

TSG-RAN Working Group 3 meeting #6
Sophia Antipolis, France 24th – 27th August 1999

Agenda Item: 10.3 Procedure specifications (TS 25.413)
Source: NTT DoCoMo, Nippon Telecommunications Consulting
Title: Restriction for active calls
Document for: Decision

References

[1] TS 25.413 RANAP specification version 1.1.1

1. Abstract

This contribution proposes the new procedure in restriction for active calls.

2. Traffic congestion in a certain area

2.1 Call provision

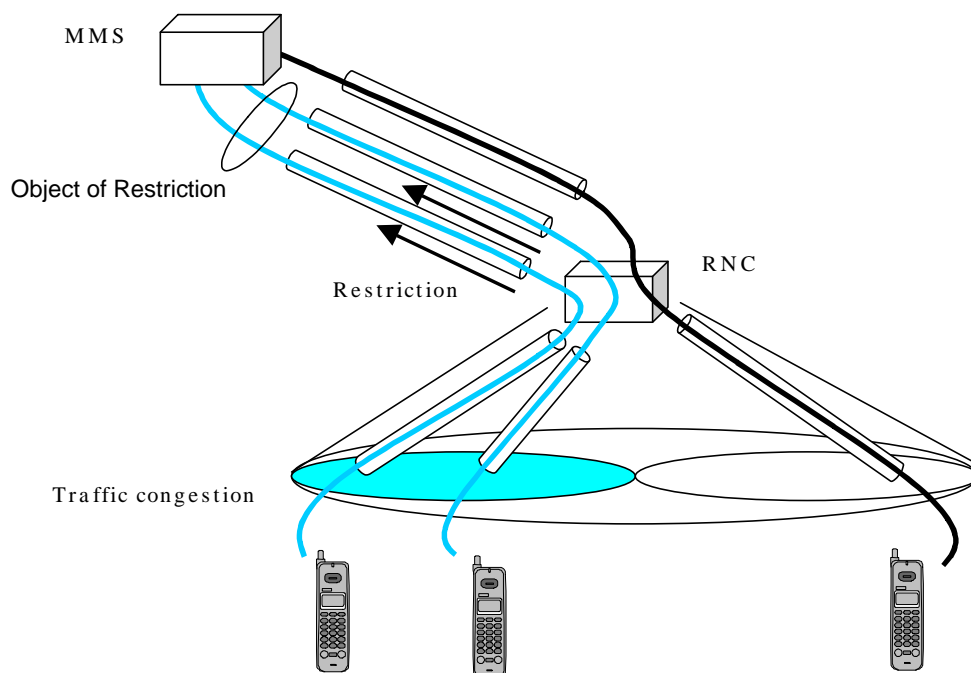
There is a possibility that the higher traffic is occurred in a certain area at the disaster. In that case, the operator has to avoid the Congestion State. On the other hand, since many people seem to want to make a phone call in order to communicate with a friend or a relative under a disaster, operator should provide the call with such people.

To provide as many subscribers as possible with the call holding the traffic in a certain level, some restriction is needed. Normally the call, that has once been connected, should be hold until user requests the release. However it is also important that each subscriber have the chance to tell the safety of himself at emergency condition such as a calamity. It would lead to the prevention for social unrest.

In the case of the limitation of the maximum communication time, NW should supply the restricted call in a certain time, e.g. few minutes, to be enough to tell the safety, and release it after announcing.

2.2. Priority Control

The call of higher priority class user should not be released by the restriction even in disaster. The priority class should be also considered in restriction procedure. The user related information is stored in CN side, and the restriction is performed by CN.



3. Restriction Control

When the traffic is increased in a certain area, it is not necessary to restrict all calls within a MMS. It is useful to give the restriction for only the call in the area where the traffic has increased. The current location information is needed at the restriction. Since RAN has the detail location information during a call, it is RAN that can allocate the maximum communication time dynamically according to the traffic and location within RAN. On the other hand, CN has the responsibility for the call control. CN also has the user class information and the announcement function of the restricted call to the user.

Therefore RAN should decide the limitation time according to the traffic and location within RAN, and notify CN of the objection for the restriction. The role of the RAN is the allocation of the restricted time and the notification to CN. And then CN should control the call taking account of the user class and the notification sent from RAN.

The restriction release should be performed similarly according to the request from RAN. RAN is able to recognize the movement of the MT from the target area, and then notify CN that the call become out of the object of the restriction.

When the restriction is released in the RAN, the release message is sent to CN too.

4. Proposal

It has been proposed to add Annex 1,2 of this contribution to TS 25.413.

Annex 1

8.X.X RESTRICTION REQUEST

When the user having the active call is located in the target area for the restriction, RESTRICTION REQUEST message is sent to CN. It is possible to set the limitation time in this message. On receipt of this message, CN performs the call restriction for the user.

This message is sent on the SCCP CO. In the case where there are two lu connections, RNC should send this message for each connection. The method of realizing the restriction is considered to be an implementation matter.

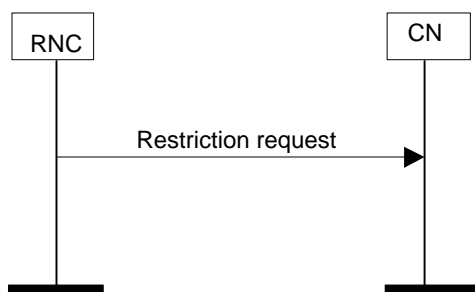


Figure 1. RESTRICTION REQUEST

8.X.X RESTRICTION RELEASE

This message is used to notify CN of the movement of the user, which have active call, from the target restriction area to the outside and the release of the restriction for specific area. This message is sent on the SCCP CO.

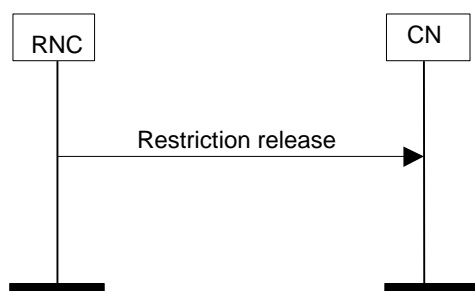


Figure 2. RESTRICTION RELEASE

Annex 2

RESTRICTION REQUEST

INFORMATION ELEMENT	REFERENC E	TYPE
Message Identifier		M
Restriction time		O

RESTRICTION RELEASE

INFORMATION ELEMENT	REFERENC E	TYPE
Message Identifier		M