**3GPP TSG SA WG5 Meeting #156 S5-244190**

**Maastricht, The Netherlands, 19 - 23 August 2024**

**Source: CATT**

**Title: Add business scenarios for store and forward satellite operation**

**Document for: Approval**

**Agenda Item: 7.5.1**

# 1 Decision

***The group is asked to discuss and agree on the proposal.***

# 2 References

[1] 3GPP TR 28.846: " Study on charging aspects of satellite access Phase 3 ".

# 3 Rationale

This pCR proposes to add the business scenarios for satellite store and forward operation.

# 4 Detailed proposal

The following changes are proposed to be incorporated into the new TR.

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| **1st Modified Section** |

# 5 Business roles and business scenarios

## 5.x Business scenarios for S&F operation

### 5.x.1 Business scenarios for S&F operation with spilt MME architecture

For the spilt MME architecture, the UE with the store and forward capability attaches to the satellite in the store and forward mode, the data could be stored on the satellite when the feeder link is not available. When the feeder link is available, the UE data could be forwarded to the ground DN. There are several satellites that may be involved to finish the attach procedure or data transmission procedure.

The MNO may rent satellites to deploy the eNB and part of MME functions from the Satellite Service Provider. The terrestrial MNO could be charged by Satellite Service Provider based on the usage of involved satellites.

For the wholesale between MNO and SSP, the MNO is charged party and the SSP is the charging party.

The UE has a subscription agreement with the MNO. The UE is charged by the MNO which can provide the satellite store and forward service, otherwise, the UE may not be able to transmit the data.

### 5.x.2 Business scenarios for S&F operation with full EPC on-board architecture

For the full EPC on-board architecture, the MNO may rent the satellite to deploy the eNB and core NFs from the Satellite Service Provider. The terrestrial MNO could be charged by Satellite Service Provider based on the usage of the satellite.

For the wholesale between MNO and SSP, the MNO is charged party and the SSP is the charging party.

The UE has a subscription agreement with the MNO, The UE is charged by the MNO which can provide the satellite store and forward service, otherwise, the UE may not be able to transmit the data.

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| **End of Modified Sections** |