



HLR Lookup Service *(Release 1.1.0)*

1. Introduction

1.1. Summary

This document will illustrate the HLR Lookup Service (or Network Query)

1.2. Scope

The information contained in this document may be used by all third parties that need to implement SMS services utilizing the Digitel Mobile platform and relative gateway.

1.3. To whom it may concern

The HLR Lookup service is available to all Digitel Mobile's users and business partners, like:

- **Independent Software Vendors**
- **Software developers**
- **System integrators**

1.4. Glossary

ACCOUNT	User name that identifies the user
SMS	Short Message Service
MCC	Mobile Country Code
MNC	Mobile Network Code
NCC	National Color Code
MSISDN	Mobile Station ISDN number
GSM	Global System for Mobile communications
URL	Internet address
CALL BACK	Data transfer from Server to Server
CELLID	Base Station Identity

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2. Specifications

2.1. HLR Lookup

The service provides information in order to know if a mobile phone number (MSISDN) exists and from which Operator it originates from.

2.1.1. Use of the service

In order to perform the HLR Lookup it will be sufficient to do the HTTP Post to SMS Gateway that will generate a Query and returns a result either via Email or via http (Call Back)

2.1.2. Host

The Gateway accept the request through <http://gateway.smsitaly.com/hlr/lookup.asp> (or <https://gateway.smsitaly.com/hlr/lookup.asp> in SSL)

2.1.3. Parameters

The parameters required for the http POST are:

- **Account (max 20 alphanumeric characters)**
- **Password (max 20 alphanumeric characters)**
- **Msisdn (max 16 numeric characters preceded by a + sign)**
- **UriCallback (max 98 alphanumeric characters)**
- **UserRef (max 20 alphanumeric characters)**
- **TestMode (boolean)**

2.1.4. Account

It is the Username used by the User to access to the Control Panel and for SMS delivery.

2.1.5. Password

With the Username it identifies the Account that is using the service.

2.1.6. Msisdn

Indicates the mobile phone number in the international format (e.g. +4477961234567).

2.1.7. UriCallback

It is the Internet address where to do the call-response to the HLR Lookup request. The parameter may be an email address, in this case the string will be the following:
mailto:emailaddress@domain.com

2.1.8. UserRef

It may be an alphanumeric string with max 20 characters indicated by the User (for example

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the Record ID of a database). The same value will be returned back with the other values.

2.1.9. TestMode

If it's TRUE, it will simulate the request to the SMS Gateway.

2.2. Request acceptance (+OK and -ERR)

HTTP requests initiated by the user will generate a response from the SMS Gateway that can be:

- positive response (+OK)
- negative response (-ERR)

2.2.1. Positive response (+OK)

If the parameters submitted are correct and no error is generated, the SMS Gateway will provide a response to the user with the following values:

- 1st line: +OK space and value of the charge (i.e. +OK 0.025)
- 2nd line: value of credit remaining (i.e. 9.975)
- 3rd line: mobile phone number used for the HLR Lookup (i.e. + 4477961234567)
- 4rd line: serial number assigned to lookup request (i.e. 1.0198899123000002282791.hlr)

2.2.2. Negative response (-ERR)

If the response is negative, the SMS Gateway will answer back giving the User the following values:

- 1st line: -ERR space and value that indicates the error number (i.e. -ERR 98)
- 2nd line: description of the error (i.e. Login Failure)

2.3. Call Back

The SMS Gateway will generate a Query that will run in the "background" and will generate a response to the User using a Call Back via Email or via http. The response will contain the following parameters:

- Msi sdn
- Country
- Network
- NetType
- IsoCountry
- NetCode
- RequestId
- UserRef
- Status
- CellId
- Result

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2.3.1. Mslsdn

Indicates the mobile phone number in international format (i.e. +4477961234567) used for the Lookup request.

2.3.2. Country

The country name relative to the number (returns "Unknown" if the Number is not found).

2.3.3. Network

The name of the Operator relative to the number (returns "Unknown" if the Number is not found).

2.3.4. NetType

Type of Network (i.e. GSM, GSM 900, GSM 1800, 3G etc.). This parameter can also be returned without any value.

2.3.5. IsoCountry

Indicates the ISO Country Code (i.e. GBR for UK). This parameter can also be returned without any value.

2.3.6. NetCode

Operator Network Code (MNC) (i.e. 32F451 for VODAFONE UK).

2.3.7. RequestId

Returns the Id number assigned to the request (i.e. 1.0198899123000002282791.hlr).

2.3.8. UserRef

Returns the value assigned by the User to this parameter during the HLR Lookup request.

2.3.9. Status

Is the current Status represented by MCC and NCC. Returns "Absent" if the Operator is not reachable and "Invalid" if the Number does not exist).

2.3.10. Result

It returns the result of the query. The values are listed in Annex A

The **CellId** Parameter is not returned ("Unknown")



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Result Codes

- 0 = POSITIVE RESULT
 - 1 = ABSENT (GENERIC)
 - 2 = INVALID MSISDN (UNKNOWN SUBSCRIBER)
 - 5 = UNIDENTIFIED SUBSCRIBER
 - 8 = ROAMING NOT ALLOWED
 - 9 = ILLEGAL SUBSCRIBER
 - 11 = TELESERVICE NOT PROVISIONED
 - 12 = ILLEGAL EQUIPMENT
 - 13 = CALL BARRED
 - 15 = FACILITY NOT SUPPORTED
 - 20 = MOBILE SUBSCRIBER NOT REACHABLE
 - 40 = DIALOGUE TIMED OUT
 - 60 = EQUIPMENT PROTOCOL ERROR
 - 65 = INVALID SME-ADDRESS
 - 81 = INVALID DESTINATION ADDRESS
- (other codes can be added with a new update)