

# O<sub>2</sub> Litmus

Manage Device API  
Developer Guide

## 1 Document History

### 1.1 Document Detail

<b>Title:</b>	Manage Device API O2 Litmus Developer Guide
<b>Owner:</b>	O2 Litmus Support Team

### 1.2 Intended audience

This document is intended for use by registered O2 Litmus developers to gain an understanding of the O2 Litmus developer environment and guidance on how develop applications using the Manage Device API.

### 1.3 Document Revision History

Version	Date	Author	Comments
1.0	May 2009	O2 Litmus Support Team	Initial Version

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## 2 Introduction

The Manage Device API provides a set of flexible functions which allow a developer to query the range of handsets supported by O2, and also to gain specific information about particular customer handset capabilities.

Examples include identifying which manufacturers and models are supported by O2, a URL pointing to a valid device image, and the capabilities of individual users' devices based on MSISDN queries.

The O2 Litmus Platform offers well-defined interfaces based on Web services.

Web Service based interfaces ensure that the parameter types used by each of the O2 Litmus API's are common wherever possible. The O2 Litmus Platform will validate Web Services requests to ensure that malformed requests are not passed on to the API. If malformed requests are presented by applications they are rejected and an exception is returned to the application.

Therefore all O2 Litmus applications requiring access to an O2 Litmus API will need to be developed using the Web service interface definitions provided within this document.

### 2.1 Glossary

Within this document the following definitions are used:

Term	Description
Client	The caller of the Manage Device API.
Customer	Partners who make use of the Manage Device API capabilities
ID	Identity
MSISDN	The internationally formatted mobile number, this should start with the country code, and not have a plus (+) i.e. 447712345678.
SOAP	Simple Object Access Protocol
XML	eXtended Mark-up Language

### 3 Interfaces

As it is explained in the developer guide, the invocation of the services enabled in Litmus requires using a WS-Security SOAP header in all the requests. This header must contain the developer username, developer password, the application ID, and it is recommended it includes a transaction ID header to track the request. You can see an example of a security header in the O2 Litmus Development Guide: “8.4 Sample Request XML (Generated by soapUI)”.

This API provides the following methods to interface with the service:

- getDeviceImage
- getDeviceList
- getManufacturerList
- getManufacturer

#### 3.1 getDeviceImage

This method returns a URL to the device image based on the request parameter.

##### 3.1.1 getDeviceImage Request

The following table shows an example request for this service with the soap header.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:man="http://soa.o2.co.uk/manageddevicedata_1"
xmlns:psc="http://soa.o2.co.uk/pscommondevicedata_1" xmlns:cor="http://soa.o2.co.uk/coredata_1">
  <soapenv:Header>
    <wsse:Security soapenv:mustUnderstand="1" xmlns:wsse="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">
      <wsse:UsernameToken wsu:Id="UsernameToken-3463180" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
        <wsse:Username>USERNAME@APPLICATION_ID</wsse:Username>
        <wsse:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-
token-profile-1.0#PasswordText">PASSWORD</wsse:Password>
        <wsse:Nonce>9HElpU5BcDIToXY4fqaP7w==</wsse:Nonce>
        <wsu:Created>2009-05-04T14:32:37.714Z</wsu:Created>
      </wsse:UsernameToken>
    </wsse:Security>
    <cor:SOAConsumerTransactionID>56576679823</cor:SOAConsumerTransactionID>
  </soapenv:Header>
  <soapenv:Body>
    <man:getDeviceImage>
      <deviceImage>
        <displayBrand>DISPLAYBRAND</displayBrand>
        <displayModel>DISPLAYMODEL</displayModel>
      </deviceImage>
    </man:getDeviceImage>
  </soapenv:Body>
</soapenv:Envelope>
```

The following table explains the Manage Device API request parameters to getDeviceImage:

Input Parameter	Data Type	Required	Comments	Format
DEVICEIMAGE	Struct	YES		
DISPLAYBRAND	Text	YES	The name of the vendor of the handset	i.e. Nokia
DISPLAYMODEL	Text	YES	The name of the specific handset model	i.e. N95

### 3.1.2 getDeviceImage Response

Following table contains an example of a part of a getDeviceImage response.

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns4:getDeviceImageResponse xmlns="http://soa.o2.co.uk/pscommondevicedata_1"
xmlns:ns2="http://soa.o2.co.uk/coredata_1" xmlns:ns3="http://soa.o2.co.uk/managedevicedata_1"
xmlns:ns4="http://www.o2litmus.co.uk/devProxy/litmusapis/ManageDevice">
      <ns4:imageURL>http://portal0.ref.o2.co.uk/deviceinfo/images/nokia_n95_59x110_right.gif</ns4:imageURL
    >
    </ns4:getDeviceImageResponse>
  </soap:Body>
</soap:Envelope>
```

Parameter	Data Type	Comments
imageURL	Text	The URL of the Image of the device.

## 3.2 getDeviceList

This method provides the list of the devices available for a given manufacturer on the O2 network. The following sections describe the content of a request and a response to it.

### 3.2.1 getDeviceList Request

This operation gets the list of devices that are available for any given brand. Parameters details are explained below.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:man="http://soa.o2.co.uk/managedevicedata_1" xmlns:cor="http://soa.o2.co.uk/coredata_1">
  <soapenv:Header>
```

```

<wsse:Security soapenv:mustUnderstand="1" xmlns:wsse="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">
  <wsse:UsernameToken wsu:Id="UsernameToken-3463180" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
    <wsse:Username>USERNAME@APPLICATION_ID</wsse:Username>
    <wsse:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-
token-profile-1.0#PasswordText">PASSWORD</wsse:Password>
    <wsse:Nonce>9HElpU5BcDIToXY4fqaP7w==</wsse:Nonce>
    <wsu:Created>2009-05-04T14:32:37.714Z</wsu:Created>
  </wsse:UsernameToken>
</wsse:Security>
<cor:SOAConsumerTransactionID>56576679823</cor:SOAConsumerTransactionID>
</soapenv:Header>
<soapenv:Body>
  <man:getDeviceList>
    <man:brand>Nokia</man:brand>
  </man:getDeviceList>
</soapenv:Body>
</soapenv:Envelope>

```

Parameter	Data Type	Comments
Brand	Text	The mobile manufacturer brand name

### 3.2.2 getDeviceList Response

Following table shows a response example for the *getDeviceList* method, with the description of relevant fields below.

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header xmlns:man="http://soa.o2.co.uk/manageddevicedata_1">
    <cor:SOATransactionID xmlns:cor="http://soa.o2.co.uk/coredata_1">85da9f6a-c684-4495-b60c-
c398566be3b6</cor:SOATransactionID>
  </soapenv:Header>
  <soapenv:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <man:getDeviceListResponse xmlns:man="http://soa.o2.co.uk/manageddevicedata_1">
      <man:deviceList>
        <man:device>Cocoon</man:device>
        <man:device>ICE</man:device>
        <man:device>JET</man:device>
        <man:device>X1</man:device>
        <man:device>X1 B</man:device>
        <man:device>X1 i</man:device>
        <man:device>X2</man:device>
        <man:device>X2i</man:device>
        <man:device>X3</man:device>
        <man:device>X4</man:device>
        <man:device>Xda Exec</man:device>
        <man:device>Xda Graphite</man:device>
        <man:device>XDA II</man:device>
        <man:device>Xda Ii</man:device>
        <man:device>Xda IIs</man:device>
        <man:device>Xda Mini s</man:device>
        <man:device>Xda Orbit</man:device>
        <man:device>Xda Orbit 2</man:device>
        <man:device>Xda Trion</man:device>
        <man:device>XM</man:device>
      </man:deviceList>
    </man:getDeviceListResponse>
  </soapenv:Body>

```

```
</soapenv:Envelope>
```

Parameter	Data Type	Comments
deviceList	List	List of devices
device	Text	Model name of the device

### 3.3 *getManufacturerList*

This operation gets the list of device manufacturers on the O2 network. The following sections describe the content of a request and a response to it.

#### 3.3.1 *getManufacturerList* Request

This operation brings up the list of all device manufacturers' names. This operation does not take any inputs.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:man="http://soa.o2.co.uk/managedevicedata_1" xmlns:cor="http://soa.o2.co.uk/coredata_1">
  <soapenv:Header>
    <wsse:Security soapenv:mustUnderstand="1" xmlns:wsse="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">
      <wsse:UsernameToken wsu:Id="UsernameToken-3463180" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
        <wsse:Username>USERNAME@APPLICATION_ID</wsse:Username>
        <wsse:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-
token-profile-1.0#PasswordText">PASSWORD</wsse:Password>
        <wsse:Nonce>9HElpU5BcDIToXY4fqaP7w==</wsse:Nonce>
        <wsu:Created>2009-05-04T14:32:37.714Z</wsu:Created>
      </wsse:UsernameToken>
    </wsse:Security>
    <cor:SOAConsumerTransactionID>56576679823</cor:SOAConsumerTransactionID>
  </soapenv:Header>
  <soapenv:Body>
    <man:getManufacturerList>
      <man:getManufacturerListRequest/>
    </man:getManufacturerList>
  </soapenv:Body>
</soapenv:Envelope>
```

#### 3.3.2 *getManufacturerList* Response

Following table shows a response example for the *getManufacturerList* operation, with the description of relevant fields below.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  <soapenv:Header xmlns:man="http://soa.o2.co.uk/managedevicedata_1">
    <cor:SOATransactionID xmlns:cor="http://soa.o2.co.uk/coredata_1">acafc5e5-3dc7-425e-b8d5-
8fce02f3e85a</cor:SOATransactionID>
  </soapenv:Header>
```

```

<soapenv:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <man:getManufacturerListResponse xmlns:man="http://soa.o2.co.uk/managedevicedata_1">
    <man:manufacturerList>
      <man:manufacturer>Handspring</man:manufacturer>
      <man:manufacturer>HP</man:manufacturer>
      <man:manufacturer>LG</man:manufacturer>
      <man:manufacturer>Motorola</man:manufacturer>
      <man:manufacturer>NEC</man:manufacturer>
      <man:manufacturer>Nokia</man:manufacturer>
      <man:manufacturer>O2</man:manufacturer>
      <man:manufacturer>PALM</man:manufacturer>
      <man:manufacturer>Panasonic</man:manufacturer>
      <man:manufacturer>Philips</man:manufacturer>
      <man:manufacturer>Sagem</man:manufacturer>
      <man:manufacturer>Samsung</man:manufacturer>
      <man:manufacturer>Siemens</man:manufacturer>
      <man:manufacturer>SonyEricsson</man:manufacturer>
    </man:manufacturerList>
  </man:getManufacturerListResponse>
</soapenv:Body>
</soapenv:Envelope>

```

Parameter	Data Type	Comments
manufacturerList	List	List of manufacturers
Device	Text	Model name of the device

### 3.4 *getDeviceProfile*

This operation provides a detailed description of a device based on a request parameter which is a choice between msisdn and brand & model. The following sections describe the content of a request and a response to it.

#### 3.4.1 *getDeviceProfile* Request

This operation provides the capabilities of the device explained below. The device's profile can be retrieved by supplying one of the following parameters in the request:

Input Parameter	Data Type	Required	Comments	Format
MSISDN	Text	NO*	The Mobile Phone Number of the subscriber whose device's info is requested.	The internationally formatted mobile number, this should start with the country code, and not have other characters like (+) i.e. 447712345678
BRAND	Text	NO*	The name of the vendor of the handset	i.e. Nokia
MODEL	Text	NO*	The name of the specific handset model	i.e. N95

NOTE: The request for this API is somewhat unique, as it does not require any concrete parameter. msisdn, brand & model are all optional. This means one and only one of them must be provided. If the parameter chosen is brand & model, both brand and model parts must be provided in order to form a valid request.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:man="http://www.o2litmus.co.uk/devProxy/litmusapis/ManageDevice"
xmlns:cor="http://soa.o2.co.uk/coredata_1">
  <soapenv:Header>
    <wsse:Security soapenv:mustUnderstand="1" xmlns:wsse="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd">
      <wsse:UsernameToken wsu:Id="UsernameToken-3463180" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
        <wsse:Username>USERNAME@APPLICATION_ID</wsse:Username>
        <wsse:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-username-
token-profile-1.0#PasswordText">PASSWORD</wsse:Password>
        <wsse:Nonce>9HElpU5BcDIToXY4fgaP7w==</wsse:Nonce>
        <wsu:Created>2009-05-04T14:32:37.714Z</wsu:Created>
      </wsse:UsernameToken>
    </wsse:Security>
    <cor:SOAConsumerTransactionID>7841325651</cor:SOAConsumerTransactionID>
  </soapenv:Header>
  <soapenv:Body>
    <man:getDeviceProfile>
      <man:deviceProfile>
        <msisdn>MSISDN</msisdn>
      </man:deviceProfile>
    </man:getDeviceProfile>
  </soapenv:Body>
</soapenv:Envelope>
```

### 3.4.2 getDeviceProfile Response

Following table shows a response example for the *getDeviceProfile* method.

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:getDeviceProfileResponse
xmlns:ns2="http://www.o2litmus.co.uk/devProxy/litmusapis/ManageDevice"
xmlns:ns3="http://soa.o2.co.uk/coredata_1" xmlns:ns4="http://soa.o2.co.uk/managedevicedata_1"
xmlns:ns5="http://soa.o2.co.uk/pscommondevicedata_1">
      <ns2:deviceProfile>
        <ns5:msisdn>MSISDN</ns5:msisdn>
        <ns5:brand>Nokia</ns5:brand>
        <ns5:model>N95</ns5:model>
        <ns5:displayBrand>Nokia</ns5:displayBrand>
        <ns5:displayModel>N95</ns5:displayModel>
        <ns5:deviceAttributes>
          <ns3:mapItem>
            <ns3:key>imode_support</ns3:key>
            <ns3:boolValue>>false</ns3:boolValue>
          </ns3:mapItem>
          <ns3:mapItem>
            <ns3:key>hardware_gprs</ns3:key>
            <ns3:boolValue>>true</ns3:boolValue>
          </ns3:mapItem>
          <ns3:mapItem>
            <ns3:key>wap_push_ota_settings</ns3:key>
            <ns3:strValue>>true</ns3:strValue>
          </ns3:mapItem>
        </ns5:deviceAttributes>
      </ns2:deviceProfile>
    </ns2:getDeviceProfileResponse>
  </soap:Body>
</soap:Envelope>
```

```

        <ns3:key>mms_receiver</ns3:key>
        <ns3:boolValue>true</ns3:boolValue>
      </ns3:mapItem>
    </ns5:deviceAttributes>
  </ns2:deviceProfile>
</ns2:getDeviceProfileResponse>
</soap:Body>
</soap:Envelope>

```

The device attributes that are retrieved are:

Input Parameter	Data Type	Comments	Format
MSISDN	Text	The Mobile Phone Number of the subscriber whose device's info is requested.	The internationally formatted mobile number, this should start with the country code, and not have other characters like (+) i.e. 447712345678
BRAND	Text	The name of the vendor of the handset	i.e. Nokia
MODEL	Text	The name of the specific handset model	i.e. N95
DISPLAY BRAND	Text	The name of the vendor of the handset	i.e. Nokia
DISPLAY MODEL	Text	The name of the specific handset model	i.e. N95
DEVICE ATTRIBUTES	Struct		

The following table explains the Device Attributes returned with the request:

Device Attributes	Data Type	Comments
HARDWARE_GPRS	Boolean	The device is GPRS capable
IMODE_SUPPORT	Boolean	The device is i-mode capable
MMS_RECEIVER	Boolean	The device can receive multimedia messages MMS
WAP_PUSH_OTA_SETTINGS	Boolean	The device implements the WAP Push over-the-air (OTA) Protocol.
X_O2_ACCREDITED	Boolean	The device is a O2 accredited assuring all the quality standard are achieved.

## 4 Manage Device API Status Codes.

The following table defines command status values returned by the Manage Device API to O2 Litmus:.

Status Code	Type	External Description
manageddeviceservice-10023-3001-E	Error	Unable to process request
manageddeviceservice-10023-3002-E	Error	Unknown Service Error
manageddeviceservice-10023-3004-E	Error	Unable to find MISDN
manageddeviceservice-10023-3005-E	Error	Error in Response
manageddeviceservice-10023-3006-E	Error	Subscriber not found for this MSISDN
manageddeviceservice-10023-2001-F	Fault	Unable to communicate with the Backend service
manageddeviceservice-10023-2002-F	Fault	Communication with Backend service has timed out
manageddeviceservice-10023-2003-F	Fault	Parser Configuration Exception
manageddeviceservice-10023-2004-F	Fault	Unknown Service Exception

## 5 Connectivity

### Manage Device API

Reference environment:

<https://be.o2litmus.co.uk/devProxyFake/litmusapis/ManageDevice?wsdl>

Live environment:

<https://be.o2litmus.co.uk/devProxy/litmusapis/ManageDevice?wsdl>

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