**3GPP TSG-SA WG6 Meeting #63 S6-244436**

**Hyderabad, India, 14th – 18th October 2024 (revision of S6-244332)**

**Source: Motorola Solutions, FirstNet**

**Title: Pseudo-CR on Generic IOPS Solution on TS23.180 Section 10.5.1.4**

**Spec: 3GPP TR 23.700-09, v0.2.0**

**Agenda item: 8.8**

**Document for: Approval**

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**1. Introduction**

In Rel-17 work on Mission critical services support in the Isolated Operation for Public Safety (IOPS) mode of operation has led to solutions described in 3GPP TS 23.180.

This original IOPS technical specification (3GPP TS 23.180) was defined to support 4G networks, but as other mission critical services it was described rather agnostic to the type of network access.

This pCR is related to KI#1 to make the existing IOPS section 10.5.1.4, described in 3GPP TS 23.180, access generic. The original text has been copied from TS 23.180, i.e. it is not new text, and the change marks highlight suggested required modifications.

**2. Reason for Change**

Study work is continued.

**3. Conclusions**

<Conclusion part (optional)>

**4. Proposal**

It is proposed to agree the following changes to 3GPP TR 23.700-09, v0.2.0.

\* \* \* First Change \* \* \* \*

### 6.x Solution #x: Clause 10.5.1.4 (IOPS emergency group call) of TS 23.180

#### 6.x.1 General

This clause is related to KI#1 addresses section 10.5.1.4 of 3GPP TS 23.180. It describes which changes are needed to make the section IOPS emergency group call of 3GPP TS 23.180 applicable for all supported 3GPP access methods.

#### 6.x.2 Solution

Note: The original clause has been copied from TS 23.180. The change marks highlight the required modifications for an access generic IOPS solution.

\* \* \* Next Change \* \* \* \*

#### 10.5.1.4 IOPS emergency group call

The procedure in figure 10.5.1.4-1 illustrates the procedure for an IOPS MCPTT emergency group call establishment based on the IP connectivity functionality. The IOPS emergency group call is a special case of the IOPS group call setup procedure described in clause 10.5.1.3, wherein the IOPS group call announcement contains an indication that the IOPS group call is an IOPS emergency group call. The group call participants can become aware of the IOPS MCPTT group's in-progress emergency state based on the emergency indicator.

When an MCPTT client intends to initiate an IOPS emergency group call, the MCPTT client can request higher priority from the IOPS MC connectivity function via the IOPS discovery request.

An IOPS group call in-progress can be upgraded to an IOPS emergency group call by including the emergency indicator within the periodic IOPS group call announcement. An IOPS group call in-progress can also be upgraded by a participating MCPTT client by sending an IOPS emergency group call upgrade to the IOPS group.

The MCPTT user who initiated an IOPS emergency group call, or upgraded an IOPS group call to an emergency group call, or an authorized user can cancel the emergency state of the group call by sending an IOPS emergency group call state cancel to the IOPS MCPTT group. The emergency state of the IOPS group call remains active until the emergency group call ends or the in-progress emergency state is cancelled.

Pre-conditions:

- MCPTT user profile used for the IOPS mode of operation is pre-provisioned in the MCPTT UEs;

- The IOPS MCPTT group ID and its associated IOPS group IP multicast address are pre-configured in the MCPTT clients;

- MCPTT users have an active Data Network connection to the IOPS MC connectivity function for the communication based on the IP connectivity functionality;

- MCPTT users affiliated to the target IOPS MCPTT group are discovered by the IOPS MC connectivity function supporting the IP connectivity functionality;

- The IOPC MC connectivity function may have established an multicast session and announced it to the MCPTT clients;

- MCPTT client 1 may have retrieved group connectivity information from the IOPS connectivity client related to the target IOPS MCPTT group;

- MCPTT clients 1, 2 … n are configured within the same IOPS MCPTT group.



Figure 10.5.1.4-1: IOPS emergency group call setup based on the IP connectivity functionality

1. The MCPTT user at MCPTT client 1 would like to initiate an IOPS emergency group call with a specific IOPS MCPTT group based on the IP connectivity functionality.

NOTE 1: The MCPTT client 1 may have previously requested higher priority from the IOPS MC connectivity function using the IOPS discovery request.

2. The MCPTT client 1 sends an IOPS group call announcement to the target IOPS MCPTT group. The announcement contains an indication that the call is an IOPS emergency group call. The MCPTT client 1 transmits the group session packets carrying the IOPS group call announcement to the IOPS MC connectivity function for distribution to the corresponding IOPS group IP multicast address.

3. The IOPS MC connectivity function determines that the received packets correspond to a group session targeting a specific IOPS MCPTT group. The IOPS MC connectivity function decides to distribute the received group session packets to the target MCPTT clients over multicast and/or unicast transmissions. If the MCPTT client 1 requested a priority state from the IOPS MC connectivity function, the IOPS MC connectivity function distributes the group session packets with higher priority.

4. The IOPS MC connectivity function distributes the group session packets carrying the IOPS group call announcement to the MCPTT clients from the target IOPS MCPTT group.

5. The MCPTT clients receiving the IOPS group call announcement with an emergency indicator join the IOPS emergency group call and notify the target MCPTT users about the IOPS emergency group call. The IOPS MCPTT group's emergency state is defined.

NOTE 2: Whilst the emergency state of the IOPS group call remains active, other participating MCPTT clients of the group call may also request higher priority from the IOPS MC connectivity function using the IOPS discovery request.

6. If confirm mode indication is included in the IOPS group call announcement, the receiving MCPTT clients respond to the IOPS MCPTT group indicating the result of the establishment of the announced IOPS emergency group call. The receiving MCPTT clients transmit the group session packets carrying the IOPS group call response to the IOPS MC connectivity function for distribution to the corresponding IOPS group IP multicast address.

NOTE 3: Step 6 can also occur prior to step 5.

7. The IOPS MC connectivity function determines that the received packets correspond to a group session targeting a specific IOPS MCPTT group. The IOPS MC connectivity function decides to distribute the received group session packets to the target MCPTT clients over multicast and/or unicast transmissions. If any participating MCPTT client of the group call requested a priority state from the IOPS MC connectivity function, the IOPS MC connectivity function distributes the group session packets with higher priority.

8. The IOPS MC connectivity function distributes the group session packets carrying the IOPS group call response to the MCPTT clients from the target IOPS MCPTT group. The MCPTT clients recognize the IOPS emergency group call originator through the IOPS group call announcement and can check the participants of the IOPS group call through the received response message.

9. The MCPTT clients have successfully established the IOPS emergency group call based on the IP connectivity functionality.

NOTE 4: Due to the movement of the participants (in and out of the IOPS coverage) during the IOPS emergency group call, the IOPS group call announcement is periodically sent by the MCPTT client 1.

NOTE 5: The participating MCPTT clients do not need to respond to the periodic IOPS group call announcement.

\* \* \* End of Changes \* \* \* \*