Technical Specification Group Services and System Aspects   ***TSGS#4(99)269***
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Source: **BT, NTT DoCoMo, T-Mobil**

Title: **Optimal Routing**

Document for: **Decision**

Agenda Item: **6.1.2**

So far, the issue of Optimal Routing (OR) has not been considered in detail by 3GPP although TSG CN2 is developing a prepaging mechanism for the sake of saving ISUP resources in case *of subscriber not reachable* which refers to OR as a possible application.

Within ETSI SMG, the status of OR for GSM networks is as follows:

1. Late Call Forwarding (LCF) cases, mainly triggered by Conditional Call Forwarding to a Voice Mail System, shall be handled by
   - partial route back to the originating network,
   - rerouting from there.

2. Mobile-to-mobile calls (MMC) shall be covered by CAMEL phase 3 methods.

Actually, the Late Call Forwarding specification mentioned above has been completed quite some time ago (R'96), however, it is almost nowhere implemented. The main reasoning for choosing a CAMEL based solution for MMC was: CAMEL is expected to be introduced by many GSM operators, therefore the handling of MMCs via CAMEL phase 3 is considered to provide a significantly higher implementation chance than any other mechanism.

However, the prepaging mechanism could be extended to a general solution for OR:

In cases where remote interrogation and IMSI detach do not help (CF on busy subscriber, CF on no answer, CF on subscriber not reachable) some sort of prepaging may be considered:
- paging of the called party is triggered without having the call already routed beyond the originating network's gateway via remote set-up of the call by the serving network,
- busy subscriber or no answer or no paging response is signaled back to the gateway, and the remote call is terminated,
- in case the called party answers the call the missing link between the originating network and the serving network is established.

TSG CN2 shall be tasked
- to study the extension of current prepaging under the aspect of a general OR solution,
- to outline the feasibility of such an approach.