



**MOTOROLA E-MERGE INDUSTRY LEADERSHIP INITIATIVE  
„SOSMOTO“ USING UUS DATA-OVER-VOICE TECHNOLOGY  
08.09.2004 / ECDG meeting, Brussels**

*MOTOROLA AUTOMOTIVE*

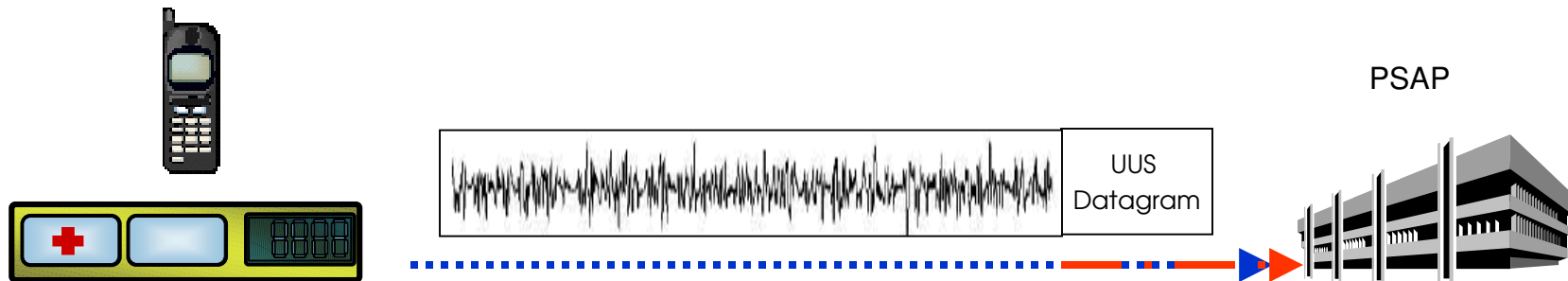


**MOTOROLA**  
*intelligence everywhere™*

# WITH UUS (USER-TO-USER SIGNALLING), THE IN-VEHICLE SYSTEM (IVS) COMMUNICATES DIRECTLY WITH THE PSAP USING SAME CHANNEL FOR VOICE AND DATA

2

## Communication between IVS and PSAP via UUS Service Level 1 (1)

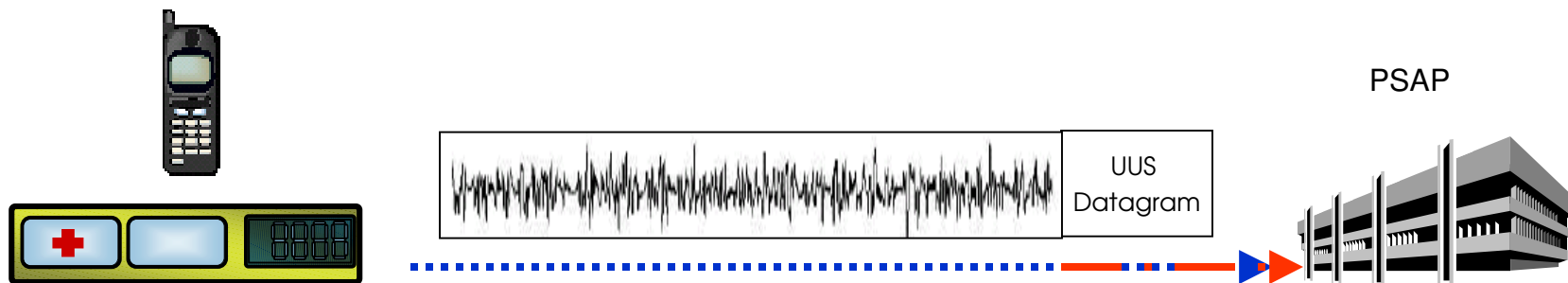


- UUS Service Level 1 (UUS1) is implemented in ISDN- and GSM-networks
- UUS1 exchanges user-user information during the setup and clearing phases of a call, by transporting information elements in the call control messages → data is transmitted during the emergency call set-up of a call in some free bytes in the set-up message
- Voice and data in one channel, no complicated sms handling required
- Service already used on ISDN side for communication within telephone switchboards

## SERVICE IS AVAILABLE, BUT BLOCKED BECAUSE OF MISUSAGE IN THE ISDN NETWORK – THIS CAN BE PREVENTED FOR „112“ USE-CASE

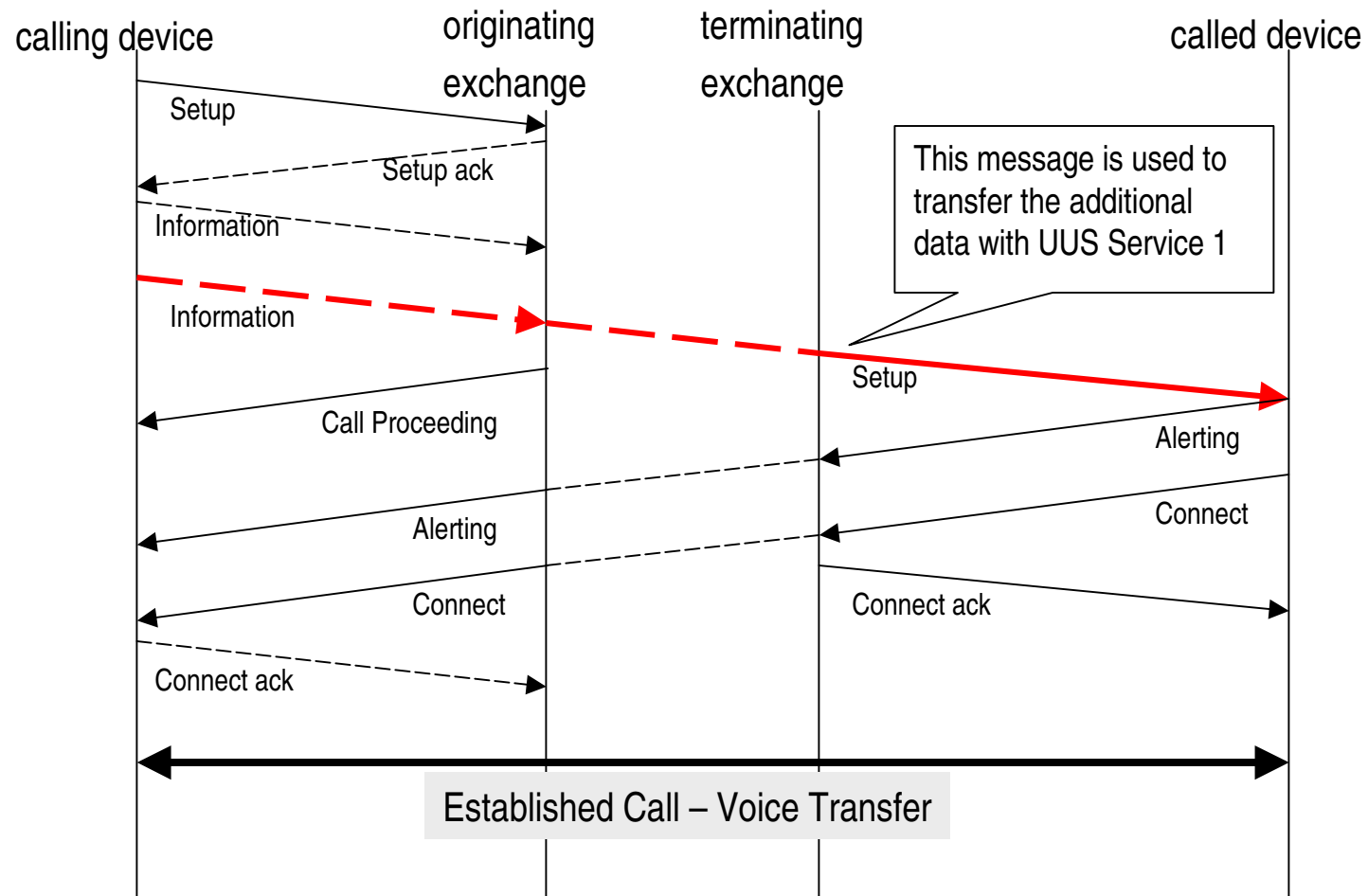
3

### Communication between IVS and PSAP via UUS Service Level 1 (2)



- The user-user signalling (UUS1) supplementary service allows an ISDN user to send/receive a limited amount of information to/from another ISDN user over the signalling channel in association with a call to the other ISDN user
- E-112-messages must be filtered out at PSAP-site
- By transferring UUS1 data from GSM to ISDN there could be a limitation of 32 Byte (e.g. E-Plus), but enough to transfer the E-merge minimum-set-of-data
- Service is available, but blocked because of misuse in the isdn network – this can be prevented for „112“ use-case. 112 identifier is needed.

## UUS1 – Transmission during emergency call set-up



**REQUIRED UUS1 AT-COMMAND IS ALREADY IN GSM-SPECIFICATION, BUT NOT USED TODAY. ISDN MAKES USE OF THIS FEATURE ALREADY TODAY.**

5

## *Support on GSM-phones and ISDN-phones*

### **GSM-phones:**

- First set the UUS1-data-string with an (optional) AT-command and then set up emergency call to the recipient
- Required AT-command is already in GSM-specification, but not implemented in most of mobile phones because of missing use cases

### **ISDN-phones:**

- AT-command is the same like for GSM-phones
- Required AT-command is implemented in most of available ISDN-telephones because of some use cases within the telephone switchboards.

# UUS1 FUNCTIONALITY CAN BE ADDED WITH LITTLE COST IMPLICATION TO MOBILE PHONES

6

## Requirements on GSM-phones and ISDN-phones

- Mobile phones have to support UUS1:
  - implementing UUS1-AT-command complying with the standard
  - intelligent IVS has to create UUS1-AT-command with E-MERGE-datastring and send it to receiver (PSAP) by emergency-call setup
- The gateways between GSM- and ISDN-networks have to be opened for the UUS1-service (via subscription with service providers)
- Receiver (PSAP-side) is a standard PC with an ISDN-card, connected directly to the NTBA; standard-software for saving and visualizing UUS1-information

# THE ADVANTAGES BY FAR OUTWEIGH THE DISADVANTAGES

7

## Advantages & Disadvantages of UUS1

### Advantages:

- Direct connection to PSAP
- Very fast, no extra server infrastructure required
- Roaming possible, no changes required
- Free of charge with the 112 call
- Application on PSAP-site could be outside from the telephone switchboard

### Disadvantages:

- Changes on IVS-site required (TCU upgrade)
- Only uni-directional without acknowledge
- Service mostly blocked → subscription with ALL network providers required

# MOTOROLA PROPOSES A PUBLIC PRIVATE PARTNERSHIP WITH KEY STAKEHOLDERS TO MAKE ECALL A STANDARD FUNCTIONALITY ON EVERY CAR

8

## PPP - Private Public Partnership

- The fastest approach for a common European solution
- Europe-wide infrastructure for consistent Europe-wide mobile emergency call handling
- Minimal infrastructure cost at PSAP site
- Low-cost implementation for the telcos
- E-MERGE and e-safety conform
- ETSI approval and standardisation is possible

### EU-support / EU-commission support

- Active support for solution realisation
- Co-financing

PPP

**WITH ADEQUATE SUPPORT MOTOROLA BELIEVES THAT A BASIC ECALL CAN BE IMPLEMENTED RELATIVELY QUICK – THIS HELPS TO CONTRIBUTE TO THE ESAFETY GOAL**

*Roadmap for implementation*

