

3GPP2 X.S0004-350-E

v 1.0

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3RD GENERATION
PARTNERSHIP
PROJECT 2
"3GPP2"

Mobile Application Part (MAP) -

VOICE FEATURE SCENARIOS: MDN-BASED VALIDATION

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REVISION HISTORY

Revision	Date	Remarks
X.S0004-350-E v1.0	January 2009	Initial publication.

1 INTRODUCTION

Unless otherwise noted, the scenarios in this section depict features operating individually; i.e., feature interactions are not considered unless specifically noted.

The scenarios in this part do not include a complete listing of operation parameters, either in the figures or in the accompanying text descriptions. Parameters are included where they are deemed necessary to improve the understanding of the scenario. For a complete description of the parameters associated with each operation, refer to Parts 540 and 550.

2 MDN-Based Validation

This section depicts the interactions between network entities in various situations related to MDN-Based subscription validation. These scenarios are for illustrative purposes only.

2.1 Successful MDN-Based Validation

This scenario illustrates successful MDN-Based subscription validation when the Serving MSC determines the originating subscriber is eligible for special service treatment. In this case, the originating subscriber's profile information is not available requiring the Serving MSC to send a QualificationRequest2 INVOKE to the Originating MS's HLR and retrieve the originating subscriber's profile information before delivering the call to the Terminating party.

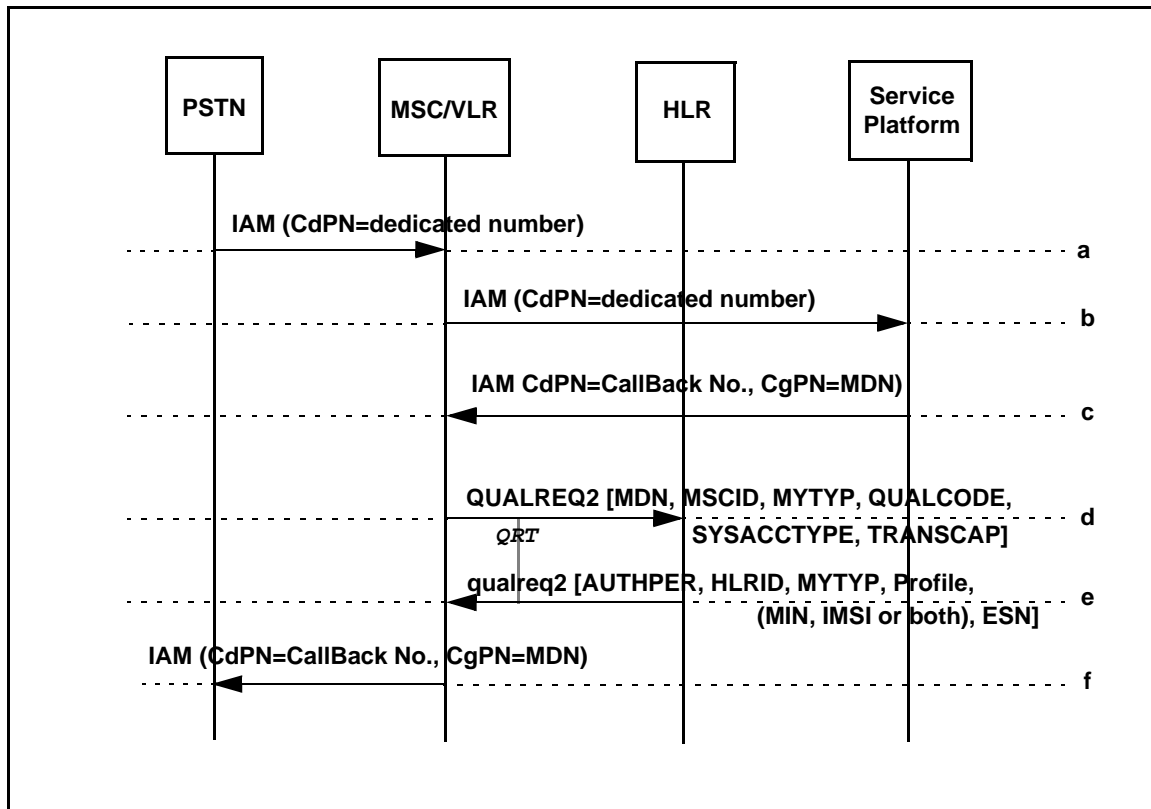


Figure 1 Successful MDN-Based Validation

- a. A mobile subscriber originates a call to a dedicated number, e.g., voice mail, from a landline phone. An ISUP IAM message is sent to the Serving MSC.
- b. The Serving MSC receives the incoming call and determines that the dialed number translates to a dedicated route to a service platform, e.g., voice mail system and an IAM is sent to this system.
- c. The service platform is only aware of the MDN (mobile directory number) of the subscriber, e.g., the subscriber is required to enter their MDN in order to access their messages. The service platform initiates a new call , e.g., to a callback number, on behalf of the subscriber and a new IAM is sent to the Serving MSC with the calling party number set to the MDN.
- d. The Serving MSC determines that originating validation is required for the incoming call and searches the VLR for a record corresponding to the originating subscriber's MDN. In this case, a corresponding record is not found. This results in MAP QualificationRequest2 (QUALREQ2) INVOKE message being sent to the Originating MS's Home HLR to retrieve the subscriber's profile information including the MIN, IMSI or both.
- e. The HLR locates the subscriber's record using the supplied MDN, performs its validation functions, and returns a qualreq2 with the subscriber's profile information and MIN, IMSI or both and ESN to the requesting Serving VLR.
- f. The Serving MSC finishes originating validation and delivers the call to the PSTN.

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2.2 Successful MDN-Based Validation with WIN Success

This scenario illustrates successful MDN-Based subscription validation when the Serving MSC determines the originating subscriber is eligible for special service treatment. In this case, the call from the Service Platform to a Call Back number invokes a WIN trigger at the MSC/VLR and successful call delivery to the terminating party.

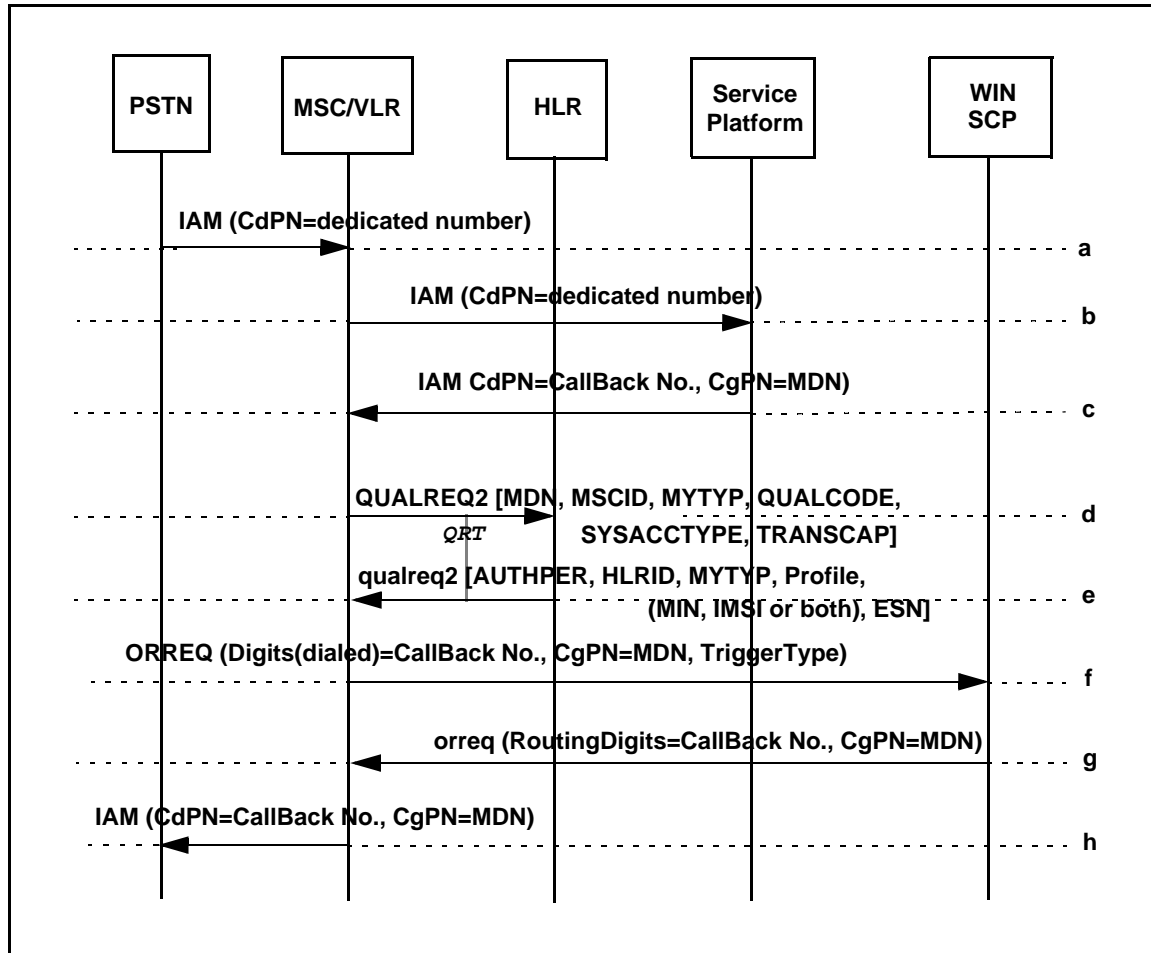


Figure 2 Successful MDN-Based Validation with WIN Success.

- A mobile subscriber originates a call to a dedicated number, e.g., voice mail, from a landline phone. An ISUP IAM message is sent to the Serving MSC.
- The Serving MSC receives the incoming call and determines that the dialed number translates to a dedicated route to a service platform, e.g., voice mail system and an IAM is sent to this system.
- The service platform is only aware of the MDN (mobile directory number) of the subscriber, e.g., the subscriber is required to enter their MDN in order to access their messages. The service platform initiates a new call, e.g., to a callback number, on behalf of the subscriber and a new IAM is sent to the Serving MSC with the calling party number set to the MDN.

- d. The Serving MSC determines that originating validation is required for the incoming call and searches the VLR for a record corresponding to the originating subscriber's MDN. In this case, a corresponding record is not found. This results in MAP QualificationRequest2 (QUALREQ2) INVOKE message being sent to the Originating MS's Home HLR to retrieve the subscriber's profile information including the MIN, IMSI or both.
- e. The HLR locates the subscriber's record using the supplied MDN, performs its validation functions, and returns a qualreq2 with the subscriber's profile information and MIN, IMSI or both and ESN to the requesting Serving VLR.
- f. A trigger in the MSC/VLR causes the MSC/VLR to send an ORREQ INVOKE to the WIN SCP to request call origination instructions.
- g. The WIN SCP returns an orreq RETURN RESULT with routing digits.
- h. The Serving MSC delivers the call to the PSTN.

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2.3 Successful MDN-Based Validation with WIN Call Failure

This scenario illustrates successful MDN-Based subscription validation when the Serving MSC determines the originating subscriber is eligible for special service treatment. In this case, the call from the Service Platform to a Call Back number invokes a WIN trigger at the MSC/VLR and call failure treatment.

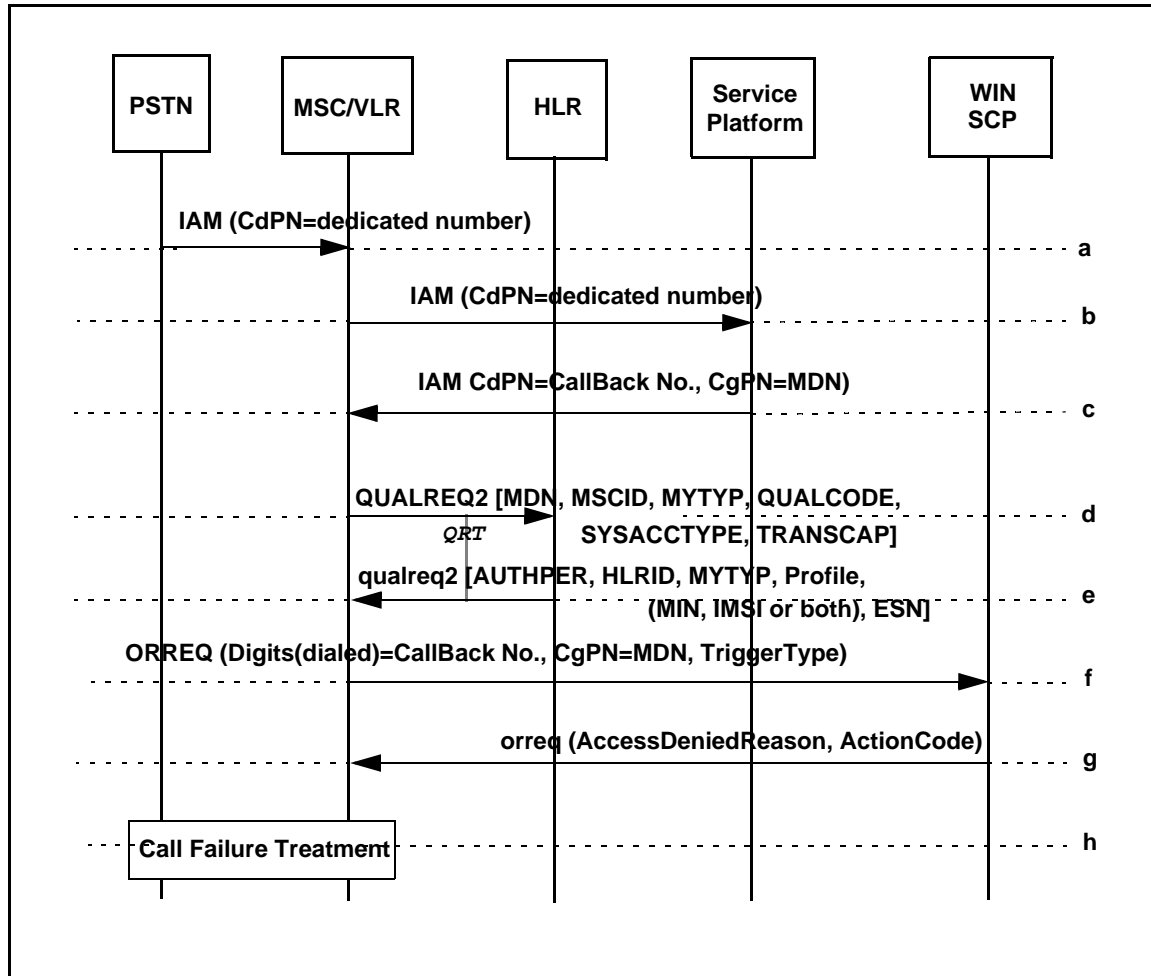


Figure 3 Successful MDN-Based Validation with WIN Interaction.

- A mobile subscriber originates a call to a dedicated number, e.g., voice mail, from a landline phone. An ISUP IAM message is sent to the Serving MSC.
- The Serving MSC receives the incoming call and determines that the dialed number translates to a dedicated route to a service platform, e.g., voice mail system and an IAM is sent to this system.
- The service platform is only aware of the MDN (mobile directory number) of the subscriber, e.g., the subscriber is required to enter their MDN in order to access their messages. The service platform initiates a new call, e.g., to a callback number, on behalf of the subscriber and a new IAM is sent to the Serving MSC with the calling party number set to the MDN.

- d. The Serving MSC determines that originating validation is required for the incoming call and searches the VLR for a record corresponding to the originating subscriber's MDN. In this case, a corresponding record is not found. This results in MAP QualificationRequest2 (QUALREQ2) INVOKE message being sent to the Originating MS's Home HLR to retrieve the subscriber's profile information including the MIN, IMSI or both.
- e. The HLR locates the subscriber's record using the supplied MDN, performs its validation functions, and returns a qualreq2 with the subscriber's profile information and MIN, IMSI or both and ESN to the requesting Serving VLR.
- f. A trigger in the MSC/VLR causes the MSC/VLR to send an ORREQ INVOKE to the WIN SCP to request call origination instructions.
- g. The WIN SCP returns an orreq RETURN RESULT with a reason for call failure and any final treatment, e.g., an announcement to be played to the caller.
- h. The Serving MSC gives final call treatment to the call as directed by the WIN SCP.

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