How to create OMA DRM v1.0 content

This article needs to be updated: If you found this article useful, please fix the problems below then delete the {{ArticleNeedsUpdate}} template from the article to remove this warning.

Reasons: hamishwillee (09 Sep 2011)
The Nokia Mobile Internet Toolkit has been archived. This leads me to think that perhaps the article is either out of date or less relevant. Should it be archived. Is there are better document to point to?

The easiest way to create OMA DRM v1.0 content is by using Nokia Mobile Internet Toolkit, a standalone tool from Nokia Developer. This article will show how to protect a JPEG image into a protected OMA DRM v1.0 content using NMIT version 4.1.

Tools

The following tools are needed to run the demonstration:

- **Nokia Mobile Internet Toolkit v4.1**.
- **Web server**, such as Apache httpd or Microsoft IIS. It is needed to store the content where the user can download.
- **S60 or Series 40 emulator** that supports OMA DRM v1.0.
- **Phone supporting OMA DRM v1.0**. Check the device matrix from Nokia Developer to find out which devices support OMA DRM v1.0. Note that some devices do not support all protection methods of OMA DRM v1.0. Some of them support OMA DRM v1.0 Forward-lock only as an example.

OMA DRM v1.0 Forward-lock

OMA DRM v1.0 Forward-lock is the simplest protection method of OMA DRM v1.0. The content is locked to a certain device. It cannot be forwarded to other devices.

Creating OMA DRM v1.0 Forward-lock content

Follow the instructions below to create OMA DRM v1.0 Forward Lock:

- Open NMIT.
- Select File | New | Deployment | DRM Message.
- Select Forward Lock (.dm) as message type.
- Click Load Content button to load the JPEG image that is going to be protected.
- Make sure that the Content-type is correct. For example, it has to be image/jpeg for JPEG image.
- Select File | Save to save the content. For example, save it as `nokia.dm`.

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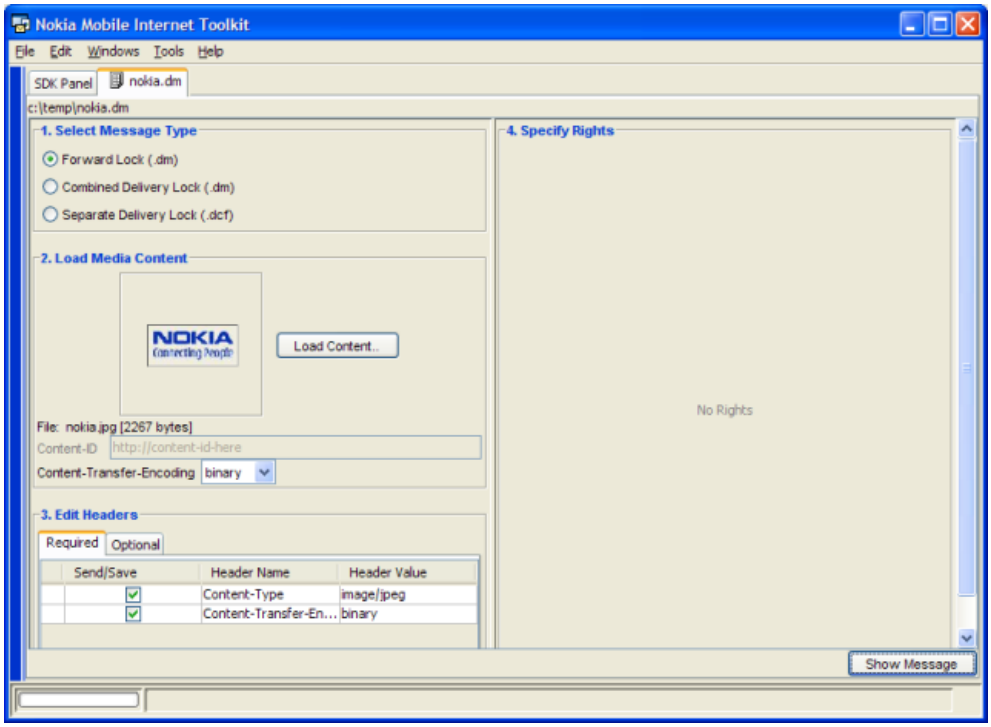

Note that the generated content, i.e. nokia.dm, is NOT protected yet. It just wraps the original content with OMA DRM v1.0 container. The content is going to be protected when delivered to the emulator/device.

Pushing OMA DRM v1.0 Forward-lock content to emulator

- From NMIT, activate SDK panel. It can be done by selecting Tools | SDK Control Panel menu or pressing Ctrl+E.
- Select one of the SDK listed in the right panel. Click the green button on the right side of the SDK name to launch the emulator.
- After the SDK has been started, back to the content's panel (`nokia.dm`).
- Click Show Message button at the bottom right of the window to push the content to the emulator.

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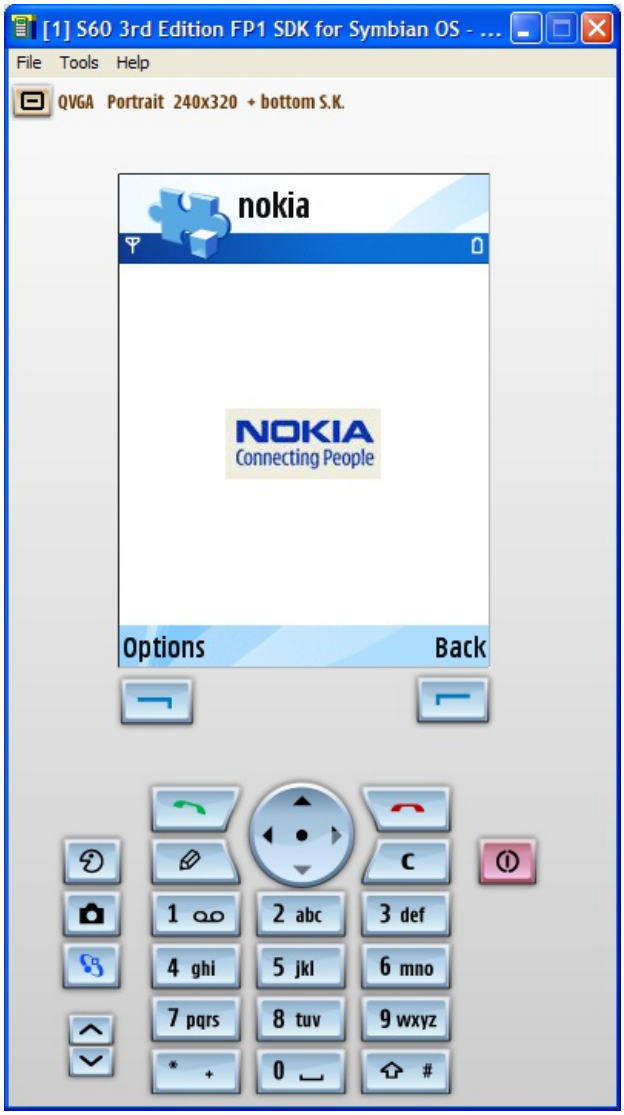

Setting up Web server to support OMA DRM v1.0

Before a Web server can be used as an OMA DRM v1.0 content provider, there are some MIME types that have to be set. It is needed so that the client knows the MIME type of the content it is downloading.

For Apache httpd, add the following lines to the `.htaccess` file:

```
AddType application/vnd.oma.drm.message .dm
AddType application/vnd.oma.drm.content .dcf
AddType application/vnd.oma.drm.rights+wbxml .drc
AddType application/vnd.oma.drm.rights+xml .dr
```

where is the Microsoft IIS configuration ? How do I add a new file extension(IIS 6) Add a MIME Type (IIS 7)

Downloading OMA DRM v1.0 Forward-lock content to device

- Make sure that the content has been uploaded to the Web server and the MIME types have been set correctly.
- Open Web browser on the client. Type the URL where the protected content is stored, for example http://myserver/nokia.dm.
- The Web browser will download the file and encrypt it on-the-fly. The content is also locked to the device; so that it cannot be forward to other devices.

Nokia Delivery Server

As mentioned above, the content that is stored on the Web server is actually not protected. It will be protected on the device on-

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the-fly. It is definitely not a secure way of delivering real contents. As an example, a hacker may download the content via PC and then strip off the OMA DRM v1.0 container. He will then get the original unprotected content.

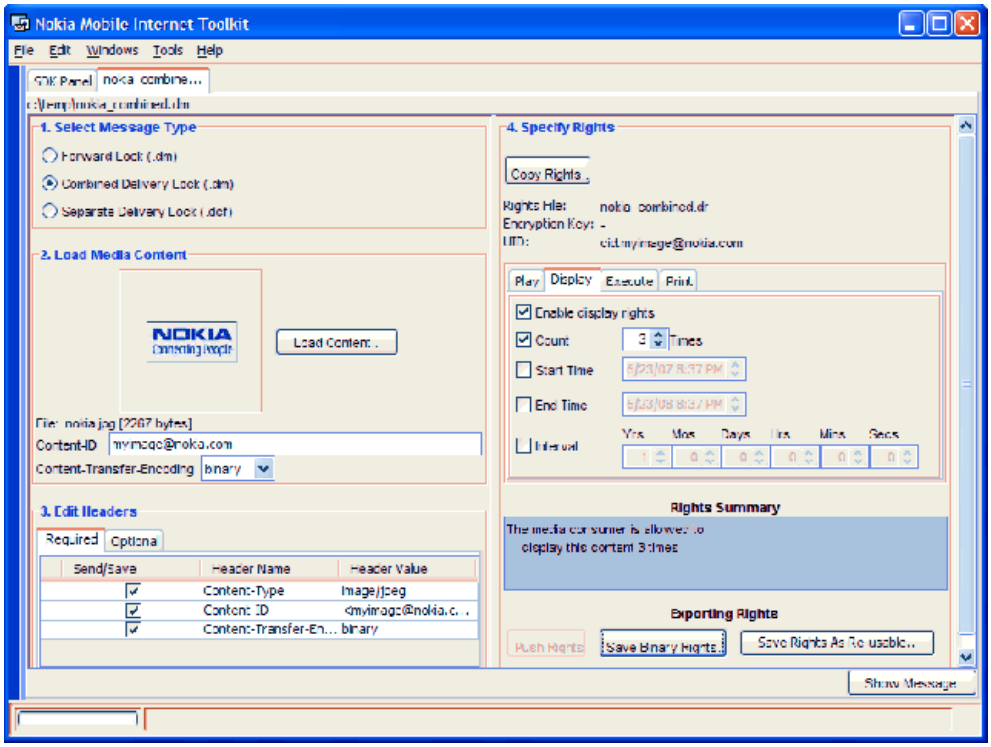
Nokia has developed a server, called Nokia Delivery Server (DLS), to "protect" the content. Furthermore, DLS can be integrated into billing systems.

Creating OMA DRM v1.0 Combined Delivery

OMA DRM v1.0 Combined Delivery means the content is delivered to the device together with the corresponding rights object. The media object can be used depending on the usage rights that are specified in the rights object.

Creating OMA DRM v1.0 Combined Delivery content

- Open NMIT.
- Select File | New | Deployment | DRM Message.
- Select Combined Delivery Lock (.dm) as message type.
- Click Load Content button to load the JPEG image that is going to be protected.
- Enter the identifier of this content in the Content-ID field, for example `myimage@nokia.com`.
- Make sure that the Content-type is correct. For example, it has to be image/jpeg for JPEG image.
- Select File | Save to save the content. For example, save it as `nokia_combined.dm`.
- The next is to specify the rights. On the Specify Rights panel, click Display. Check Enable display rights to allow the content to be displayed on the device.
- Enable Count and enter 3 times. This means the content can be displayed maximum 3 times only.
- Click Save Binary Rights button to save the rights. For example, save is as `nokia_combined.drc`.



Pushing OMA DRM v1.0 Combined Delivery content to emulator

Pushing OMA DRM v1.0 Combined Delivery content can be done in the same way as OMA DRM v1.0 Forward Lock. Launch the emulator from SDK Panel and then click Show Message button from NMIT.

Additionally, the rights can be viewed from Activation Keys application. Normally this application is located in the Tools folder. However, different devices may have different folder. On the S60 3rd emulator, it is located under Configurations folder. The picture below shows how information about rights viewed on the Activation Keys application.

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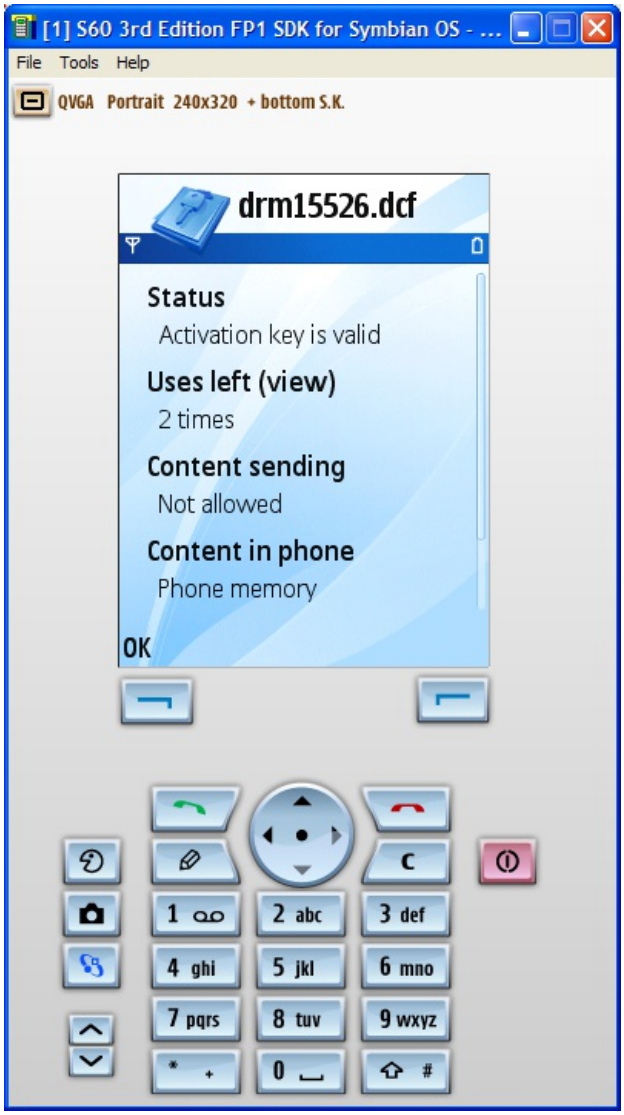

Internal links

- OMA DRM

External links

- Nokia Delivery Server documentation
- Nokia Developer DRM information page.

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