ODF for CDMA Quick Start Guide

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This guide will give instructions on how to configure a CDMA device with Open Mobile, using Open Device Framework (ODF) integration.

In outline, the process of simple integration consists of the following:

I. **Customize the CDMA configuration file:** In an XML editor, customize the MBLiteCdma.xml file for your selected device. Copy the customized file to a system on which you will test the device.

II. **Test:** Test the integration. Customize an AdminWWDevices*.xml file for your operating system, copy it to your test system, and then attempt an Open Mobile connection with the device.

III. **Upload the file to a profile:** Include your customized MBLiteCdma.xml in an Open Mobile profile, and then push the profile to users so they can connect with the device.

Technical Requirements

You will need a test system and a test CDMA device of the type to be integrated.

- The device type must support standard AT commands.
- You will need an XML editor to modify the files.
- Microsoft Core XML Services (MSXML) 6.0 must be present on the test system to validate the customized XML files.

Customizing the CDMA Configuration File

To customize the configuration file for a CDMA device,

1. Create a copy of the file SampleMBLiteCdma.xml.
2. Rename the copy to MBLiteCdma.xml.
3. Open MBLiteCdma.xml in an XML editor.
4. In the `<Device>` block, customize each data element for your selected device, as described in the table below.
5. Save the file.
6. Copy MBLiteCdma.xml to \Program Files\iPass\Open Mobile\bin.

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7. Launch \Program Files\iPass\Open Mobile\bin\ODFVerifier.html.
8. From the drop-down list, select *MBLiteCdma.xml.* Then, click **Validate File.**
9. If validated, proceed to testing the integration (see page 3). If the file does not pass validation, return to Step 4 and ensure your XML is valid. Then repeat Step 8.

Data Elements in MBLiteCdma.xml

Data Element	Description/Notes
Device	The `id` attribute uniquely identifies the device, and must be in the range 3001 to 4000, inclusive. For example, `<Device id="3001">`.

RegInfo	Values for `<PortName>`, `<PnPEnum>`, and `<PnPID>` can be obtained from either Windows Device Manager. Alternatively, you can get values for `<PnPEnum>` and `<PnPID>` from the registry.
	Using Windows Device Manager:
	• *For Windows Vista, Windows 7, or Windows 8:*
	o For `<PortName>`, expand **Ports**. Right-click the AT Command port and pick **Properties**. On the **Details** tab, select *Device Description* from the drop-down list. Copy the name given.
	o For `<PnPEnum>` and `<PnPID>`, expand **Ports**. Right-click the AT Command port and pick **Properties**. On the **Details** tab, select *Device Instance Path* from the **Property** list and note the value. PnPEnum is the entry before the first slash, and PnPID is the entry between the first slash and the second slash.
	• *For Windows XP:*
	o For `<PortName>`, expand **Ports**. Right-click the AT Command port and pick **Properties**. On the **Details** tab, note the name displayed at the top.
	o For `<PnPEnum>` and `<PnPID>`, expand **Ports**. Right-click the AT Command port and pick **Properties**. On the **Details** tab, select *Device Instance ID* from the list and note the value. PnPEnum is the entry before the first slash, and PnPID is the entry between the first slash and the second slash.
	
	Using the Registry:
	1. In Regedit, navigate to **HKLM\SYSTEM\CurrentControlSet\Services\Modem\Enum.**
	2. In the **Enum** folder, locate two files named 0 and 1. One of these will not be present when the device is plugged out. Select this file.
	3. PnPEnum is the entry before the first slash, and PnPID is the entry between the first slash and the second slash.
	
	Any ampersand (&) characters in a value must be followed by the string 'amp;'. For example, if the value of PnPID in the registry is Vid103&Pid1347&Mi03, it would be entered in the XML as Vid103&Pid1347&Mi03.
	
	`<DeviceClassGUID>` can be left at its default value.
	
	Notes on Ports
	• Devices from some families, such as Sierra, do not respond to AT commands when integrated using the modem port. For such devices, the integration must be performed using an additional port, such as the AT Command Port.
	• If the AT Command Port is not available, then locate a port through which the device will accept AT commands, and specify it as the primary, (`<AdditionalPort PrimaryPort = "true">`) This example illustrates the proper format for specifying the additional port.
	`<ModemPort>`
	`<PortName>__Novatel Wireless Ovation HSDPA Modem__</PortName>`

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Data Element	Description/Notes
	<PnPEnum>__USB__</PnPEnum> <PnPID>__VID_1410&PID_4400&MI_00__</PnPID> <DeviceClassGUID>2c7089aa-2e0e-11d1-b114-00c04fc2aae4</DeviceClassGUID> </ModemPort> <AdditionalPort PrimaryPort = "true"> <PortName>__Novatel Wireless AT Command Port (UMTS)__</PortName> <PnPEnum>__USB__</PnPEnum> <PnPID>__VID_1410&PID_4400&MI_00__</PnPID> </AdditionalPort> • In rare cases, the modem port arrival notification may not be properly supplied by the operating system. If so, and the NDIS port is available, the NDIS port must be configured as an additional port so that Open Mobile can detect device arrivals through this port.
DeviceInfo	Querying the device with AT commands in PuTTY or HyperTerminal, determine the values of manufacturer and model and note them here, as follows: <DeviceInfo> <Manufacturer>Example Manufacturer</Manufacturer> <Model>Example Model</Model> </DeviceInfo>
DeviceSettings	• Set PnpIDShared to true when a device shares its PnPEnum and PnPID values with any other devices. • For embedded devices, set <RadioEnabled> to true; otherwise, leave as false. • Leave <RatModeEnabled> as true.
ResumeDelay	Represents the resume delay for the operating system, in milliseconds. Set the value to 45000 (45 seconds): <ResumeDelay> <WinXP>45000</WinXP> <Vista>45000</Vista> <Win7>45000</Win7> <Default>45000</Default> </ResumeDelay>
DeviceFlags	• If the device supports hot plug-out, set the value to 31: <DeviceFlags> <Flag>31</Flag> <Flag>0</Flag> </DeviceFlags> • If the device is embedded, set the value to 32: <DeviceFlags> <Flag>32</Flag> <Flag>0</Flag> </DeviceFlags>

Testing the Integration

After MBLiteCdma.xml is created and validated, the device integration should be tested locally before inclusion in an Open Mobile profile. This will require the customization of an AdminWWDevices*.xml file for your test operating system. (To test on multiple operating systems, create one file for each and repeat this process.)

To create an AdminWWDevices*.xml file:

1. Depending on the test OS, create a copy of the sample file.
   - For Windows XP, copy SampleAdminWWDevices.xml.

- For Windows Vista, copy SampleAdminWWDevicesVista.xml.
- For Windows 7 or Windows 8, copy SampleAdminWWDevicesWin7.xml.

2. Depending on the test OS, rename the copy.
   - For Windows XP, rename to AdminWWDevices.xml.
   - For Windows Vista, rename to AdminWWDevicesVista.xml.
   - For Windows 7 or Windows 8, rename to AdminWWDevicesWin7.xml.
3. Open the renamed file in an XML editor.
4. Add a `<wwdfdb:Device>` XML block to the renamed file. The block needs to include these tags:
   - `wwdfdb:Device`: The `id` attribute must match the `id` attribute value given in MBLiteCdma.xml.
   - `wwdfdb:Mfg`: Device manufacturer.
   - `wwdfdb:Model`: Device model.
   - `wwdfdb:Bin`: Path to MBLiteCdma.dll. Use a value of `%Application%\MBLiteCdma.dll`.
   - `wwdfdb:ImplType`: Implementation type. Use a value of `Impl-V2`.
   - `wwdfdb:Ver`: ODF version. Use a value of `1.0.0.1`.
   - `wwdfdb:Status`: Device status. Use a value of `InUse`.

   An example is shown below:

```
<wwdfdb:Device id="3001">
<wwdfdb:Mfg>HUAWEI INCORPORATED</wwdfdb:Mfg>
<wwdfdb:Model>EC121</wwdfdb:Model>
<wwdfdb:Bin>%Application%\MBLiteCdma.dll</wwdfdb:Bin>
<wwdfdb:ImplType>Impl-V2</wwdfdb:ImplType>
<wwdfdb:Ver>1.0.0.1</wwdfdb:Ver>
<wwdfdb:Status>InUse</wwdfdb:Status>
</wwdfdb:Device>
```

5. Save the file.
6. Copy the file to \Program Files\iPass\Open Mobile\bin.
7. Launch \Program Files\iPass\Open Mobile\bin\ODFVerifier.html.
8. From the drop-down list, select the modified *AdminWWDevices*.xml* for your operating system. Then click **Validate File**.
9. If the file does not pass validation, return to Step 4 and ensure your XML is valid. Then repeat Step 8.

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Next Steps

Ensure that MBLiteCdma.xml is also copied to \Program Files\iPass\Open Mobile\bin.

Now you can restart the Open Mobile service and test the ODF integration locally, by attempting to connect with the device using Open Mobile.

If the connection and any other required tests are successful, you can include MBLiteCdma.xml in an Open Mobile profile.

Additional Information

- For more information on including ODF files in an Open Mobile profile, consult http://help.ipass.com/doku.php?id=device_support#my_devices_support.
- For a more detailed discussion of ODF integration, consult the ODF Integration Workbook.

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