

Irdeto Control

- AN IRDETO BROADBAND SOLUTION COMPONENT FOR CONTENT MANAGEMENT

PROTECTING CONTENT AND MANAGING ACCESS RIGHTS ON A VARIETY OF DEVICES

Irdeto Control, a powerful Irdeto Broadband solution component for content management, allows content owners and distributors to protect their valuable digital content and to manage how that content is accessed by consumers on a variety of devices. Via an intuitive interface, content owners and distributors can easily configure content viewing rules that support their business models. Common business models include:

- **Rental (pay per view)**
Example: \$2.99 to rent a movie for 24 hours
- **Subscription (recurring payments)**
Example: \$30 per month for unlimited access to a range of content
- **Download-to-own (permanent entitlement / electronic sell through)**
Example: \$15 to view this content forever
- **Authenticated free-to-air**
Registration and login required to view this content for free
- **Anonymous free-to-air**
Free content viewing without login allowed in specific regions

All of these business models can be applied to content that is either offered for streaming or download.

Once the viewing rules or policies are defined, they can be combined to form different policy groups that allow the same content to be offered under multiple business models. For example, a movie can be offered in a movie subscription package, as well as via pay per view and download-to-own for non-subscribers. With Irdeto Control, Irdeto customers can offer consumers attractive choices while maximizing the revenue potential for their content. They can also gain valuable insight to fine tune their business by generating pre-defined online reports provided in the Irdeto interface, or by exporting the raw data to their own data warehouse for further analysis via API or daily data feed.

KEY FEATURES

APIs FOR INTEGRATION WITH SUBSCRIBER MANAGEMENT AND BILLING SYSTEMS

Irdeto customers can easily integrate Irdeto Control with their existing subscriber management and billing systems, enabling them to launch services quickly. They also have the option to use Irdeto Monetize, the online billing solution component of Irdeto Broadband, in conjunction with Irdeto Control, to support real-time consumer payments, recurring subscription charges on debit or credit cards and pre-paid credit accounts.

SUPPORT FOR MULTIPLE DRM TYPES AND LICENSE PROFILES

By supporting multiple DRM types and license profiles, Irdeto Control enables Irdeto customers to satisfy content protection requirements imposed by different sources (e.g. Hollywood studios), while offering the consumer a single, coherent user experience. Examples of supported DRM technologies include: Microsoft Windows Media DRM, PlayReady DRM and Adobe Flash Access 2.

GEO-RESTRICTIONS FOR TARGETED OFFERING BY REGION

Irdeto customers can use the geo-restriction capabilities provided by Irdeto Control to ensure their web application only serves each user with content that is relevant to his or her specific region. The same tools can be used to block access to the application from users in unauthorized regions, or to apply different availability windows for a content item in different countries. Geo-restrictions, based on IP address detection, can be applied to individual content items, or as a policy to a group of items. They can also be supplemented with a whitelist or blacklist of IP addresses to give Irdeto customers more flexibility.

DEVICE MANAGEMENT

Irdeto customers can register a consumer's devices using unique identifiers such as MAC addresses, controlling how many and which devices can be used by each consumer to request licenses. Once registered, a consumer's PC, broadband-enabled set-top box (STB) and mobile device can all be used to access content.

FRAUD MANAGEMENT

Irdeto customers can limit the number of licenses issued per consumer as well as the number of concurrent sessions permitted per account. This helps to prevent login ID and password sharing.

HOW IT WORKS

Irdeto Control enables content owners and distributors to protect their content and manage how that content is accessed by consumers from different regions, via a variety of devices and services. It can be used in conjunction with Irdeto MediaManager, an Irdeto Broadband solution component for managing, processing and distributing content to different destinations. The content protection and security management process includes three main steps:

STEP 1: REGISTER AND ENCRYPT FILE-BASED AND LIVE CONTENT

On the Irdeto customer's premises, content is first registered and encrypted, ensuring that valuable digital assets never leave the customer site "in the clear".

For file-based content, the following options are available for registering and protecting content:

- **Irdeto Content Protection System (CPS), an Irdeto Control module**

The Irdeto Content Protection System is an application running on a server at the content owner's or distributor's site. Once a content file is dropped into a pre-defined CPS folder hierarchy, it is automatically registered and assigned a unique "media ID", which is then linked to the relevant business policy defined in Irdeto Control. The file can also be encrypted here.

- **Irdeto Media Protect, an Irdeto MediaManager module**

Alternatively, content registration and encryption can be included in the automated workflows set up by Irdeto MediaManager for managing and processing content. Irdeto Media Protect, a plugin of the Queued Task Service (QTS), automatically executes the same registration and policy-assignment steps described in the "Irdeto Content Protection System" section.

When live content such as sports matches, concerts and linear TV is streamed in real-time over the Internet, "on-the-fly" content encryption is possible in the following ways:

- **Integration with Digital Rapids, Inlet Spinnaker and Windows Media encoders**

Irdeto Control is pre-integrated with Digital Rapids, Inlet Spinnaker and Windows Media encoders that can be registered manually with Irdeto Control over the Internet. In this configuration, Irdeto Control provides a key that the encoder uses to encrypt the live content stream.

- **Irdeto Encoder Management Platform (EMP)**

Alternatively, Irdeto Encoder Management Platform, an Irdeto MediaManager module, can be used to automate the encryption of live streams through integration with a number of third-party encoding systems, including Inlet's Spinnaker and encoders from Digital Rapids.

STEP 2: MANAGE CONSUMER ACCOUNTS AND ENTITLEMENTS

Irdeto Control provides great flexibility on how consumer accounts and entitlements are managed via a series of Representational State Transfer (REST) APIs. Customers can use their existing subscriber management systems (SMS) to manage and register consumer accounts, and call the APIs to pass on only the necessary information, such as the consumer's unique ID and entitlements. It ensures that sensitive consumer data never leaves Irdeto customers' SMSs. In this way, a single sign-on solution is supported. Irdeto customer may also choose to implement consumer-facing applications, such as a web site or set-top box interface, which allow consumers to register their information directly with Irdeto Control. The information on the consumer passed to Irdeto Control is sent to the back-end systems via the APIs.

The APIs are also used to grant registered consumers entitlements to content. When a consumer attempts to play a piece of content, an API call checks the consumer's entitlement. Irdeto Control will only issue a license or a valid tokenized URL if the consumer is confirmed as entitled to access that content. As with account registration, entitlement/ disentanglement APIs can be called by third-party SMS and billing systems. This allows a pay TV operator to grant a subscriber an online entitlement profile that mirrors his TV package. For customers using Irdeto Monetize to collect online payments, they can grant entitlements using the APIs once payments are confirmed.

STEP 3: DELIVER CONTENT SECURELY TO CONSUMERS

As described in Step 1, content is always encrypted on the Irdeto customer's premises before being transmitted over the network to consumers. However, for some types of content, particularly live sports, many Irdeto customers prefer to protect their content using content delivery network (CDN) tokenized URLs instead of encryption. In this model, content is stored securely by the CDN and only streamed to consumers if they request it using a valid URL. Irdeto issues a unique URL to each authorized consumer, and ensures that the URL expires after a few seconds to prevent URL sharing. Irdeto Control is preintegrated with the tokenization algorithms used by several industry leading companies, including Akamai and Limelight.

