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Title: LS on reply to Liaison Statement on access signalling and mobile station behaviour for Multicall

Source: TSG CN WG1
TO: TSG CN WG2
Cc: TSG CN SS ad hoc, TSGN

WI: Multicall

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TSG CN WG1 thanks TSG CN WG2 for their LS on access signalling and mobile station behaviour for Multicall.

N2 raised three concerns in N2-000016. N2 concerns and N1 answers are below:

1. We understand that an MS which can support multicall will send a setup message including a stream identifier greater than 1 if the user requests a new call when there is at least one existing active call, but the MS can support another parallel call. If the MSC/VLR is Release 99 but it does not support multicall, it will reject the setup message because it includes a stream identifier greater than 1. This would mean that an emergency call would be rejected by the network. Have N1 considered the interaction between Multicall and handling of emergency calls?

Answer: N1 agreed that the network supporting Multicall shall inform its capability to the MS at the first call. That means the MS can recognize whether the visiting network supports Multicall or not , and ensure the emergency call establishment even if the network does not support Multicall, and there is an ongoing call.

2. We understand that N1 decided that the MS will not use the classmark to indicate to the network its capability for the number of parallel bearers which it can support. Hence, if a mobile terminated call arrives in the VMSC the MSC/VLR has to rely on the subscription information and the generic capabilities of the MSC/VLR to decide whether the new call should be offered as a parallel call or a waiting call. It is therefore necessary to define the error handling for the case where the network offers the incoming call as a new parallel call but the MS cannot accept the incoming call as a new parallel call. The service requirement appears to indicate that the network should offer the incoming call as a waiting call if it cannot be offered as a new parallel call and call waiting is active and operative (this is

straightforward if **the network** has determined that the incoming call cannot be offered as a new parallel call).

Answer: N1 reconsidered, and agreed that the MS supporting Multicall shall inform its capability related to Multicall using CC capability IE in call control protocol. That means the network can know the number of parallel bearers which the MS can support, and handle the incoming calls appropriately.

3. We understand that the behaviour of the MS in the call case described in point 2 is to return a Call Confirmed message indicating UDUB. So far as we understand the behaviour of the MS, this means that the user will be alerted for the incoming call. The behaviour of the network **could** be defined so that if the MS indicates that it cannot accept the incoming call the network will check whether the incoming call can be offered as a waiting call. This would add substantially to the complexity of the call handling in the network and the signalling procedures between the network and the MS. However it is not **certain** that the incoming call will be offered as a waiting call, so there is a possibility that the user will be alerted for the incoming call but the call will not be offered. It appears to N2 that to allow the MS to reject the offer of the incoming call as a parallel call without alerting the user would need a substantial change to the behaviour of the MS. N2 ask N1 to review their decision not to use the MS classmark to indicate to the network its capability for the number of parallel bearers which it can support. This would simplify the call handling in the network to decide whether an incoming call should be offered as a waiting call or a new parallel call, and would ensure that the possibility of undesirable service behaviour (alerting the user for a call which the network decides afterwards not to offer) can be avoided without the need for a major revision to the call handling behaviour of the MS.

Answer: As described above, N1 agreed that the MS supporting Multicall shall inform the number of parallel bearers which it can support. So, N1 think we don't have to take account of the situation that the network does not know the MS capability. In case that the MS can not accept the incoming call offered within the MS capability, it shall initiate call clearing procedure which is specified in TS 24.008. (This means N1 withdraws the approved CR (N1-99C86) related to the MS behaviour in the case that it can not accept the additional incoming call.)