Open Standards for Digital Rights Management Enhances Paid Content Model

Downloading content to a mobile phone has been big business for years, with most mobile users at some time or another downloading icons or ring tones. Analysts at Jupiter Media Metrix have stated that in 2001, users in Europe have spent 590 Million Euros on content for their mobile phones.

Nokia and other companies have launched Java-enabled phones for the mass market, creating an even bigger potential mobile content market. With the availability of content types today such as Java applications and MIDI ring tones, as well as phones with multimedia capabilities, the whole business of content downloading is set to boom.

Digital rights management protects the rights of all in the supply chain and offers them an extension to the current model of distributing and selling their content. Content owners need to know they will be paid for the use of their content, operators need to be able to bill fairly for content and the whole issue of how to control content distribution must be addressed.

The Open Mobile Alliance (OMA) has tackled these issues with the standardisation work of the OMA Download, which includes:
1. Applying Digital Rights Management (DRM) to content and its distribution, and
2. Enabling controlled (i.e. reliable) delivery of generic content objects.

DRM will prevent illegal distribution of media objects and provide new business models such as preview, superdistribution, gifting, rights updates and more. For example, a user can download a MIDI ring tone or game to his mobile for a day or a week, and be given the option to buy refreshed rights after his original rights have expired.

Benefits for all

For content providers, DRM will provide new opportunities and distribution channels. Such benefits will encourage developers to produce more applications and high quality content, safe in the knowledge they will be paid properly for their work.

DRM will benefit users who will have a wider range of high quality content for consumption, preview capability and more flexible ways of paying for content such as subscription, superdistribution and refreshing rights for earlier downloaded content.

Higher usage of content download services means higher data traffic and revenue per user for operators. Operators can build on the existing content download services and attract more downloads with the variety of business models.

DRM technology allows content to be distributed in a controlled manner. Market demands may otherwise lead to "do-not-forward" any type of content policy, as is already the case with the existing business today.

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The OMA proposal for DRM

The new OMA DRM version 1.0 standard will govern the use of mobile-centric content types, whether it is received by WAP download or MMS. This is the world's first mobile DRM standard. OMA DRM version 1.0 was officially approved in October 2002. The standard provides three DRM methods: Forward-lock, Combined Delivery and Separate Delivery.

Forward-lock – intended for the delivery of news, sports, information and images that should not be sent on to others. This applies often to subscription-based services. The device is allowed to play, display or execute, but it cannot forward the media object. The content itself is hidden inside the DRM message that is delivered to the terminal. A DRM message contains a media object and an optional rights object. In the forward-lock method, the DRM message contains only the media object.

Combined Delivery – enables usage rules to be set for the media object. This method extends Forward-lock by adding a rights object to the DRM Message. Rights define how the device is allowed to render the content. Rights can be limited using both time and count constraints. This method enables the preview feature.

Separate Delivery – protects higher value media and enables superdistribution, which allows the device to forward the media, but not the rights. This is achieved by delivering the media and rights via separate channels, which is more secure than combined delivery. The media is encrypted into DRM Content Format (DCF) using symmetric encryption, while the rights hold the Content Encryption Key (CEK), which is used by the DRM User Agent in the device for decryption.

Superdistribution is an application of Separate Delivery that also requires a Rights Refresh mechanism that allows additional rights for the media. Recipients of superdistributed content must contact the content retailer to obtain rights to either preview or purchase the media. Thus, the separate delivery method enables viral distribution of media maximizing the number of potential customers while retaining control for the content provider through centralised rights acquisition.
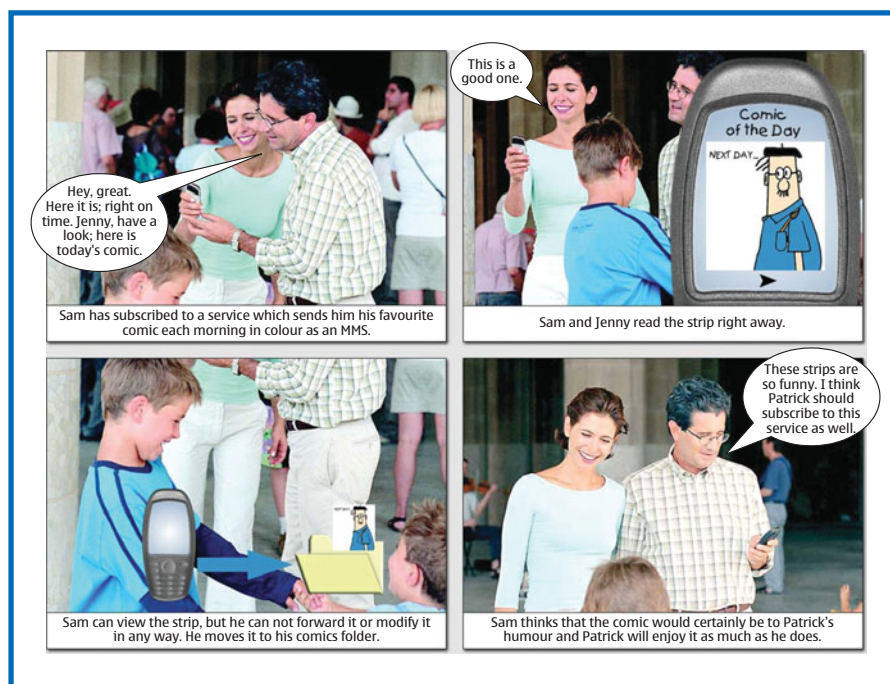
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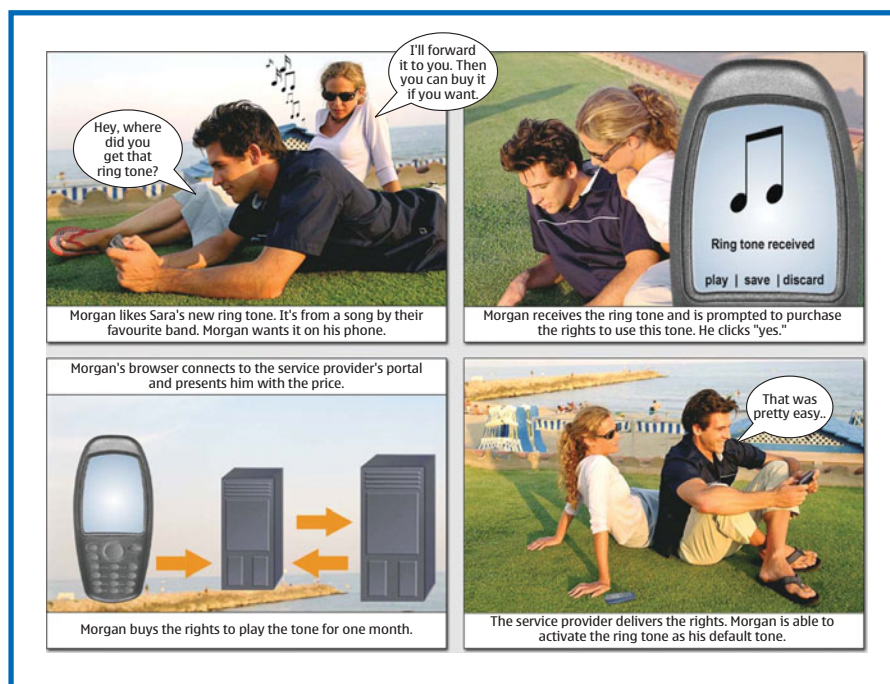
Viral marketing of popular media

The way forward

The next phase of DRM technology should enable increased security to ensure authenticity and integrity of both content and rights. Higher security is important to protect applications as they become more sophisticated and hence, higher value. Examples of such content include high quality music, Symbian applications, audio and video streams. This will enable protection, content backup, distribution and adaption to new value chain configurations.

Nokia is committed to the OMA DRM work and plans to have terminals and servers compliant with this new OMA standard.

The standardisation work in OMA Download includes both Digital Rights Management and Over-The-Air Download of Generic Content. More information can be found at: www.openmobilealliance.org.

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