Inter-MME	The total number of Inter-MME TAU Request messages received.
Retransmissions	The total number of retransmitted Inter-MME TAU Request messages received.
TAU Complete	The total number of EMM TAU Complete messages received for a specific ECM event associated with all MME services on the system.
Extended Service Request	The total number of EMM Extended Service Request messages received for a specific ECM event associated with all MME services on the system.
ESM Statistics	
PDN Connections	This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system.
PDN Connections with PDN-type Override to IPv4	This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system which have had the requested PDN-type overrided to IPv4.
PDN Connections with PDN-type Override to IPv6	This group displays the statistics for PDN connection attempts/successes/failures associated with all MME services on the system which have had the requested PDN-type overrided to IPv6.
UE Initiated PDN Disconnections	This group displays the statistics for UE-initiated PDN disconnection attempts/successes/failures associated with all MME services on the system.
MME Initiated PDN Disconnections	This group displays the statistics for MME-initiated PDN disconnection attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated PDN Disconnections	This group displays the statistics for P-GW/S-GW-initiated PDN disconnection attempts/successes/ failures associated with all MME services on the system.
HSS Initiated PDN Disconnections	This group displays the statistics for HSS-initiated PDN disconnection attempts/successes/ failures associated with all MME services on the system.
Default Bearer Activations	This group displays the statistics of all default EPS bearer activation attempts/successes/failures associated with all MME services on the system.
NW Initiated Dedicated Bearer Activations	This group displays the statistics of all network-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
UE Initiated Dedicated Bearer Activations	This group displays the statistics of all UE-initiated dedicated EPS bearer activation attempts/successes/failures associated with all MME services on the system.
MME Initiated Dedicated Bearer Deactivations	This group displays the statistics of all MME-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Dedicated Bearer Deactivations	This group displays the statistics of all P-GW/S-GW-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system.

Field	Description
UE Initiated Dedicated Bearer Deactivations	This group displays the statistics of all UE-initiated dedicated bearer deactivation attempts/successes/failures associated with all MME services on the system.
MME Initiated Default Bearer Deactivations	This group displays the statistics of all MME-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Default Bearer Deactivations	This group displays the statistics of all P-GW/S-GW-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system.
UE Initiated Default Bearer Deactivations	This group displays the statistics of all UE-initiated default bearer deactivation attempts/successes/failures associated with all MME services on the system.
MME Initiated Bearer Deactivations	This group displays the statistics of all MME-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **MME Initiated Dedicated Bearer Deactivations** and **MME Initiated Default Bearer Deactivations** groups.
PGW/SGW Initiated Bearer Deactivations	This group displays the statistics of all P-GW/S-GW-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **PGW/SGW Initiated Dedicated Bearer Deactivations** and **PGW/SGW Initiated Default Bearer Deactivations** groups.
UE Initiated Bearer Deactivations	This group displays the statistics of all UE-initiated bearer deactivation attempts/successes/failures associated with all MME services on the system. **Important** In Release 14.0 and later, this group of counters is deprecated and replaced by the **UE Initiated Dedicated Bearer Deactivations** and **UE Initiated Default Bearer Deactivations** groups.
HSS Initiated Bearer Modifications	This group displays the statistics of all HSS-initiated bearer modification attempts/successes/failures associated with all MME services on the system.
PGW/SGW Initiated Bearer Modifications	This group displays the statistics of all P-GW/S-GW-initiated bearer modification attempts/successes/failures associated with all MME services on the system.
UE Initiated Bearer Modifications	This group displays the statistics of all UE-initiated bearer modification attempts/successes/failures associated with all MME services on the system.
UE Initiated Emergency PDN Connections	This group displays the statistics of all UE-initiated emergency PDN connection attempts/successes/failures associated with all MME services on the system.
DCNR User PDN Connections	This group displays the statistics of all DCNR user PDN connection attempts/successes/failures associated with all MME services on the system.

Field	Description
Attempted	The total number of attempts made for specific ESM event associated with all MME services on the system.
Success	The total number of successful attempts for specific ESM event associated with all MME services on the system.
Failures	The total number of attempts failed for specific ESM event associated with all MME services on the system.
Total ESM Control Messages	
Sent	This sub-group displays the statistics of all EPS Session Management (ESM) control messages sent by an MME services on the system.
Clear-text messages	The total number of plain ESM messages (neither integrity protected nor ciphered) sent by all MME services on the system.
Integrity-check enabled	The total number of integrity protected ESM messages sent by all MME services on the system.
Ciphered messages	The total number of ciphered ESM messages sent by all MME services on the system.
Retransmissions sent	The total number of ESM retransmission messages sent by all MME services on the system. For example, an Attach Accept may be retransmitted *n* number of times if no response (Attach Complete) is received from the UE.
Failures	The total number of ESM control messages not sent due to lower layer failure for all MME services on the system.
Act Dedicated Bearer	The total number of ESM Activate Dedicated Bearer messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Activate Dedicated Bearer messages sent for a specific ECM event associated with all MME services on the system.
Act Default Bearer	The total number of ESM Activate Default Bearer messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Activate Default Bearer messages sent for a specific ECM event associated with all MME services on the system.
Bearer Alloc Reject	The total number of ESM Bearer Allocate Reject messages sent for a specific ESM event associated with all MME services on the system.
PTI Already in Use	The total number of ESM Bearer Allocate Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system.
Semantic Error TFT	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Semantic Error TFT", for a specific ESM event associated with all MME services on the system.

Field	Description
Syntactic Error TFT	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Syntactic Error TFT", for a specific ESM event associated with all MME services on the system.
Invalid Bearer Id	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system.
Collision with NW Op	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Collision with NW Op", for a specific ESM event associated with all MME services on the system.
Rejected By PGW/SGW	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Rejected By PGW/SGW", for a specific ESM event associated with all MME services on the system.
Invalid PTI	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system.
Insufficient Resources	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Insufficient Resources", for a specific ESM event associated with all MME services on the system.
Authentication failed	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Authentication failed", for a specific ESM event associated with all MME services on the system.
Sv opt not supported	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Service Option Not Supported", for a specific ESM event associated with all MME services on the system.
Svc opt not subscribed	The total number of ESM Bearer Allocate Reject messages sent, with the cause "Service Option Not Subscribed", for a specific ESM event associated with all MME services on the system.
EPS QoS Not Accepted	The total number of ESM Bearer Allocate Reject messages sent, for bearer allocation failures, with the cause "EPS QoS Not Accepted".
Bearer Modify Reject	The total number of ESM Bearer Modify Reject messages sent for a specific ESM event associated with all MME services on the system.
PTI Already in Use	The total number of ESM Bearer Modify Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system.
Semantic Error TFT	The total number of ESM Bearer Modify Reject messages sent, with the cause "Semantic Error TFT", for a specific ESM event associated with all MME services on the system.

Field	Description
Syntactic Error TFT	The total number of ESM Bearer Modify Reject messages sent, with the cause "Syntactic Error TFT", for a specific ESM event associated with all MME services on the system.
Invalid Bearer Id	The total number of ESM Bearer Modify Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system.
Collision with NW Op	The total number of ESM Bearer Modify Reject messages sent, with the cause "Collision with NW Op", for a specific ESM event associated with all MME services on the system.
Rejected By PGW/SGW	The total number of ESM Bearer Modify Reject messages sent, with the cause "Rejected By PGW/SGW", for a specific ESM event associated with all MME services on the system.
Invalid PTI	The total number of ESM Bearer Modify Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system.
Insufficient Resources	The total number of ESM Bearer Modify Reject messages sent, with the cause "Insufficient Resources", for a specific ESM event associated with all MME services on the system.
Authentication failed	The total number of ESM Bearer Modify Reject messages sent, with the cause "Authentication failed", for a specific ESM event associated with all MME services on the system.
Sv opt not supported	The total number of ESM Bearer Modify Reject messages sent, with the cause "Service Option Not Supported", for a specific ESM event associated with all MME services on the system.
Svc opt not subscribed	The total number of ESM Bearer Modify Reject messages sent, with the cause "Service Option Not Subscribed", for a specific ESM event associated with all MME services on the system.
EPS QoS Not Accepted	The total number of ESM Bearer Modify Reject messages sent, for bearer modification failures, with the cause "EPS QoS Not Accepted".
Deactivate Bearer	The total number of ESM Deactivate Bearer messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Deactivate Bearer messages sent for a specific ECM event associated with all MME services on the system.
ESM Information Req	The total number of ESM Information Request messages sent for a specific ESM event associated with all MME services on the system.
Retransmissions	The total number of retransmitted ESM Information Request messages sent for a specific ECM event associated with all MME services on the system.
Modify Bearer	The total number of ESM Modify Bearer messages sent for a specific ESM event associated with all MME services on the system.

Field	Description
Retransmissions	The total number of retransmitted ESM Modify Bearer messages sent for a specific ECM event associated with all MME services on the system.
PDN Connectivity Reject	The total number of ESM PDN Connectivity Reject messages sent.
PTI Already in Use	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #35: "PTI Already in Use".
Unknown or Missing APN	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #27: "Unknown or Missing APN".
Unknown PDN Type	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #28: "Unknown PDN Type".
Invalid Bearer Id	The total number of ESM PDN Connectivity Reject messages sent, with the cause code code #43: "Invalid EPS Bearer Id".
Invalid PTI	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #81: "Invalid PTI value".
Rejected By PGW/SGW	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #30: "Rejected By SGW or PGW".
Authentication failed	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #29: "User Authentication failed".
Sv opt not supported	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #32: "Service Option Not Supported".
Svc opt not subscribed	The total number of ESM PDN Connectivity Reject messages sent, with the cause code #33: "Service Option Not Subscribed".
Opr Determined Barring	The total number of ESM PDN Connectivity Reject messages sent with cause code #8: "Operator Determined Barring".
Insufficient Resource	The total number of ESM PDN Connectivity Reject messages sent with cause code #26: "Insufficient Resources".
Activation Rejected	The total number of ESM PDN Connectivity Reject messages sent with cause code #31: "Request rejected, unspecified".
Svc Opt Tmp OutofOrder	The total number of ESM PDN Connectivity Reject messages sent with cause code #34: "Service Option Temporarily Out of Order".
Protocol Errors	The total number of ESM PDN Connectivity Reject messages sent with any of the following Protocol Error cause codes: #95-101, or #111.
APN Restrict Incomt	The total number of ESM PDN Connectivity Reject messages sent with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content".
PDN Disconnect Reject	The total number of ESM PDN Disconnect Reject messages sent for a specific ESM event associated with all MME services on the system.

Field	Description
PTI Already in Use	The total number of ESM PDN Disconnect Reject messages sent, with the cause "PTI Already in Use", for a specific ESM event associated with all MME services on the system.
Last PDN Disconnection	The total number of ESM PDN Disconnect Reject messages sent, with the cause "Last PDN Disconnection", for a specific ESM event associated with all MME services on the system.
Invalid PTI	The total number of ESM PDN Disconnect Reject messages sent, with the cause "Invalid PTI", for a specific ESM event associated with all MME services on the system.
Invalid Bearer Id	The total number of ESM PDN Disconnect Reject messages sent, with the cause "Invalid Bearer Id", for a specific ESM event associated with all MME services on the system.
Received	This sub-group displays the statistics of all EPS Session Management (ESM) control messages received by an MME services on the system.
Clear-text messages	The total number of plain ESM messages (neither integrity protected nor ciphered) received by all MME services on the system.
Integrity-check enabled	The total number of integrity protected ESM messages received by all MME services on the system.
Ciphered messages	The total number of ciphered ESM messages received by all MME services on the system.
Accepted	The total number of ESM messages received by all MME services on the system and accepted for further processing.
Decode failures	The total number of ESM control messages received by all MME services on the system which the MME was unable to decode the message as per 3GPP TS 24.301.
Act Dedicated Brr Accept	The total number of ESM Activate Dedicated Bearer Accept messages received for a specific ESM event associated with all MME services on the system.
Act Dedicated Brr Reject	The total number of ESM Activate Dedicated Bearer Reject messages received for a specific ESM event associated with all MME services on the system.
Act Default Brr Accept	The total number of ESM Activate Default Bearer Accept messages received for a specific ESM event associated with all MME services on the system.
Act Default Brr Reject	The total number of ESM Activate Default Bearer Accept messages received for a specific ESM event associated with all MME services on the system.
Deactivate Brr Accept	The total number of ESM Deactivate EPS Bearer Context Accept messages received for a specific ESM event associated with all MME services on the system.
Brr Rsrc Alloc Request	The total number of ESM Bearer Resource Allocation Request messages received for a specific ESM event associated with all MME services on the system.

Field	Description
Brr Rsrc Modify Request	The total number of ESM Bearer Resource Modify Request messages received for a specific ESM event associated with all MME services on the system.
ESM Information Response	The total number of ESM Information Response messages received for a specific ESM event associated with all MME services on the system.
ESM Status	The total number of ESM Status messages received for a specific ESM event associated with all MME services on the system.
Modify Brr Ctxt Accept	The total number of ESM Modify Bearer Context Accept messages received for a specific ESM event associated with all MME services on the system.
Modify Brr Ctxt Reject	The total number of ESM Modify Bearer Context Reject messages received for a specific ESM event associated with all MME services on the system.
PDN Connectivity Request	The total number of ESM PDN Connectivity Request messages received for a specific ESM event associated with all MME services on the system.
PDN Disconnect Request	The total number of ESM PDN Disconnect Request messages received for a specific ESM event associated with all MME services on the system.
Handover Statistics	
Intra MME Handover	This sub-group displays statistics of intra-MME handovers associated with all MME services on the system.
Path Update procedures	This sub-group under "Intra MME Handover" displays statistics of E-RAB Modification Indication procedures (procedure level stats) associated with all MME services on the system.
X2-based handovers	This sub-group displays the all X2-based (intra-MME) handover attempts/successes/failures associated with all MME services on the system.
S1-based handovers	This sub-group displays the all S1-based (Inter-MME) handover attempts/successes/failures associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> EUTRAN using S10 Interface	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures associated with all MME services on the system.
Outbound relocation using TAU procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on outbound relocation using TAU (Tracking Area Update) procedures and associated with all MME services on the system.

Field	Description
Outbound relocation using S1 HO procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on outbound relocation using S1 handover procedures and associated with all MME services on the system.
Inbound relocation using TAU procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system.
Inbound relocation using S1 HO procedure	This sub-group displays the all S10-based (Inter-MME) handover attempts/successes/failures based on inbound relocation using S1 handover procedures and associated with all MME services on the system for emergency bearer service attempted.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN (Iu mode) SRNS Relocations using GnGp Interface	This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for SRNS (Serving Radio Network Subsystem) relocations associated with all MME services on the system.
Outbound relocation	This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for outbound SRNS relocations associated with all MME services on the system.
Inbound relocation	This sub-group displays the all GnGp-based (MME-3G/SGSN) attempts/successes/failures for inbound SRNS relocations associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> GERAN (A/Gb Mode) PS Handovers using GnGp Interface	This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover via A/Gb mode attempts/successes/failures associated with all MME services on the system.
Outbound relocation	This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover attempts/successes/failures based on outbound relocation and associated with all MME services on the system.

Field	Description
Inbound relocation	This sub-group displays the all GnGp-based (MME-2G/SGSN) packet-switched handover attempts/successes/failures based on inbound relocation and associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN (Iu or A/Gb Mode) Cell Reselections using GnGp Interface	This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures associated with all MME services on the system.
Outbound relocation using RAU procedure	This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures based on outbound relocation using RAU procedures and associated with all MME services on the system.
Inbound relocation using TAU procedure	This sub-group displays the all GnGp-based (MME-R8/SGSN) cell reselection attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system for emergency bearer services successes.
EUTRAN<-> UTRAN (Iu mode) Inter-RAT Handovers using S3 Interface	This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures via Iu mode associated with all MME services on the system.
Outbound relocation	This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures based on outbound relocation and associated with all MME services on the system.
Inbound relocation	This sub-group displays the all S3-based (MME-R8/SGSN) Inter-RAT handover attempts/successes/failures based on inbound relocation and associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> GERAN (A/Gb mode) Inter-RAT Handovers using S3 Interface	This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode associated with all MME services on the system.

Field	Description
Outbound relocation	This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode based on outbound relocation and associated with all MME services on the system.
Inbound relocation	This sub-group displays the all S3-based (MME-2.5G/SGSN) Inter-RAT handover attempts/successes/failures via A/Gb mode based on inbound relocation and associated with all MME services on the system.
Attempted	The total number of attempts made for the specific EPS handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN/GERAN (Iu or A/Gb Mode) Cell Reselections using S3 Interface	This group displays the all S3-based (MME-R8/2.5G/SGSN) cell reselection via Iu or A/Gb mode attempts/successes/failures associated with all MME services on the system.
Outbound relocation using RAU procedure	This sub-group displays the all GnGp-based (MME-R8/2.5G/SGSN) cell reselection attempts/successes/failures based on outbound relocation using RAU procedures and associated with all MME services on the system.
Inbound relocation using TAU procedure	This sub-group displays the all GnGp-based (MME-R8/2.5G/SGSN) cell reselection attempts/successes/failures based on inbound relocation using TAU procedures and associated with all MME services on the system.
Attempted	The total number of attempts that are made for the specific EPS handover type that is associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific EPS handover associated with all MME services on the system.
EUTRAN<-> UTRAN/GERAN using Sv Interface	This group displays the all Sv-based (MME-R8/2.5G/SGSN) handover attempts/successes/failures associated with all MME services on the system.
CS only handover with no DTM support	This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched, non-DTM (Dual Transfer Mode) handover attempts/successes/failures and associated with all MME services on the system.
CS only handover	This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched handover attempts/successes/failures associated with all MME services on the system.
CS and PS handover	This sub-group displays the all Sv-based (MME-R8/2.5G/SGSN) circuit-switched and packet-switched handover attempts/successes/failures associated with all MME services on the system.

Field	Description
Attempted	The total number of attempts made for the specific handover type associated with all MME services on the system.
Success	The total number of successful handovers for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed for the specific handover associated with all MME services on the system.
EUTRAN<-> Non-3GPP Unoptimized Handovers	This group displays all non-3GPP non-optimized handover attempts/successes/failures associated with all MME services on the system.
Outbound relocation (Per PDN)	This sub-group displays all outbound non-3GPP handover attempts/successes/failures associated with all MME services on the system. These counters increment on a per-PDN basis.
Inbound relocation (Per PDN)	This sub-group displays the all outbound non-3GPP handover attempts/successes/failures associated with all MME services on the system. These counters increment on a per-PDN basis.
Attempted	The total number of attempts made for the specific handover type associated with all MME services on the system.
Success	The total number of successful handovers made for the specific handover type associated with all MME services on the system.
Failures	The total number of attempts that failed made for the specific handover type associated with all MME services on the system.
PDN Statistics	
All PDNs	Displays statistics for all PDNs, connected and idle, through the MME service(s) on the system.
Connected PDNs	Displays statistics for connected PDNs through the MME service(s) on the system.
Idle PDNs	Displays statistics for idle PDNs through the MME service(s) on the system.
Emergency PDN Statistics	
All PDNs	Displays statistics for all emergency PDNs, connected and idle, through the MME service(s) on the system.
Connected PDNs	Displays statistics for connected emergency PDNs through the MME service(s) on the system.
Idle PDNs	Displays statistics for idle emergency PDNs through the MME service(s) on the system.
DCNR User PDN Statistics	
All PDNs	Displays statistics for all DCNR user PDNs, connected and idle, through the MME service(s) on the system.

Field	Description
Connected PDNs	Displays statistics for connected DCNR user PDNs through the MME service(s) on the system.
Idle PDNs	Displays statistics for idle DCNR user PDNs through the MME service(s) on the system.
Bearer Statistics	
All Bearers	This sub-group displays statistics for all bearers, connected and idle, through the MME service(s) on the system.
Connected Bearers	This sub-group displays statistics for connected bearers through the MME service(s) on the system.
Idle Bearers	This sub-group displays statistics for idle bearers through the MME service(s) on the system.
Bearers Using Operator-Specific QCI	This sub-group displays statistics for all bearers, connected and idle, through the MME service(s) on the system, using operator specific QCI values.
ERAB Modification Indication:	
Attempted	Indicates the number of bearers for which the E-RAB Modification Indication procedure is attempted (bearer level stats).
Success	Indicates the number of bearers for which the E-RAB Modification Indication procedure has succeeded (bearer level stats).
Failures	Indicates the number of bearers for which the E-RAB Modification Indication procedure has failed (bearer level stats).
Session Statistics	
Attached Calls	This sub-group displays statistics for all calls, connected and idle, through the MME service(s) on the system.
Connected Calls	This sub-group displays statistics for connected calls through the MME service(s) on the system.
Idle Calls	This sub-group displays statistics for idle calls through the MME service(s) on the system.
Emergency Session Statistics	
Attached Calls	This sub-group displays statistics for all emergency calls, connected and idle, through the MME service(s) on the system.
Connected Calls	This sub-group displays statistics for connected emergency calls through the MME service(s) on the system.
Idle Calls	This sub-group displays statistics for idle emergency calls through the MME service(s) on the system.

Field	Description
Unauthenticated Session Statistics	
Attached Calls	This sub-group displays statistics for all unauthenticated emergency calls, connected and idle, through the MME service(s) on the system.
Connected Calls	This sub-group displays statistics for connected and unauthenticated emergency calls through the MME service(s) on the system.
Idle Calls	This sub-group displays statistics for idle unauthenticated emergency calls through the MME service(s) on the system.
Disconnect Statistics	
UE detached	The total number of disconnected sessions, with the reason "UE detached", originally connected through the MME service(s) on the system.
PGW detached	The total number of disconnected sessions, with the reason "PGW detached", originally connected through the MME service(s) on the system.
HSS detached	The total number of disconnected sessions, with the reason "HSS detached", originally connected through the MME service(s) on the system.
MME detached	The total number of disconnected sessions, with the reason "MME detached", originally connected through the MME service(s) on the system.
Implicit detach	The total number of disconnected sessions, with the reason "Implicit detach", originally connected through the MME service(s) on the system.
Local abort	The total number of disconnected sessions, with the reason "Local abort", originally connected through the MME service(s) on the system.
Authentication failure	The total number of disconnected sessions, with the reason "Authentication failure", originally connected through the MME service(s) on the system.
Sub parameter failure	The total number of disconnected sessions, with the reason "Sub parameter failure", originally connected through the MME service(s) on the system.
Other reasons	The total number of disconnected sessions, with the reason "Other reasons", originally connected through the MME service(s) on the system.
ISR Deactivation Statistics	
S3 path failure	The total number of Idle mode Signaling Reduction (ISR) deactivations due to failure in the S3 interface.
SGSN local detach	The total number of Idle mode Signaling Reduction (ISR) deactivations due to SGSN detach notification.
SGW relocation	The total number of Idle mode Signaling Reduction (ISR) deactivations due to SGW relocation of the session to an MME/SGSN which does not support ISR.
CN Node relocation	The total number of Idle mode Signaling Reduction (ISR) deactivations due to CN Node relocation of the session to an MME/SGSN which does not support ISR.

Field	Description
Implicit detach	The total number of Idle mode Signaling Reduction (ISR) deactivations due to an idle timeout (implicit detach) initiated by either the MME or Peer SGSN.
Other detach procedures	The total number of Idle mode Signaling Reduction (ISR) deactivations due to an idle timeout (implicit detach) initiated by either the MME or Peer SGSN.
Other reasons	The total number of Idle mode Signaling Reduction (ISR) deactivations due to a reason not otherwise classified by one of the other ISR Deactivation Statistics categories.
GUTI Reallocation	This group displays policy triggered GUTI re-allocation procedure statistics.
Attempted	The total number of GUTI Reallocation procedures attempted for this MME service.
Failures	The total number of GUTI Reallocation procedure failures for this MME service.
Success	The total successful number of GUTI Reallocations procedures completed successfully for this MME service.
GUTI Reallocation	This group displays message statistics for policy triggered GUTI re-allocation.
Attach Accept	Number of non-retransmitted NAS Attach Accept messages sent that contained the reallocated GUTI identifier.
Retransmissions	Number of retransmitted NAS Attach Accept messages sent that contained the reallocated GUTI identifier.
TAU Accept	Number of non-retransmitted NAS TAU Accept messages sent that contained the reallocated GUTI identifier.
Retransmissions	Number of retransmitted NAS TAU Accept messages sent that contained the reallocated GUTI identifier.
GUTI Reallocation cmd	Number of non-retransmitted NAS GUTI Reallocation Command messages sent.
Retransmissions	Number of retransmitted NAS GUTI Reallocation Command messages sent.
Paging Initiation for PS ARP-N Events	Displays paging initiation information for packet switched ARP events.
Attempted	Displays the number of paging events attempted.
Success	Displays the number of successful paging events.
Failures	Displays the number of failed paging events.
Success at Last n eNB	Displays the number of successful paging events at the last known eNodeB.
Success at Last TAI	Displays the number of successful paging events at the last TAI.
Success at TAI List	Displays the number of S13 additional IMEI checks that timed out during attach procedures.
Paging Initiation for PS APN-Profile Events	Displays paging initiation information for packet switched APN profile events.

Field	Description
Attempted	Displays the number of paging events attempted.
Success	Displays the number of successful paging events.
Failures	Displays the number of failed paging events.
Success at Last n eNB	Displays the number of successful paging events at the last known eNodeB.
Success at Last TAI	Displays the number of successful paging events at the last TAI.
Success at TAI List	Displays the number of successful paging events at the TAI list.
Paging Initiation for PS SMS Events:	
Attempted	The total number of ECM statistics-related PS SMS Paging Initiation events that were attempted.
Success	The total number of ECM statistics-related PS SMS Paging Initiation events that were successful.
Failures	The total number of ECM statistics-related PS SMS Paging Initiation events that failed.
Success at Last n eNB	The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at the last known eNodeB.
Success at Last TAI	The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at an eNodeB in the TAI from which the UE was last heard.
Success at TAI List	The total number of ECM statistics-related PS SMS Paging Initiation events that succeeded at an eNodeB in all TAIs present in the TAI list assigned to the UE.
S13 Statistics:	
Additional ME Identity Check Procedures (Attach):	
Requests:	Displays the number of S13 additional IMEI checks requested during attach procedures.
Answer:	Displays the number of S13 additional IMEI checks answered during attach procedures.
Success:	Displays the number of S13 additional IMEI checks that were successful during attach procedures.
Failure:	Displays the number of S13 additional IMEI checks that failed during attach procedures.
Additional ME Identity Check Procedures (TAU):	
Requests:	Displays the number of S13 additional IMEI checks requested during a TAU.
Answer:	Displays the number of S13 additional IMEI checks answered during a TAU.

Field	Description
Success:	Displays the number of S13 additional IMEI checks that were successful during TAU.
Failure:	Displays the number of S13 additional IMEI checks that failed during TAU.
Timeout:	Displays the number of S13 additional IMEI checks that timed out during TAU.
Additional ME Identity Check Procedures (Handover):	
Requests:	Displays the number of S13 additional IMEI checks requested during handover procedures.
Answer:	Displays the number of S13 additional IMEI checks answered during handover procedures.
Success:	Displays the number of S13 additional IMEI checks that were successful during handover procedures.
Failure:	Displays the number of S13 additional IMEI checks that failed during handover procedures.
Timeout:	Displays the number of S13 additional IMEI checks that timed out during handover procedures.
EDRX Subscribers	Displays information about the eDRX subscribers.
Attached Calls	Displays the number of attached subscribers for which eDRX is enabled.
DDN Rejects	Displays the number of DDNs rejected when eDRX subscribers cannot be paged (UE is out of the paging window).
NB-IoT Subscribers	Displays information about NB-IoT subscribers
Attached Calls	Displays the number of attached calls for NB-IoT subscribers.
Connected Calls	Displays the number of connected calls for NB-IoT subscribers.
Idle Calls	Displays the number of idle calls for NB-IoT subscribers.
Attach Without PDN Subscribers	Displays information about the Attach without PDN subscribers.
Attached Calls	Displays the number of attached calls for Attach without PDN subscribers.
Connected Calls	Displays the number of connected calls for Attach without PDN subscribers.
Idle Calls	Displays the number of idle calls for Attach without PDN subscribers.
Low Power Subscribers:	
NB-IoT Attached Calls	The current total number of attached low power subscribers which are operating in NB-IoT.
EUTRAN Attached Calls	The current total number of attached low power subscribers which are operating in E-UTRAN.

Field	Description
CE-mode-B Capable Subscribers:	
Attached Calls	Displays the number of attached calls by CE Mode-B subscribers.
Connected Calls	Displays the number of connected calls by CE Mode-B subscribers.
Idle Calls	Displays the number of idle calls by CE Mode-B subscribers.
NB-IoT Statistics	Displays the following NB-IoT statistics: • Handover Denied • Path Sw Failure • HO Prep Failure • Inter MME Denied (TAU Reject) • Src Peer Node Gn SGSN • Src Peer Node S3 SGSN • NB-IoT RAT as Src • NB-IoT RAT as Tgt • Intra MME Denied (TAU Reject) • NB-IoT RAT as Src • NB-IoT RAT as Tgt • Inter MME Denied (Context Failure) • Tgt Peer Node Gn SGSN • Tgt Peer Node S3 SGSN • NB-IoT RAT as Src • NB-IoT RAT at Tgt • Inter MME Denied (Forward Relocation Reject) • NB-IoT RAT as Tgt

Field	Description
Attach Without PDN Statistics	Displays the following Attach without PDN statistics: • Attach Procedure • Attach Request Rcvd • Attach Accept Sent • Attach Complete Rcvd • Attach Reject Sent • Config Err NB-IoT • Config Err WB-Eutran • Intra MME TAU Procedure • TAU Request Rcvd • TAU Accept Sent • TAU Complete Rcvd • Inter MME TAU Procedure • TAU Request Rcvd • TAU Accept Sent • TAU Complete Rcvd • TAU Reject Sent • Config Err NB-IoT • Config Err WB-Eutran • PDN Procedure • PDN Conn Req after wopdn • PDN Conn Succ wopdn • Last PDN Del wo Detach • Inter MME Denied (Context Failure) • No WOPDN sup by S3 SGSN • No WOPDN sup by Peer MME • No WOPDN sup by MME
S-GW Restoration	
Attempted	Indicates the total number of PDNs attempted for S-GW restoration at a service level.

Field	Description
Down	Indicates the total number of PDNs attempted for S-GW restoration at service level due to an S-GW being down.
Restart	Total number of PDNs attempted for S-GW restoration at service level due to an S-GW being restarted.
UE PDN Restored	
Emergency	Indicates the number of emergency PDNs restored during S-GW restoration.
IMS	Indicates the number of IMS PDNs restored during S-GW restoration
Normal	Indicates the number of normal PDNs restored during S-GW restoration
UE PDN Failed	
Emergency	Indicates the number of unsuccessful emergency PDNs during S-GW restoration.
IMS	Indicates the number of unsuccessful IMS PDNs during S-GW restoration.
Normal	Indicates the number of unsuccessful IMS PDNs during S-GW restoration.
SGW Restoration Failure	
Invalid UE S-GW context	Indicates S-GW restoration procedure failure due to invalid S-GW context.
No EPS Bearer Active	Indicates S-GW restoration procedure failure because of unavailable EPC bearers active for the UE.
S-GW Selection Failure	Indicates S-GW restoration procedure failure due to S-GW selection failure for a UE.
S-GW Reloc Proc Failed	Indicates S-GW restoration procedure failure when the procedure responsible to trigger S-GW relocation has failed.
Create Session Failure	Indicates S-GW restoration procedure failure when a Create Session Response failure message is received from a peer.
Abort	Indicates S-GW restoration procedure failure due to timeout or high priority procedure.
Decor Statistics	
Attached Calls	Indicates the number of MME sessions attached that have an associated UE usage type.
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.

Field	Description
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
UE-Usage-Type Source	
HSS	Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC.
UE Context	Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record.
Peer MME	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover.
Peer SGSN	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover.
Config	Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration.

Field	Description
eNodeB	Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute.
GUTI Reallocation Cmd due to UE-Usage-Type Change	
Attempted	Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME).
Success	Tracks the number of successful GUTI Reallocation procedures.
Failures	Tracks the number of GUTI Reallocation procedure failures.
Handover from service area	
DCN	Indicates the total number of inbound handovers from the service area where DCN is supported.
Non DCN	Indicates the total number of inbound handovers from the service area where DCN is not supported.
Explicit AIR	
Attach	Indicates the number of explicit AIR messages during Attach.
Inbound relocation	Indicates the number of explicit AIR messages during inbound relocation.
Inbound relocation using TAU procedure	Indicates the number of explicit AIR messages during inbound relocation using TAU.
ISDR UE-Usage-Type Change	Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS.
MMEGI Selection	
DNS	Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching).
Local	Indicates the total number of times MMEGI is selected from local configuration.
Failure	Indicates the total number of times MMEGI is selected from failure.
Node Selection	
S-GW DNS: Common	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type. This counter increments only when the DNS RR with UE usage type is absent.
S-GW DNS: Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is present.

Field	Description
SGW Local Config: Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type.
PGW DNS: Common	Indicates the number of times PGW DNS selection procedures were performed with DNS RR *excluding* UE usage type. This counter increments only when the DNS RR with UE usage type is *absent*.
PGW DNS: Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR *including* UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is *present*.
PGW Local Config: Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address without considering the UE usage type.
MME DNS: Common	Indicates the number of times MME DNS selection procedures were performed with DNS RR *excluding* UE usage type. This counter increments only when the DNS RR with UE usage type is *absent*.
MME DNS: Dedicated	Indicates the number of times MME DNS selection procedures were performed with DNS RR *including* UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is *present*.
MME Local Config: Common	Indicates the number of times MME selection procedures were performed with locally configured MME address without considering the UE usage type.
SGSN DNS: Common	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR *excluding* UE usage type. This counter increments only when the DNS RR with UE usage type is *absent*.
SGSN DNS: Dedicated	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR *including* UE usage type parameter(s). This counter increments only when the DNS RR with UE usage type is *present*.
SGSN Local Config: Common	Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address without considering the UE usage type.
Dual Connectivity with NR Statistics:	
Attach Procedure	
Attach Request Rcvd	Indicates the number of Attach Requests received with UE advertising DCNR support.
Attach Acc DCNR allowed	Indicates the number of Attach Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in Attach Accept).
Attach Acc DCNR denied	Indicates the number of Attach Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in Attach Accept).

Field	Description
Attach Reject Sent	Indicates the number of Attach Reject messages sent by MME whose corresponding Attach Request messages have DCNR support capability.
Attach Complete Rcvd	Indicates the number of Attach Complete messages received by MME whose corresponding Attach Request messages have DCNR support capability.
Intra MME TAU Procedure	
TAU Request Rcvd	Indicates the number of TAU Request messages received for Intra-MME TAU procedure with UE advertising DCNR support.
TAU Accept DCNR allowed	Indicates the number of TAU Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in TAU Accept) for Intra-MME TAU procedure.
TAU Accept DCNR denied	Indicates the number of TAU Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in TAU Accept) for Intra-MME TAU procedure.
TAU Complete Rcvd	Indicates the number of TAU Complete messages received by the MME whose corresponding Intra-MME TAU Requests have DCNR support capability.
Inter MME TAU Procedure	
TAU Request Rcvd	Indicates the number of TAU Request messages received for Inter-MME TAU procedure with UE advertising DCNR support.
TAU Accept DCNR allowed	Indicates the number of TAU Accept messages sent by the MME acknowledging the DCNR support for the UE (Restrict DCNR bit not set in TAU Accept) for Inter-MME TAU procedure.
TAU Accept DCNR denied	Indicates the number of TAU Accept messages sent by the MME rejecting the DCNR support for the UE (Restrict DCNR bit set in TAU Accept) for Inter-MME TAU procedure.
TAU Reject Sent	Indicates the number of TAU Reject messages sent by the MME whose corresponding Inter-MME TAU Requests have DCNR support capability.
TAU Complete Rcvd	Indicates the number of TAU Complete messages received by MME whose corresponding Inter-MME TAU Request have DCNR support capability.
Dual Connectivity with NR Subscribers	
Attached Calls	Indicates the number of DCNR supported UEs attached with the MME.
Connected Calls	Indicates the number of DCNR supported UEs in connected mode at MME.
Idle Calls	Indicates the number of DCNR supported UEs in idle mode at MME.
Node Selection	
SGW DNS:	

Field	Description
Common	Indicates the number of times S-GW DNS selection procedures are performed with DNS RR excluding the NR network capability.
NR Capable	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including the NR network capability.
SGW Local Config:	
Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the NR network capability.
PGW DNS:	
Common	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding the NR network capability.
NR Capable	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including the NR network capability.
PGW Local Config:	
Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the NR network capability.
EUTRAN<->NGRAN Using N26 Interface	
Outbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS mobility procedure.
Outbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS handover procedure.
Inbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of Inbound relocation using EPS-5GS mobility procedure.
Inbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of Inbound relocation using EPS-5GS handover procedure.
Monitoring Event Profile mon	
Loss of connectivity	Indicates the current session statistics of Loss of connectivity event configuration.
UE Reachability	Indicates the current session statistics of UE Reachability event configurations
Location Reporting	Indicates the current session statistics of reporting location event configurations.
Communication Failure	Indicates the current session statistics of Radio connection status failure events.
Availability after DDN Failure	Indicates the current session statistics of Availability after DDN Failure event configuration.
UE Reachability and Idle status indication	Indicates the current session statistics of UE Reachability and Idle status indication event configurations.

Field	Description
Availability after DDN Failure and Idle Status indication	Indicates the current session statistics of Availability after DDN Failure and Idle Status indication event configuration.
PDN connectivity status	Indicates that the current session statistics of PDN connectivity status event configuration.
Monitoring Report Config Rx Count:	
Loss of connectivity	Indicates that the number of Loss of connectivity event configuration received.
UE Reachability	Indicates that the number of UE reachability event configurations received .
Location Reporting	Indicates that the number of reporting location event configurations received.
Availability after DDN Failure	Indicates that the number of Availability after DDN Failure event configuration received.
Number of UE in a geographic area	Indicates the received Number of UEs present in a geographic area event configuration is either in Progress, Pending or in Dropped status.
Idle status indication	Indicates that the number of Idle status event configurations received.
PDN connectivity status	Indicates that the PDN connectivity status event configuration received.
Monitoring Report Config Tx Count	
Loss of connectivity	Indicates the number of loss of connectivity reports sent.
UE Reachability	Indicates the number of UE reachability reports sent.
Location Reporting	Indicates that the number of Location reports sent.
Communication Failure	Indicates that the number of communication failure reports sent.
Availability after DDN Failure	Indicates that the number of Availability after DDN Failure reports sent.
Number of UE in a geographic area	Indicates that the number of UE in a geographical area report is either in successful, failed ot in dropped status.
UE Reachability and idle status indication	Indicates that the number of UE Reachability and idle status indication report sent.
Availability after DDN Failure and idle status indication	Indicates that the Availability after DDN Failure and idle status indication report sent.
PDN connectivity status	Indicates that the number of PDN connectivity statuses report sent.
Monitoring Event Configuration Deleted Count	
Loss of connectivity	Indicates the number of deleted loss of connectivity monitoring events.
UE Reachability	Indicates the number of deleted UE Reachability monitoring events.
Location Reporting	Indicates the number of deleted location reporting monitoring events.

Field	Description
Communication Failure	Indicates the number of deleted communication failure monitoring events.
Availability after DDN Failure	Indicates number of deleted availability after DDN failure monitoring events.
UE Reachability and idle status indication	Indicates the number of deleted UE reachability and idle status indication monitoring events.
PDN connectivity status	Indicates the number of deleted pdn connectivity status monitoring events.
ULA received without monte cfg	Indicates the number of deleted monitoring events configurations when ULA received with updated set of configurations.
HSS update received with different scef ref id	Indicates the number of deleted monitoring events with HSS update received with different SCEF Reference Id.
HSS update received with same scef ref id	Indicates the number of deleted monitoring events with HSS update received with same SCEF Reference Id.
HSS abort except subs withdrawn	The total number of Attach Reject messages sent for an Attach Request with a cause code Network Failure, when the rejection is due to HSS abort except subscription withdrawn.
Monitoring Event Roaming Statistics	
CIR sent	Indicates the number of CIR messages sent for roaming subscribers.
CIA received	Indicates the number of CIA message received from roaming subscribers.
CIR timeout	Indicates the CIR timeout value if there is no response for the CIR messages sent.
RIR sent	Indicates the number of RIR messages that are sent for roaming subscribers.
CIR denied by IWK-SCEF	Indicates the number of CIR messages denied through IWK-SCEF.

show mme-service statistics 5gs-interworking

Table 17: show mme-service statistics 5gs-interworking Command Output Descriptions

Field	Description
Attach Request Rcvd	Displays the number of Attach Request messages received with UE advertising N1 Mode support.
TAU Request Rcvd	Displays the number of TAU Request messages received with UE advertising N1 Mode support.
SMF-Combined	Displays the number of times P-GW DNS selection procedures performed with DNS RR including the N1 Mode network capability.

Field	Description
NR Capable	Displays the number of times P-GW DNS selection procedures performed with DNS RR including the NR network capability.
Common	Displays the number of times P-GW DNS selection procedures performed with DNS RR excluding the N1 Mode network capability.
PGW Local Config	Displays the number of times P-GW selection procedures performed with locally configured P-GW address, without considering the N1 Mode network capability.

show mme-service statistics decor

Table 18: show mme-service statistics decor Command Output Descriptions

Field	Description
Decor Statistics:	
Attached Calls	Indicates the number of MME sessions attached that have an associated UE usage type.
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.

Field	Description
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
UE-Usage-Type Source	
HSS	Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC.
UE Context	Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record.
Peer MME	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover.
Peer SGSN	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover.
Config	Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration.
eNodeB	Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute.
GUTI Reallocation Cmd due to UE-Usage-Type Change	
Attempted	Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME).
Success	Tracks the number of successful GUTI Reallocation procedures.
Failures	Tracks the number of GUTI Reallocation procedure failures.
Handover from service area	
DCN	Indicates the total number of inbound handovers from the service area where DCN is supported.
Non DCN	Indicates the total number of inbound handovers from the service area where DCN is not supported.
Explicit AIR	
Attach	Indicates the number of explicit AIR messages during Attach.

Field	Description
Inbound relocation	Indicates the number of explicit AIR messages during inbound relocation.
Inbound relocation using TAU procedure	Indicates the number of explicit AIR messages during inbound relocation using TAU.
ISDR UE-Usage-Type Change	Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS.
MMEGI Selection	
DNS	Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching).
Local	Indicates the total number of times MMEGI is selected from local configuration.
Failure	Indicates the total number of times MMEGI is selected from failure.
Node Selection	
SGW DNS	
Common	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGW Local Config	
Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type.
PGW DNS	
Common	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
PGW Local Config	
Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the UE usage type.
MME DNS	
Common	Indicates the number of times MME DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times MME DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
MME Local Config	

Field	Description
Common	Indicates the number of times MME selection procedures were performed with locally configured MME address, without considering the UE usage type.
SGSN DNS	
Common	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGSN Local Config	
Common	Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address, without considering the UE usage type.

show mme-service statistics decor decor-profile <profile_name>

Table 19: show mme-service statistics decor decor-profile <profile_name> Command Output Descriptions

Field	Description
Decor Statistics:	
Attached Calls	Indicates the number of MME sessions attached that have an associated UE usage type.
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.

Field	Description
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
UE-Usage-Type Source	
HSS	Indicates the number of MME subscriber sessions, where UE usage type was obtained from HSS/AUC.
UE Context	Indicates the number of MME subscriber sessions, where UE usage type was obtained from MME DB record.
Peer MME	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer MME as part of handover.
Peer SGSN	Indicates the number of MME subscriber sessions, where UE usage type was obtained from peer SGSN as part of handover.
Config	Indicates the number of MME subscriber sessions, where UE usage type was obtained from local configuration.
eNodeB	Indicates the number of MME subscriber sessions, where UE usage type was obtained from the eNodeB, in the S1 message as part of reroute.
GUTI Reallocation Cmd due to UE-Usage-Type Change	
Attempted	Tracks the number of GUTI Reallocation procedures attempted due to UE-Usage-Type Change from HSS through ISDR OR after connected mode handover and UE-Usage-Type not served by the MME (NAS GUTI Reallocation Command message was sent by MME).
Success	Tracks the number of successful GUTI Reallocation procedures.
Failures	Tracks the number of GUTI Reallocation procedure failures.
Handover from service area	

Field	Description
DCN	Indicates the total number of inbound handovers from the service area where DCN is supported.
Non DCN	Indicates the total number of inbound handovers from the service area where DCN is not supported.
Explicit AIR	
Attach	Indicates the number of explicit AIR messages during Attach.
Inbound relocation	Indicates the number of explicit AIR messages during inbound relocation.
Inbound relocation using TAU procedure	Indicates the number of explicit AIR messages during inbound relocation using TAU.
ISDR UE-Usage-Type Change	Tracks the number of ISDR Messages received with different UE-Usage-Type from the HSS.
MMEGI Selection	
DNS	Indicates the total number of times MMEGI is selected through DNS from a dedicated pool (DNS records having UE Usage Type which is matching).
Local	Indicates the total number of times MMEGI is selected from local configuration.
Failure	Indicates the total number of times MMEGI is selected from failure.
Node Selection	
SGW DNS	
Common	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times S-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGW Local Config	
Common	Indicates the number of times S-GW selection procedures were performed with locally configured S-GW address, without considering the UE usage type.
PGW DNS	
Common	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times P-GW DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
PGW Local Config	
Common	Indicates the number of times P-GW selection procedures were performed with locally configured P-GW address, without considering the UE usage type.

Field	Description
MME DNS	
Common	Indicates the number of times MME DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times MME DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
MME Local Config	
Common	Indicates the number of times MME selection procedures were performed with locally configured MME address, without considering the UE usage type.
SGSN DNS	
Common	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR excluding UE usage type.
Dedicated	Indicates the number of times SGSN DNS selection procedures were performed with DNS RR including UE usage type parameter(s).
SGSN Local Config	
Common	Indicates the number of times SGSN selection procedures were performed with locally configured SGSN address, without considering the UE usage type.

show mme-service statistics lte-emergency-profile

The following table lists various counters and metrics related to emergency call/session management in a telecommunications system.

Field or Counter	Description
Session Statistics – Attached Calls	Gauge counter providing the current total number of emergency calls or sessions in the connected or idle state.
Session Statistics – Connected Calls	Gauge counter providing the current total number of emergency calls or sessions in the connected state.
Session Statistics – Idle Calls	Gauge counter providing the current total number of emergency calls or sessions in the idle state.
Unauthenticated Session Statistics – Attached Calls	Gauge counter providing the current total number of unauthenticated emergency calls or sessions in the connected or idle state.
Unauthenticated Session Statistics – Connected Calls	Gauge counter providing the current total number of unauthenticated emergency calls or sessions in the connected state.
Unauthenticated Session Statistics – Idle Calls	Gauge counter providing the current total number of unauthenticated emergency calls or sessions in the idle state.

Field or Counter	Description
PDN Statistics – All PDNs	Gauge counter providing the current total number of emergency PDNs in the connected or idle state.
PDN Statistics – Connected PDNs	Gauge counter providing the current total number of emergency PDNs in the connected state.
PDN Statistics – Idle PDNs	Gauge counter providing the current total number of emergency PDNs in the idle state.
EPS Associations for Emergency Services – Attempted	Counter providing the total number of attempted EPS associations for emergency services.
EPS Associations for Emergency Services – Success	Counter providing the total number of successful EPS associations for emergency services.
EPS Associations for Emergency Services – Failure	Counter providing the total number of failed EPS associations for emergency services.
UE-Initiated Emergency PDN Connections – Attempted	Counter providing the total number of attempted UE-initiated emergency PDN connections.
UE-Initiated Emergency PDN Connections – Success	Counter providing the total number of successful UE-initiated emergency PDN connections.
UE-Initiated Emergency PDN Connections – Failure	Counter providing the total number of failed UE-initiated emergency PDN connections.
Inbound Relocation using S1 HO Procedure – Attempted	Counter providing the total number of attempted inbound S1 HO associations for emergency bearer services.
Inbound Relocation using S1 HO Procedure – Success	Counter providing the total number of successful inbound S1 HO associations for emergency bearer services.
Inbound Relocation using S1 HO Procedure – Failure	Counter providing the total number of failed inbound S1 HO associations for emergency bearer services.
Inbound Relocation using TAU Procedure – Attempted	Counter providing the total number of attempted inbound TAU ATTACH associations for emergency bearer services.
Inbound Relocation using TAU Procedure – Success	Counter providing the total number of successful inbound TAU ATTACH associations for emergency bearer services.
Inbound Relocation using TAU Procedure – Failure	Counter providing the total number of failed inbound TAU ATTACH associations for emergency bearer services.

show mme-service statistics paging-profile profile-name <paging_profile_name>

Table 20: show mme-service statistics paging-profile profile-name <paging_profile_name> Command Output Descriptions

Field	Description
Paging Profile Level Statistics:	

Field	Description
Profile name	Displays the name of the configured paging profile.
Stage-1 / Stage-2 / Stage-3 / Stage-4 / Stage-5:	
Attempted	Displays the number of times when the session manager sends paging request to at least 1 MME manager for the stage.
Skipped	Displays the number of times when the session manager skips sending paging request to at least 1 busy MME manager for the stage.
Success	Displays the number of times when the paging procedure has completed successfully while the corresponding paging stage is awaiting UE response.
Failure	Displays the number of times when the paging procedure moves to next paging stage and/or paging procedure completes with failure.

show mme-service statistics recovered-values

Table 21: show mme-service statistics recovered-values Command Output Descriptions

Field	Description
Decor Statistics:	
Initial Requests:	
ATTACH	
Accepts	Indicates the total number of Initial Attach Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial Attach Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial Attach Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Initial TAU Requests accepted by the MME, which functions as a DCN.
Reroutes	Indicates the total number of Initial TAU Requests rerouted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Initial TAU Rejects due to No Reroute data and not handled by the MME, which functions as a DCN.
Rerouted Requests:	
ATTACH	

Field	Description
Accepts	Indicates the total number of Rerouted Attach Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted Attach Requests rejected by the MME, which functions as a DCN.
TAU	
Accepts	Indicates the total number of Rerouted TAU Requests accepted by the MME, which functions as a DCN.
Rejects	Indicates the total number of Rerouted TAU Requests rejected by the MME, which functions as a DCN.
EUTRAN<->NGRAN Using N26 Interface	
Outbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS mobility procedure.
Outbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS handover procedure.
Inbound relocation using EPS-5GS Mobility procedure	Indicates the number of attempts, successes, and failures of outbound relocation using EPS-5GS mobility procedure.
Inbound relocation using EPS-5GS HO procedure	Indicates the number of attempts, successes, and failures of Inbound relocation using EPS-5GS handover procedure.

show mme-service statistics tai

Important For the MME to report these TAI level statistics, you must first issue the MME Service Configuration Mode command: **statistics collection-mode tai**. Only those MME Services which are configured accordingly will provide TAI based statistics.

Caution Changing this collection mode will restart the MME service and will clear all statistics at the MME service and eNodeB level.

Table 22: show mme-service statistics tai Output Descriptions

Field	Description
EMM Statistics	

Field	Description
Attach Request: EPS Only	This sub-group displays all EMM Evolved Packet System (EPS) attach request statistics (attempts/successes/failures) for the specified TAIs. This is the sum of all IMSI, IMEI, local GUTI, Foreign GUTI, and P-TMSI attach request statistics.
Attach Request: Combined	This sub-group displays all EMM EPS combined attach statistics (attempts, successes, EPS Only successes, and failures) for the specified TAIs. This is the sum of all IMSI, local GUTI, Foreign GUTI, and P-TMSI attach request statistics. "Success EPS Only" shows when a UE has requested a Combined Attach/TAU but the MME sent a Successful EPS-ONLY result, such as when the UE requests a Combined Attach but the SGs interface is down and the MME sent back an Attach Accept but with EPS-ONLY.
Attach Request: Emergency	This sub-group displays all EMM Emergency Bearer Service attach request statistics (attempts/successes/failures) for the specified TAIs.
Intra MME TAU Request	This group displays all Intra-MME tracking area update statistics.
TA Updating	This sub-group displays all Intra-MME tracking area update statistics (attempts/successes/failures) for the specified TAIs. This is a sum of all "Normal TAU without SGW Relocation" + "TAU with SGW Relocation" statistics.
TA/LA Updating	This sub-group displays all Intra-MME tracking area update statistics (attempts, successes, EPS Only successes, and failures) with update type "combined TA/LA updating" for the specified TAIs. This is a sum of all "Combined TA/LA Updating without SGW Relocation" + "Combined TA/LA Updating with SGW Relocation" statistics.
TA Updating with IMSI Attach	This sub-group displays all Intra-MME tracking area update statistics (attempts, successes, EPS Only successes, and failures) with update type "combined TA/LA updating with IMSI attach" for the specified TAIs. This is a sum of all "TAU with IMSI attach without SGW Relocation" + "TAU with IMSI attach and SGW Relocation" statistics.
Periodic TAU	This sub-group displays all Intra-MME periodic tracking area update statistics (attempts/successes/failures) for the specified TAIs.
Inter MME TAU Request	This group displays all Inter-MME tracking area update statistics.
TA Updating	This sub-group displays all Inter-MME tracking area update statistics (attempts/successes/failures) for the specified TAIs. This is a sum of all "EPS Associations by TAU using Foreign GUTI" + "EPS Associations by TAU using P-TMSI" statistics.

Field	Description
TA/LA Updating	This sub-group displays all Inter-MME tracking area update statistics (attempts/successes/failures) with update type "combined TA/LA updating" for the specified TAIs. This is a sum of all "Associations by Combined TAU using Foreign GUTI" + "Associations by Combined TAU using P-TMSI" statistics.
Detaches UE Initiated	This group displays all UE-initiated detach statistics (attempts/successes/failures) for the specified TAIs.
NB-IOT	Displays the count for NB-IoT access type.
WB-EUTRAN	Displays the count for WB-EUTRAN access type.
ECM Statistics	
UE Initiated Service Request Event	This group displays all ECM service request event statistics (attempts/successes/failures) which have been initiated by the UE for the specified TAIs.
NW Initiated Service Request Event	This group displays all ECM service request event statistics (attempts/successes/failures) which have been initiated by the Network for the specified TAIs.
Handover Statistics	
X2-based handovers	This group displays the all X2-based (intra-MME) handover attempt/success/failure events for the specified TAIs.
S1-based handovers	This group displays the all S1-based (Inter-MME) handover attempt/success/failure events for the specified TAIs.
ESM Statistics	
NW Initiated Dedicated Bearer Activations	
Attempted	This sub-group displays the total number of attempted ESM network intiated dedicated bearer activations for each TAI.
Success	This sub-group displays the total number of successful ESM network intiated dedicated bearer activations for each TAI.
Failures	This sub-group displays the total number of failed ESM network intiated dedicated bearer activations for each TAI.
Session Statistics	
Total Subscribers	
Attached Calls	The total number of EPS Mobility Management call-line statistics on attached current calls for each TAI.
Connected Calls	The total number of EPS Mobility Management call-line statistics on connected current calls for each TAI.

Field	Description
Idle Calls	The total number of EPS Mobility Management call-line statistics for each TAI indicating idle current calls.
EMM Control Messages	
Sent	
Attach Accept	The total number of EMM Attach Accept messages sent for a specific ECM event for the specified TAIs.
Retransmissions	The total number of retransmitted EMM Attach Accept messages sent for a specific ECM event.
IMSI Unknown in HSS	The total number of EMM Control messages sent – Attach Accept with a cause code of IMSI unknown.
MSC Unreachable	The total number of EMM Control messages sent – Attach Accept with a cause code of MSC not available.
Network Failure	The total number of EMM Control messages sent – Attach Accept with a cause code of Network Failure.
CS Domain Not Available	The total number of EMM Control messages sent – Attach Accept with a cause code of CS domain not available.
Congestion	The total number of EMM Control messages sent – Attach Accept with a cause code of Congestion.
Attach Reject	The total number of EMM Attach Reject messages sent for the specified TAIs.
IMSI Unknown in HSS	The total number of EMM Attach Reject messages sent, with the cause code #2: "IMSI Unknown in HSS".
Illegal UE	The total number of EMM Attach Reject messages sent with the cause code #3: "Illegal UE".
Illegal ME	The total number of EMM Attach Reject messages sent with the cause code #6: "Illegal ME".
EPS Not Allowed	The total number of EMM Attach Reject messages sent with the cause code #7: "EPS Services Not Allowed".
Network Failure	The total number of EMM Attach Reject messages sent with the cause code #17: "Network Failure".
CSG Not Subscribed	The total number of EMM Attach Reject messages sent with the cause code of #25: "Not authorized for this CSG".
Decode Failure	The total number of EMM Attach Reject messages sent with the cause code #23: "Decode Failure".

Field	Description
IMEI Not Accepted	The total number of EMM Attach Reject messages sent with the cause code #5: "IMEI Not Accepted".
Roaming restricted TA	The total number of EMM Attach Reject messages sent with the cause code #13: "Roaming restricted in TA".
PLMN not allowed	The total number of EMM Attach Reject messages sent with the cause code #11: "PLMN not allowed".
TA not allowed	The total number of EMM Attach Reject messages sent with the cause code #12: "Tracking Area not allowed".
No suitable cells in TA	The total number of EMM Attach Reject messages sent with the cause code #15: "No suitable cells in TA".
EPS non-EPS Not Allwd	The total number of EMM Attach Reject messages sent with the cause code #8: "EPS services and non-EPS services not allowed".
No EPS Svc in this PLMN	The total number of EMM Attach Reject messages sent with the cause code #14: "EPS service not allowed in this plmn".
ESM Failure	The total number of EMM Attach Reject messages sent with the cause "ESM Failure" for a specific ECM event for the specified TAIs.
Rejected by PGW/SGW	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #30: "Rejected by PGW/SGW".
Authentication Failed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #29: "Authentication Failed".
Svc Opt Not Supported	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #32: "Svc Opt Not Supported".
Svc Opt Not Subscribed	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #33: "Svc Opt Not Subscribed".
Unknown APN	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #27: "Unknown or Missing APN".
Insufficient Resource	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #26: "Insufficient Resources".
Activation Rejected	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #31: "Request rejected, unspecified".
Svc Opt Tmp OutofOrder	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #34: "Service Option Temporarily Out of Order".
Protocol Errors	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with any of the following Protocol Error cause codes: #95-101, or #111.

Field	Description
APN Restrict Incomt	The total number of EMM Attach Reject messages sent due to an ESM procedure failure with cause code #112: "APN Restriction Value Incompatible with Active EPS Bearer Content".
Service Reject	The total number of EMM Service Reject messages sent.
UE Identity Unknown	The total number of EMM Service Reject messages sent, with a cause code of #9:"UE identity cannot be derived by the network".
Implicitly Detached	The total number of EMM Service Reject messages sent, with a cause code of #10: "Implicitly Detached".
No Bearer Active	The total number of EMM Service Reject messages sent, with a cause code of #40: "No EPS bearer context activated".
CSG Not Subscribed	The total number of EMM Service Reject messages sent, with a cause code of #25: "Not authorized for this CSG".
Roaming Restricted TA	The total number of EMM Service Reject messages sent, with a cause code of #13: "Roaming not allowed in this tracking area".
No suitable cells in TA	The total number of EMM Service Reject messages sent, with a cause code of #15: "No suitable cells in tracking area".
TA Not Allowed	The total number of EMM Service Reject messages sent, with a cause code of #12: "Tracking area not allowed".
TAU Accept Total	The total number of EMM TAU Accept messages sent (for either an Inter- or Intra-MME TAU request). **Note:** If the MME retransmits a TAU Accept message, only the "Retransmissions" counter will be incremented.
Retransmissions	The total number of EMM TAU Accept messages retransmitted (for either an Inter- or Intra-MME TAU request).
IMSI Unknown in HSS	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #22: "Congestion".

Field	Description
TAU Accept Intra MME	The total number of TAU Accept messages sent for an Intra-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Intra-MME TAU request, with a cause code of #22: "Congestion".
TAU Accept Inter MME	The total number of TAU Accept messages sent for an Inter-MME TAU request.
Retransmissions	The total number of TAU Accept messages retransmitted for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
MSC Unreachable	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #16: "MSC temporarily not reachable".
Network Failure	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
CS Domain Not Available	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #18: "CS Domain not available".
Congestion	The total number of TAU Accept messages sent for an Inter-MME TAU request, with a cause code of #22: "Congestion".
TAU Reject Total	The total number of EMM TAU Reject messages sent.
IMSI Unknown in HSS	The total number of EMM TAU Reject messages sent with the cause code #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #6: "Illegal ME".

Field	Description
EPS Not Allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #25: Not authorized for this CSG.

Field	Description
EPS non-EPS not Allwd	The total number of TAU Reject messages sent (for either an Inter- or Intra-MME TAU request), with a cause code of #8: EPS services and non-EPS services not allowed.
TAU Reject Intra MME	The total number of TAU Reject messages sent for an Intra-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #2: IMSI unknown in HSS.
Illegal UE	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Intra-MME TAU request with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #11: "PLMN not allowed".
TA not allowed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #15: "No suitable cells in tracking area".

Field	Description
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Intra-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".
TAU Reject Inter MME	The total number of TAU Reject messages sent for an Inter-MME TAU request.
IMSI Unknown in HSS	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #2: "IMSI unknown in HSS".
Illegal UE	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #3: "Illegal UE".
Illegal ME	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #6: "Illegal ME".
EPS Not Allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #7: "EPS services not allowed".
Network Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #17: "Network failure".
IMEI not accepted	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #5: "IMEI not accepted".
Decode Failure	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #23: "UE security capabilities mismatch".
No Bearer Active	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #40: "No EPS bearer context activated".
UE Identity Unknown	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #9: "UE identity cannot be derived by the network".
Implicitly Detached	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #10: "Implicitly detached".
Roaming Restricted TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #13: "Roaming not allowed in this tracking area".
PLMN not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #11: "PLMN not allowed".

Field	Description
TA not allowed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #12: "Tracking area not allowed".
No suitable cells in TA	The total number of TAU Reject messages sent for an Inter-MME TAU request with a cause code of #15: "No suitable cells in tracking area".
No EPS Svc in PLMN	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #14: "EPS services not allowed in this PLMN".
CSG Not Subscribed	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #25: "Not authorized for this CSG".
EPS non-EPS not Allwd	The total number of TAU Reject messages sent for an Inter-MME TAU request, with a cause code of #8: "EPS services and non-EPS services not allowed".
Received	
Attach Complete	Displays total number of EMM Attach Complete message received from UE indicating increments for each Attach Complete message received from UE.
Attach Request	Displays total number of EMM Attach Requests received from UE indicating increments for each Attach Request message received from UE.
PDN Connectivity Reject:	
Other Reasons	Displays total number of ESM messages sent for each TAI by the MME. This indicates that the PDN connection has been rejected for a cause other than one of those listed in the output generated by the **show mme-service statistics esm-only** command.

show update-bearer-request-stats

The output of this command displays the update bearer Response Cause Code (CC16) statistics during HO/3G-4G TAU:

Field	Description
Total_UBRsp_CC16_during_HO_3G_4G_TAU_TX	The total number of counts of update bearer response during 3G-4G GnGp HO TAU and TX proces.
Current Nb of UBRs buffered at mme app	The current number of UBR buffered at MME application.