Technical Specification Group Services and System Aspects ***GTT(01)0030***
Global Text Telephony Workshop, Dusseldorf, Germany, 18-19 April 2001

Source: **Drafting Group (GTT ad hoc)**

Title: **User to User support of CTM**

Document for: **Discussion**

Agenda Item: **5**

This contribution focuses on the generic GTT requirements for user to user Text Telephony.

Possible solutions:

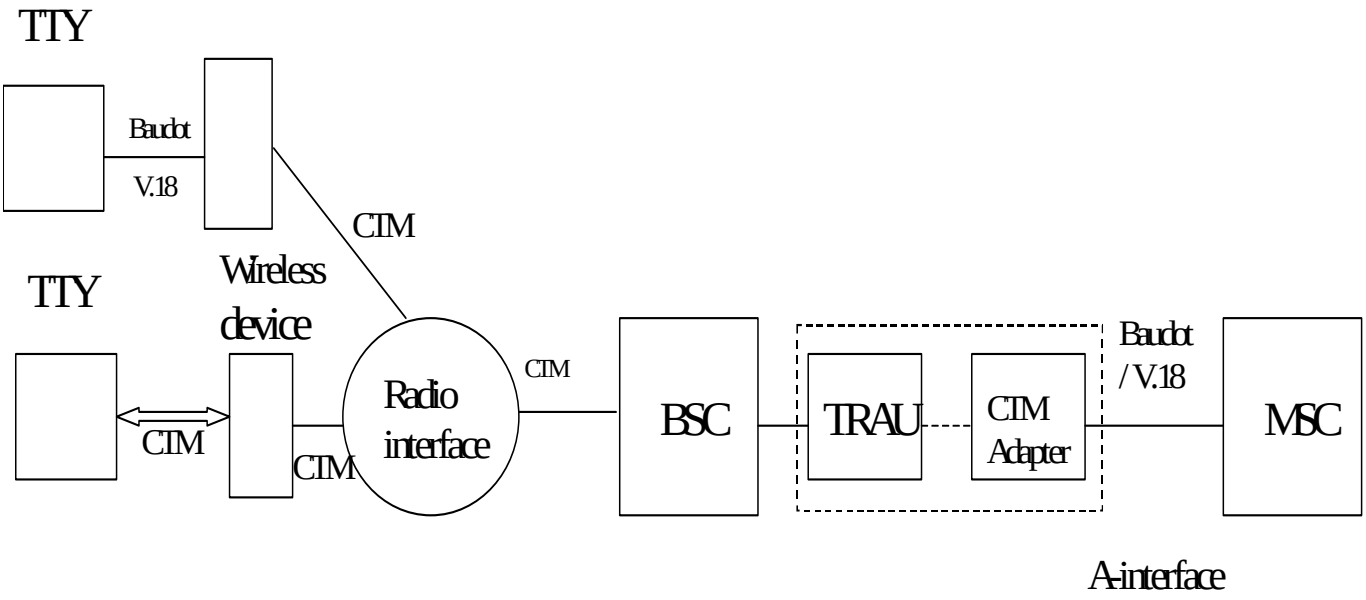
1. All transcoder (GSM and UMTS)
2. Transcoder pooling
3. CTM service node - CAMEL
4. CTM service node – Bearer Capability

Note: In this document the assumption has been taken that prefix/suffix dialling is not used. However, should prefix/suffix dialling be used then alternative mechanisms, such as using standard switch routing mechanisms to route calls via a CTM service node are likely to be possible.

1a – User to User - All transcoder solution (GSM)

Description

In this solution all the transcoders in a network are upgrade to support the CTM modem.



Main Issues

- Every Transcoder needs upgraded to support CTM
- At inter-BSC handover, the CTM adapter will change. The impact of this is for further study.Charging considerations, how is appropriate billing information captured?
- Roaming to networks which do not support CTM

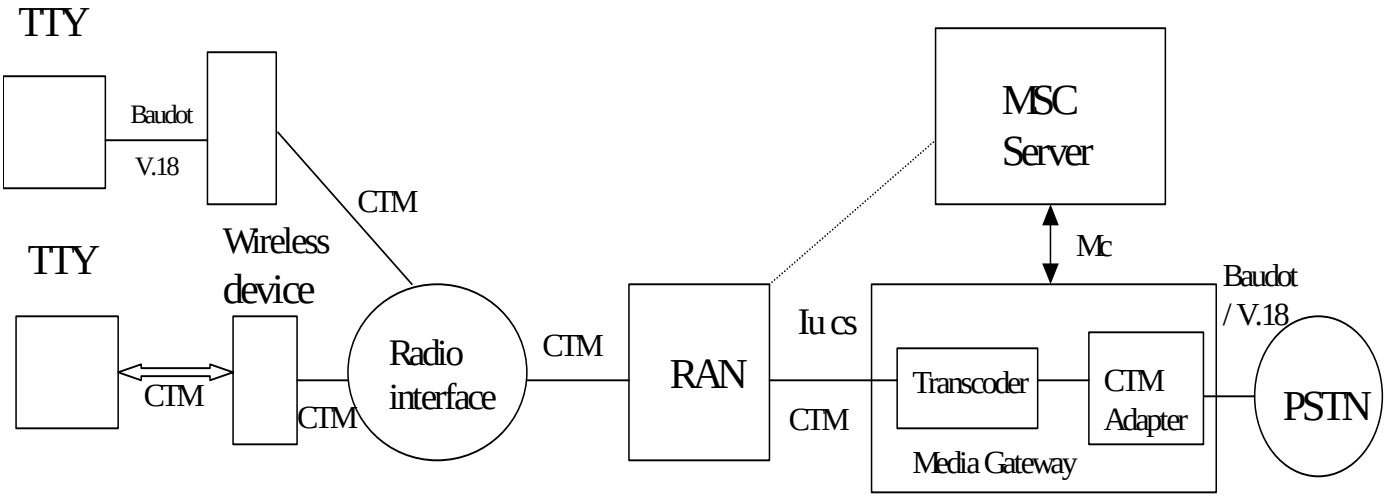
Specification Issues

- Update 08.02 and 23.002 with a general description
- Update 23.226 introducing CTM in all trau/transcoders

1b – User to User - All transcoder solution (UMTS)

Description

In this solution all the transcoders in a network are upgrade to support the CTM modem.



Main Issues

- Every Transcoder needs upgraded to support CTM
- Charging considerations, how is appropriate billing information captured (look more possible than GSM)?
- Roaming to networks which do not support CTM

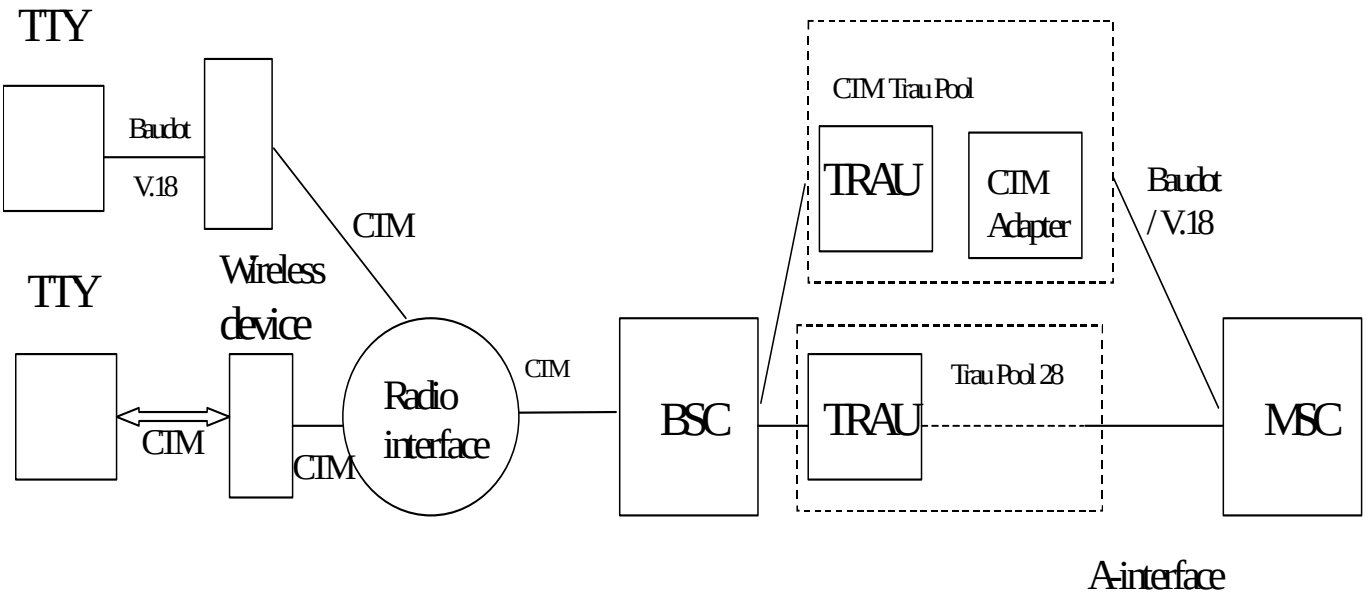
Specification Issues

- Update 23.002 with a general description
- Update 23.226 introducing CTM in all trau/transcoders

2a – User to User - Pooling of CTM Trau resources (GSM)

Description

In this solution a Trau pool is created which supports the CTM modem. All calls to/from mobiles sending CTM bearer capability code point are routed via a CTM Trau pool using standard techniques defined for trau pooling.



Main Issues

- Bearer capabilities (of CTM support in the mobile) need to be provided to the network, an additional bearer code point in the bearer capability is required.
- 08.08 will need to be updated to show how this category of pool is supported.
- MSC needs to link the call with access to the CTM trau pool.
- At inter-BSC handover, the CTM adapter will change. The impact of this is for further study. Charging considerations, how is appropriate billing information captured?
- CTM to Baudot/V.18 conversion will not be provided while roaming to a networks that does not support any CTM conversion functionality.
- In order to receive calls, the CTM bearer capability information needs to be activated in the terminal

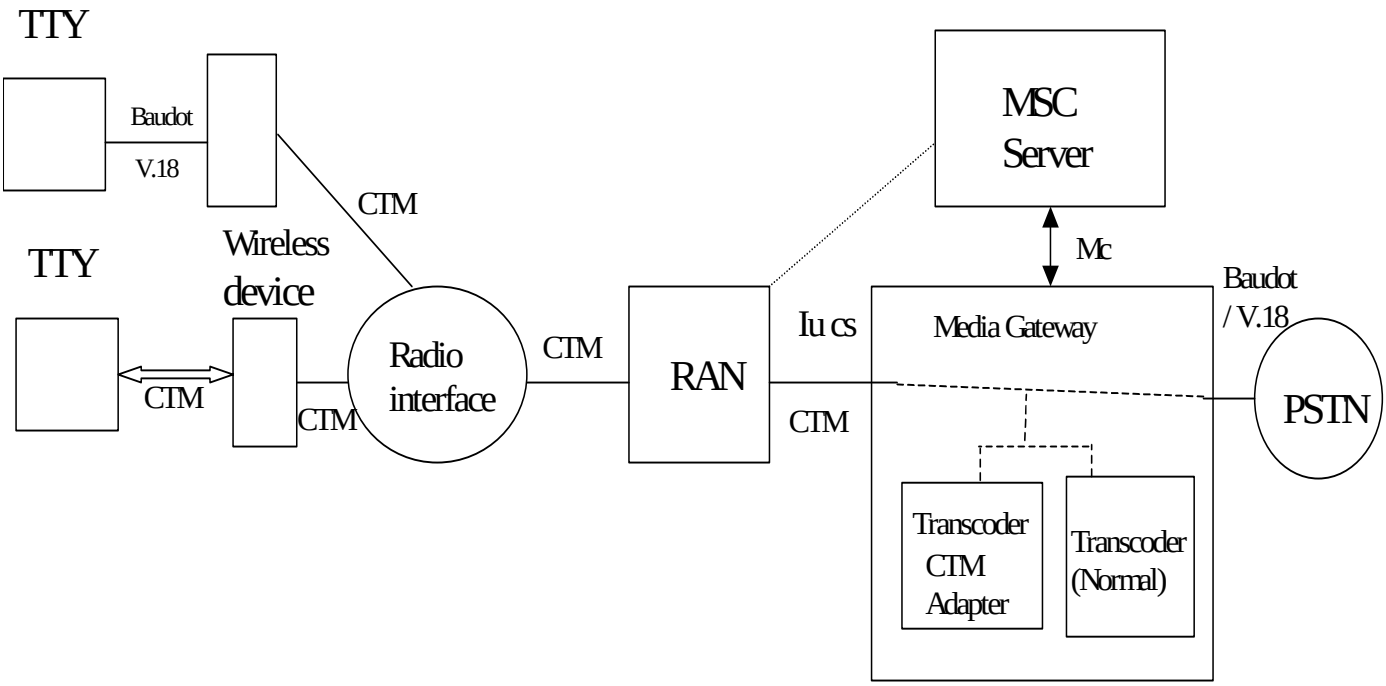
Specification Issues

- Update 08.02 and 23.002 with a general description
- Update 23.226 that all CTM calls are routed through the trau pool
- Update 08.08 defining a new circuit pool
- Update 24.008 putting in CTM code points in the bearer capability information elements for the call back case
- T2 specification for the MMI - update 02.07 and UMTS 22.007

2b – User to User - Transcoder pooling solution (UMTS R4)

Description

In this solution a CTM transcoder function is selected for text telephony calls.



Main Issues

- Bearer capabilities (of CTM support in the mobile) need to be provided to the network, an additional bearer code point in the bearer capability is required.
- MSC server needs to link the call to a CTM transcoder function.
- CTM to Baudot/V.18 conversion will not be provided while roaming to networks that does not support any CTM conversion functionality.

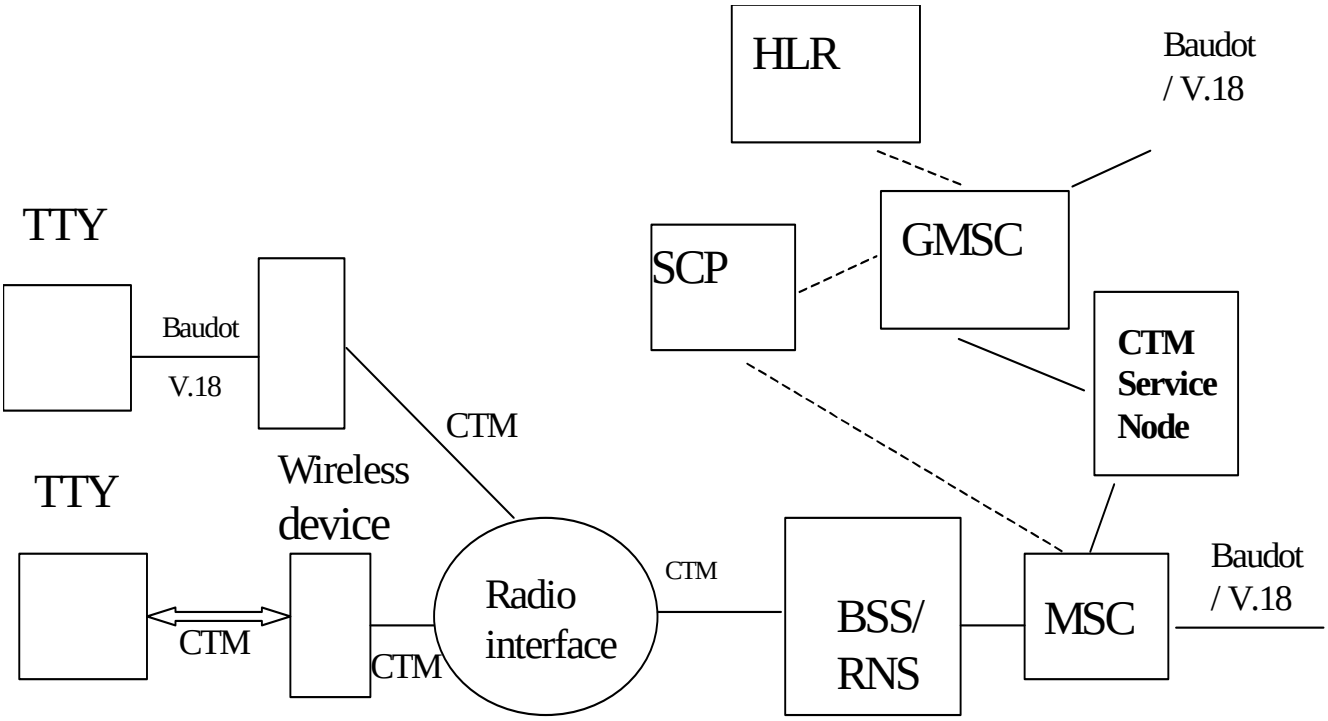
Specification Issues

- Update 23.002 with a general description
- Update 23.226 that all CTM calls are routed through the trau pool
- Additional field in H.248 is likely to be required for CTM (adding one new transport for TXC package)
- Update 24.008 putting in CTM code points in the bearer capability information elements for the call back case
- T2 specification for the MMI - update 02.07 and UMTS 22.007
- Further elaboration is required when the transcoder is located at the gateway MSC.

3 – User to user - CTM service node solution – CAMEL -(GSM)

Description

CAMEL is used to route calls via the CTM service node.



Main Issues

- Registration of subscribers requiring service
- CTM CAMEL service interaction with other CAMEL services
- It will be complicated to synchronise echo cancelling, and speech enhancement, if needed in the Trau with CTM usage. It will be complicated to synchronise TrFO and TFO with CTM usage.
- CAMEL needs to be supported
- Roaming CTM support only works for Non-emergency calls in networks that support CAMEL.
- International transmission of CTM, is this an issue?

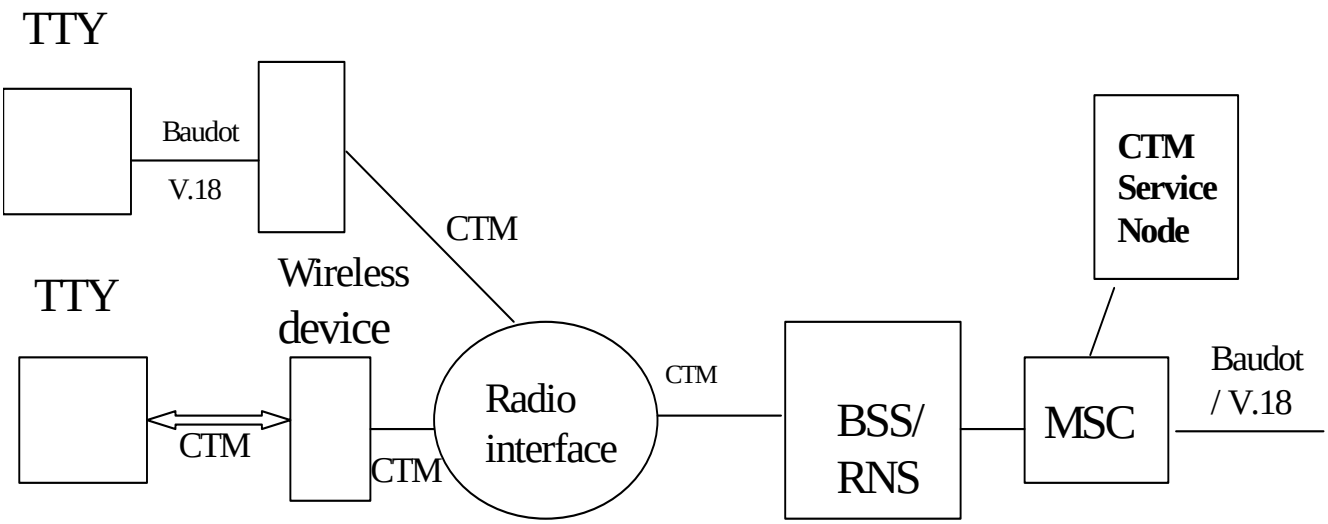
Specification Issues

- Update 23.002 with a general description
- Update 23.226 that all emergency calls are routed through the CTM service node
- Update 23.226 CLI detection for call back at the GMSC or MSC for routing via the CTM Service Node
- Detailed description of the CTM service from a SCP perspective in 23.226.
- Detailed description of the CTM Service Node and how it works (with sufficient detail to ensure interoperability) in 23.226

4 – User to User - CTM service node solution – Bearer Capability (GSM)

Description

In this solution bearer capability information is used to route calls to the CTM at call set up.



Main Issues

- Bearer capabilities (of CTM support in the mobile) need to be provided to the network, an additional bearer code point in the bearer capability is required.
- MSC needs to link the call with access to the CTM service node.
- CTM to Baudot/V.18 conversion will not be provided while roaming to networks that do not support any CTM conversion functionality.

Question: How are terminating calls handled? CTM supplementary service may have to be defined. There is nothing in the system that tells a mobile terminated call to route through a CTM server (needs subscription, detection, prefixing, etc.).

This solution is for further study.