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## Annex B (informative): Cause values for 5GS session management

### B.1 Causes related to nature of request

#### Cause #8 – Operator Determined Barring

This 5GSM cause is used by the network to indicate that the requested service was rejected by the SMF due to Operator Determined Barring.

#### Cause #26 – Insufficient resources

This 5GSM cause is used by the UE or by the network to indicate that the requested service cannot be provided due to insufficient resources.

#### Cause #27 – Missing or unknown DNN

This 5GSM cause is used by the network to indicate that the requested service was rejected by the external DN because the DNN was not included although required or if the DNN could not be resolved.

#### Cause #28 – Unknown PDU session type

This 5GSM cause is used by the network to indicate that the requested service was rejected by the external DN because the requested PDU session type could not be recognised or is not allowed.

#### Cause #29 – User authentication or authorization failed

This 5GSM cause is used by the network to indicate that the requested service was rejected by the external DN due to a failed user authentication, revoked by the external DN, or rejected by 5GCN due to a failed user authentication or authorization.

#### Cause #31 – Request rejected, unspecified

This 5GSM cause is used by the network or by the UE to indicate that the requested service or operation or the request for a resource was rejected due to unspecified reasons.

#### Cause #32 – Service option not supported

This 5GSM cause is used by the network when the UE requests a service which is not supported by the PLMN.

#### Cause #33 – Requested service option not subscribed

This 5GSM cause is sent when the UE requests a service option for which it has no subscription.

#### Cause #35 – PTI already in use

This 5GSM cause is used by the network to indicate that the PTI included by the UE is already in use by another active UE requested procedure for this UE.

#### Cause #36 – Regular deactivation

This 5GSM cause is used to indicate a regular UE or network initiated release of PDU session resources.

#### Cause #37 – 5GS QoS not accepted

This 5GSM cause is used by the network if the new 5GS QoS that was indicated in the UE request cannot be accepted.

#### Cause #38 – Network failure

This 5GSM cause is used by the network to indicate that the requested service was rejected due to an error situation in the network.

**Cause #39 – Reactivation requested**

This 5GSM cause is used by the network to request a PDU session reactivation.

**Cause #41 – Semantic error in the TFT operation**

This 5GSM cause is used by the UE to indicate a semantic error in the TFT operation included in the request.

**Cause #42 – Syntactical error in the TFT operation**

This 5GSM cause is used by the UE to indicate a syntactical error in the TFT operation included in the request.

**Cause #43 – Invalid PDU session identity**

This 5GSM cause is used by the network or the UE to indicate that the PDU session identity value provided to it is not a valid value or the PDU session identified by the PDU session identity IE in the request or the command is not active.

**Cause #44 – Semantic errors in packet filter(s)**

This 5GSM cause is used by the network or the UE to indicate that the requested service was rejected due to one or more semantic errors in packet filter(s) of the QoS rule included in the request.

**Cause #45 – Syntactical error in packet filter(s)**

This 5GSM cause is used by the network or the UE to indicate that the requested service was rejected due to one or more syntactical errors in packet filter(s) of the QoS rule included in the request.

**Cause #46 – Out of LADN service area**

This 5GSM cause is used by the network to indicate the UE is out of the LADN service area.

**Cause #47 – PTI mismatch**

This 5GSM cause is used by the network or UE to indicate that the PTI provided to it does not match any PTI in use.

**Cause #50 – PDU session type IPv4 only allowed**

This 5GSM cause is used by the network to indicate that only PDU session type IPv4 is allowed for the requested IP connectivity.

**Cause #51 – PDU session type IPv6 only allowed**

This 5GSM cause is used by the network to indicate that only PDU session type IPv6 is allowed for the requested IP connectivity.

**Cause #54 – PDU session does not exist**

This 5GSM cause is used by the network at handover of a PDU session between non-3GPP access and 3GPP access, or at interworking of a PDN connection from non-3GPP access network connected to EPC or from E-UTRAN connected to EPC to a PDU session, to indicate that the network does not have any information about the requested PDU session.

**Cause #57 – PDU session type IPv4v6 only allowed**

This 5GSM cause is used by the network to indicate that only PDU session types IPv4, IPv6 or IPv4v6 are allowed for the requested IP connectivity.

**Cause #58 – PDU session type Unstructured only allowed**

This 5GSM cause is used by the network to indicate that only PDU session type Unstructured is allowed for the requested DN connectivity.

**Cause #59 – Unsupported 5QI value**

This 5GSM cause is used by the network if the 5QI indicated in the UE request cannot be supported.

**Cause #61 – PDU session type Ethernet only allowed**

This 5GSM cause is used by the network to indicate that only PDU session type Ethernet is allowed for the requested DN connectivity.

**Cause #67 – Insufficient resources for specific slice and DNN**

This 5GSM cause is by the network to indicate that the requested service cannot be provided due to insufficient resources for specific slice and DNN or maximum group data rate on a 5G VN group identified by a specific slice and DNN has been exceeded.

**Cause #68 – Not supported SSC mode**

This 5GSM cause is used by the network to indicate that the requested SSC mode is not supported.

**Cause #69 – Insufficient resources for specific slice**

This 5GSM cause is used by the network to indicate that the requested service cannot be provided due to insufficient resources for specific slice, maximum number of PDU sessions on a specific slice has been already reached, data rate on a specific slice has been exceeded, or UE-Slice-MBR has been exceeded.

**Cause #70 – Missing or unknown DNN in a slice**

This 5GSM cause is used by the network to indicate that the requested service was rejected by the external DN because the DNN was not included although required or if the DNN could not be resolved, in the slice.

**Cause #81 – Invalid PTI value**

This 5GSM cause is used by the network or UE to indicate that the PTI provided to it is invalid for the specific 5GSM message.

**Cause #82 – Maximum data rate per UE for user-plane integrity protection is too low**

This 5GSM cause is used by the network to indicate that the requested service cannot be provided because the maximum data rate per UE for user-plane integrity protection is too low.

**Cause #83 – Semantic error in the QoS operation**

This 5GSM cause is used by the network or the UE to indicate that the requested service was rejected due to a semantic error in the QoS operation included in the request.

**Cause #84 – Syntactical error in the QoS operation**

This 5GSM cause is used by the network or the UE to indicate that the requested service was rejected due to a syntactical error in the QoS operation included in the request.

**Cause #85 – Invalid mapped EPS bearer identity**

This 5GSM cause is used by the network or the UE to indicate that the mapped EPS bearer identity value provided to it is not a valid value or the mapped EPS bearer identified by the mapped EPS bearer identity does not exist.

**Cause #86 – UAS services not allowed**

This 5GSM cause is used by the network to indicate that the requested UAS services are not allowed.

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## B.2 Protocol errors (e.g., unknown message)

**Cause #95 – Semantically incorrect message**

This 5GSM cause is used to report receipt of a message with semantically incorrect contents.

**Cause #96 – Invalid mandatory information**

This 5GSM cause indicates that the equipment sending this 5GSM cause has received a message with a non-semantic mandatory IE error.

**Cause #97 – Message type non-existent or not implemented**

This 5GSM cause indicates that the equipment sending this 5GSM cause has received a message with a message type it does not recognize either because this is a message not defined, or defined but not implemented by the equipment sending this 5GSM cause.

**Cause #98 – Message type not compatible with protocol state**

This 5GSM cause indicates that the equipment sending this 5GSM cause has received a message not compatible with the protocol state.

**Cause #99 – Information element non-existent or not implemented**

This 5GSM cause indicates that the equipment sending this 5GSM cause has received a message which includes information elements not recognized because the information element identifier is not defined or it is defined but not implemented by the equipment sending the 5GSM cause. However, the information element is not required to be present in the message in order for the equipment sending the 5GSM cause to process the message.

**Cause #100 – Conditional IE error**

This 5GSM cause indicates that the equipment sending this cause has received a message with conditional IE errors.

**Cause #101 – Message not compatible with protocol state**

This 5GSM cause indicates that a message has been received which is incompatible with the protocol state.

**Cause #111 – Protocol error, unspecified**

This 5GSM cause is used to report a protocol error event only when no other 5GSM cause in the protocol error class applies.