

## eCall PSAP in-band modem modes

eCall PSAP in-band modems can be configured in so-called "PUSH-mode" or "PULL-modes".

### **PSAP PULL-mode**

- PSAP immediately starts to request MSD at call connect.
- This mode should be used by PSAPs which only receive eCalls and no normal 112 emergency calls

### **PSAP PUSH-mode**

- PSAP waits for 5s whether it can detect IVS initiation signal
- If PSAP detects IVS initiation signal, it will start to request MSD
- If PSAP does not detect IVS initiation signal, it will switch to voice communication
- This mode should be used by PSAPs, which receive eCalls and normal 112 emergency calls

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### **3GPP TS 26.267**

cl. 4.3 eCall in-band modem architecture

The first operation mode shall be referred to as the pull mode whereas the latter one is the push mode. Essentially, push mode is realized by a request from the IVS to the PSAP to pull the MSD.

**The requirement about the modem to be configured in either push or pull mode is beyond the scope of this specification.** Refer to clause 4.2 for a reproduction of eCall service requirements.

cl. 7.1 Normal operation

Upon request by the operator or by the IVS push message, the PSAP transmitter starts sending START messages. The IVS receiver shall detect the synchronization preambles that are transmitted along with the START messages and obtain synchronization. This enables the IVS receiver to demodulate and detect the START messages. The PSAP transmitter continues sending START messages to the IVS at this stage. The maximum allowed number of START messages to be transmitted by the PSAP modem is determined by the higher-layer protocols and timers (**which are out of scope for this specification**).

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### **CEN EN 16062**

7.4.2 Send initiation signal from IVS eCall modem to PSAP

After the eCall has been picked-up by the PSAP telephone system it shall be routed to the PSAP in-band modem; **the PSAP modem shall immediately send the "SEND-MSD" message to the IVS responsible for the eCall system modem or wait for the INITIATION message** (sent by the IVS responsible for the eCall system)

**NOTE immediately sending the "SEND-MSD" avoids delay and improves the probability of success, but is only appropriate if the PSAP is confident that the call is an eCall (as opposed to any other 112 or other type of call).**

The "INITIATION" message (signal) from the IVS responsible for the eCall system shall be sent as soon as the IVS responsible for the eCall system has received a signal that the call has been answered.

The "INITIATION" message (signal) from the IVS responsible for the eCall system shall persist until either of the following conditions are met:

after the IVS responsible for the eCall system has received a "SEND MSD" message from the PSAP in-band modem

or within T3 - IVS INITIATION signal duration [2 s] (see Annex A) after the IVS responsible for the eCall system has received a signal that the call has been answered

If the PSAP is waiting for an INITIATION message and a valid "INITIATION" message is not received by the PSAP eCall modem within T4- PSAP wait for INITIATION signal period [5 s] from when the call has been answered, then the call shall be routed to a PSAP operator (see Annex A).

The IVS responsible for the eCall system eCall modem INITIATION signalling procedure shall be in accordance with ETSI/TS 126 267 and ETSI/TS 126 268.