



Technology Committee Authorized Copy (AC) White Paper

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1. Introduction/benefits

1.1. General concept – definition and scope

- Definition: An Authorized Copy (AC) is a version of – or a content item related to – an original content item that was previously obtained on a physical medium (e.g., DVD, next generation HD optical disc, Flash media, etc.). The AC is suitable for one or more distribution and usage scenarios that are different from the original.
- Scope: For the purpose of this paper the scope of the original content item is limited to linear Audio/ Visual, entertainment content, while the scope of new distribution and usage scenarios includes all known scenarios that already have a market presence or that this group anticipates to become viable at some point in time, provided that they can be described based on publicly disclosed information.

1.2. Usage scenarios

The following scenarios focus on the user experience and do not discuss the terms and conditions, defined by the content provider, which can be very different case by case. An AC can be obtained as follows.

- Copying the original content item onto a similar recordable physical medium.
- Copying or converting the original content item onto a different medium for a different usage scenario. Examples include a reduction of resolution to accommodate the small screen of a portable device or reduction of bandwidth to allow streaming between home network devices.
- Copying a special version of the original content or a related content item – delivered on the same physical medium with the original – for a different usage scenario. An example is a version of the content item in a format compatible with a certain DRM system. This in addition to the examples in the previous paragraph.
- Downloading a special version of the original content or a related content item for a different usage scenario. The trigger to do this can be as simple as an Internet URL or some access code printed on the packaging, to sophisticated interactivity built into the original content item itself. An example of a related content item can be something that is time dependent where the download assures that the most up-to-date item is provided. The examples in the previous 2 paragraphs also apply here.

1.3. Consumers' value proposition of AC

An AC provides different distribution and usage scenarios that the original content item does not provide on its own. Consumers have already found various alternative ways, authorized and unauthorized, to obtain the special versions of content items that enable such scenarios. As compared to these alternatives the AC has the following benefits.

- Quality, Reliability, Security and Trust – An AC is directly associated with the real source of the content. The risk of getting the wrong content, the wrong metadata, content that does not play, content that is in the wrong format, or content or tools that include a virus or other malicious software is strongly reduced.
- Convenience – An AC does not require tinkering with obscure tools and Websites.

- Authenticity – The AC is obtained from the same provider as the original physical medium, or from a partner provider.
- Value – Enhanced content and special versions add value to the original content item on the physical medium.

1.4. Content owners' value proposition of AC

- Merchandising – By linking the AC to the original content on a physical medium, a chain of additional marketing opportunities is created.
- Promotion – The AC enables new usage scenarios. The distribution of content can be used to promote such new scenarios.
- Authenticity – The AC can be the alternative to various unauthorized sources and tools.
- Perception – Offering ACs that enable new usage scenarios enhances the perception of providers while benefiting consumers.

1.5. Retailer value proposition of AC

- Value – Most new distribution and usage scenarios are associated with on-line sources of content, disintermediating the brick-and-mortar retailer. In contrast, the AC links those scenarios directly to the original content item on the physical medium allowing the brick-and-mortar retailer to participate in this added value.
- Virtual inventory – The AC can unlock or otherwise provide access to other content, i.e. parts of the original title (e.g. episodes), or other discs or files, that can also be copied. This way the AC allows smaller packages and possibly a reduction of physical SKUs.

2. Example Scenarios & Common Elements

2.1. Sources of the AC Data

In this paper the starting point for obtaining the AC is always via the ownership of an original video on an authentic physical medium. However the location of the source data for making the AC may differ depending on the following alternative usage scenarios:

- **Derivative:** the AC is made from the original content on the authentic disc, either in its original form or possibly transcoded to a different data format by an application program.
- **Digital Copy or Second Session:** the source data used for the AC is distributed on the same physical medium in a so-called Second Session, usually in a different data format.
- **Electronic fulfillment (E-Copy):** the authentic disc is used as a trigger or token to receive a downloaded (electronically fulfilled) copy of the content; in this case the source data for the AC is located at a remote server and not contained on the authentic physical disc.
- **Menu Choice:** a combination of the above may be offered in a single packaged media solution via a menu. For example, a studio may enable consumers to select either an E-Copy or Derivative AC of the movie, using a single 'authorization token'.

2.2. What can you do with your AC?

There are several options available to publishers for enabling an AC:

- Enabling an AC to be stored or copied to a memory device, e.g. USB flash card, external hard disk drive.
- Enabling an AC to be stored on a static device, e.g. desktop-PC, CE storage device, media server/ network attached storage.
- Enabling an AC to be stored or copied to a portable device, e.g. notebook-PC, portable media player, cell phone.
- A combination of the above.

2.3. Usage Rules for AC

Usage rules for ACs are usually governed by studio- and/or distributor-defined usage rules and policies. Usage rules are generally part of the Digital Rights Management (DRM) solution chosen by the publisher. The following are examples of widely-used DRM technologies:

- Windows Media AV files using **WM DRM**.
- Apple iTunes files using **Fairplay**.
- Divx and Adobe have their own DRM approaches specific to their video/audio formats.

DRM Usage rules are typically designed to control for example,

- Number of plays/time period movie can be played.
- Number of ACs that can be made.
- Number and type of transfers (e.g. quality, feature-set) to specified devices.
- Number of play/record/storage devices in an Authorized Domain.

Usage rules are typically stored within the DRM license delivered from a remote central server; this gives the licensor the ability to dynamically adjust usage rules, perhaps by selling additional services.

Usage Rules and DRM technologies used for ACs can lead to various issues in the user environment.

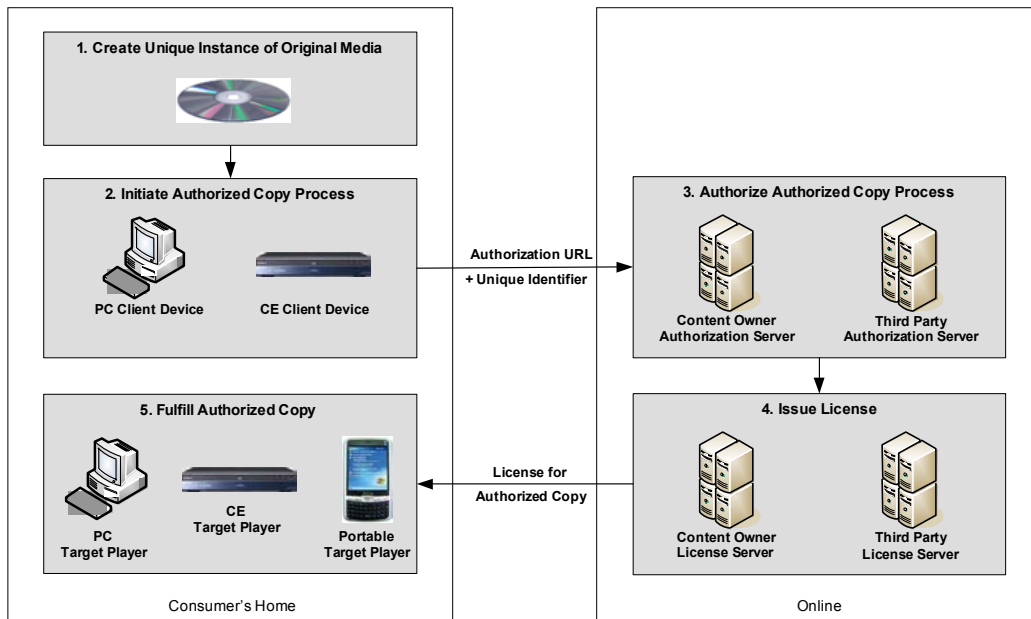
- **Interoperability issues**
A major issue associated with AC DRM technology is the lack of interoperability between DRM solutions across devices and data formats. For instance, Apple's use of **Fairplay** on its **iPod** products and Microsoft's use of **WM DRM** on its **Zune** devices does not allow for interoperability of content between the two families of devices. This can lead to difficulties in accommodating multiple DRM/data formats in Second Session applications leading some publishers to offer E-Copy technologies to accommodate multiple devices and/or data formats.
- **DRM Versioning**
The DRM technology landscape is one of continual change as robustness and feature set are continually modified. As a result, multiple versions exist for a particular DRM family which may not always be compatible either in terms of source data format or device compatibility. One example of this is the different versions of **WM DRM** employed by Microsoft for its Zune products versus the version employed for **Plays for Sure** devices and content.

3. AC Process

Regardless of which scenario described in the previous section is used to make an AC available, there are a set of common processes for authorizing and ultimately obtaining an AC. This section defines the high-level process and architecture for obtaining an AC, and provides some common nomenclature to be used for the case studies provided in the subsequent sections.

The basic AC process is as follows:

1. **Create Unique Instance of Original Media:** An Original Media is manufactured with some way of identifying a unique instance of each title, disc or package.
2. **Initiate AC Process:** The process for obtaining the AC is initiated by the consumer by playing the Original Media in a PC or other authorized device.
3. **Authorize AC Process:** An online internet connection is established to an Authorization Server to 'authorize' the consumer to obtain an AC. Authorization is based on content-owner defined rules or policies.
4. **Issue License:** Once authorization has occurred, a License Server issues the appropriate License to the consumer to obtain and play the AC.
5. **Fulfillment:** Once the consumer has obtained the appropriate License, the AC may be created or played, depending on the specific AC scenario described above.



Each of the above steps is defined in more detail below.

3.1 Create Unique Instance of Original Media

The first step in the process is to create an **Original Media** or package that can be uniquely identified using some form of **Unique Identifier**. In our scenarios, the Original Media could be a pre-manufactured DVD, Blu-ray Disc, or HD DVD. The same concepts could also be applied to Flash-based media, such as SD cards and other non-volatile-based media.

The Unique Identifier is critical for controlling distribution and/or fulfillment of the AC. The Unique Identifier may be unique to each individual instance of a package or Original Media, or may be common across multiple instances. By way of example: in the first case, if a movie were to ship on 1M units of Original Media, the Unique Identifier provides a method for uniquely identifying each of the 1M units shipped; in the second case of a common identifier, all 1M units would ship with the same identifier.

There are two potential ways in which the Unique Identifier can be implemented:

- **Printed Identifier:** In this case, the Unique Identifier is a printed code that is placed in the physical packaging. Implementation can be done via a sticker or an insert that is placed in the packaging of the Original Media product. As described above, the Unique Identifier may be unique per package or common across multiple packages.
- **Electronic Identifier:** In this case, the Unique Identifier is placed on the Original Media itself and is electronically readable. As described above, the Unique Identifier may be unique per Original Media or common across multiple Original media instances. The benefit of an electronic identifier is that it cannot be lost (unless the Original Media is also lost) or otherwise detached.

Also generally associated with the Original Media is an **Authorization URL**. The Authorization URL may be one or more web destinations that point to an Authorization Server that controls and enables the authorization process. The Authorization URL may be placed electronically on the disc, may be encapsulated in an application (either on the disc or downloaded) that drives the AC process, or could be a printed URL address that directs a consumer to enter the URL in their browser.

3.2 Initiate AC Process

Once the consumer obtains the Original Media (via purchase or otherwise), the Original Media must be placed into a **Client Device** that can initiate the AC process. In most cases, the Client Device will be a personal computer, although it may also be possible to use other devices (such as an authorized consumer electronics player) to initiate the AC process. Either automatically or via user initiation, the AC process will generally perform some form of **authentication** of the Original Media and the Client Device attempting to

perform the AC process. In the case of optical media, authentication may include verifying the type of media and other steps to ensure the Original Media is a pre-manufactured disc and the Client Device is properly licensed to perform the AC process.

The AC process may be encapsulated in a computer application placed on the disc (as in the case of Digital Copy), or may be encapsulated in a third party application (as in the case of an AACMS Managed Copy Machine). The AC Process may also include a downloadable component, such as web-encapsulated code (as is allowed in the case of AACMS). The AC process could even be possibly initiated by the user by going to an online web site. In all the above cases, an Authorization URL is generally used as the pre-determined location of where the AC process should be authorized.

3.3 Authorization, Usage Rule Management, and Issue License

Once the AC process has been initiated, the Authorization URL points to an online destination which is responsible for granting the consumer a **License** to obtain an AC based on content-owner defined **Usage Rules**. The first step in the process is for an **Authorization Server** to enforce the content-owner defined Usage Rules and validate that the consumer is allowed to obtain the AC. The second step of the process is for a **License Server** to issue the License based on valid authorization.

3.3.1 Authorization and Usage Rule Management

The Authorization Server is one or more online servers which receives a request from the Client Device with the Unique Identifier of the Original Media to determine whether or not this identifier is valid and whether or not the identifier has already been used to the extent defined in the content owner Usage Rules. The content owner Usage Rules define the 'policies' associated with how the AC can be created, used, copied or otherwise. (See section 2 for more details).

The content owner Usage Rules can be combined with other information (retailer, user-entered information, transaction fees, etc.) to determine whether or not a License should be issued to fulfill the request for an AC.

The Authorization Server is often separated from the License Server (described below) so the authorization process can be managed once across a range of possible DRMs and file formats. This is often beneficial as each DRM system often requires unique License Servers.

3.3.2 Issue License

Once authorization has been completed (per the previous step), the **License Server** can be instructed to issue the appropriate **License** to the consumer to obtain and play the AC. The License Server is often separated from the Authorization Server, especially if there is a desire to support multiple video file and DRM formats. This is because the License Server and associated License generated are usually unique to each DRM system. Separating the Authorization Server from the License Server enables the Usage Rules to be managed independent of the License Server used, and potentially across multiple License Servers and therefore multiple DRM systems. However, it is important to note that the License (specific to the DRM system) must always embody the desired Usage Rules of the content holder. Therefore, a close relationship between Authorization Server and License Server is required.

As the License Server is specific to a DRM system, and since DRM systems are constantly and continually updated for security purposes, the License Server may also require consumers to upgrade their Client Device to the latest video and DRM support and compatibility levels. Therefore, a method for communicating the latest versioning information to the Client Device is highly desirable for any of the AC scenarios.

3.4 Fulfillment

Once the consumer has obtained the appropriate License, the AC may be prepared or delivered for playback on the **Target Player**, which must be compatible with the issued License and DRM format. Fulfillment may come in the form of one or more of the following:

- The AC may be pre-prepared and placed on the same Original Media. In this case, the AC must be copied from the Original Media to the Target Player.
- The AC may be pre-prepared and placed on a web site for electronic fulfillment. In this case, the AC must be downloaded to the Target Player.
- The AC may be copied or transcoded from the Original Media to the Target Player. In this case, the Usage Rules shall define the valid formats (video and DRM) for the AC, as well as any other restrictions for creating, copying, or otherwise.

Once the AC has been fulfilled and the License delivered, the consumer may now enjoy the AC as intended in the Usage Rules delivered. This may include the ability to transfer the file to other portable devices, as defined in the content owner Usage Rules.

In the cases when the AC is pre-prepared for delivery on the Original Media or for download, the AC must be properly encoded and **Packaged** for delivery. Encoding of the AC includes compressing the audio and video into the target format (such as Windows Media, H.264, other). Packaging of the AC includes applying the appropriate DRM system and content owner Usage Rules (such as Windows Media DRM, Fairplay, other). Once the content is Packaged, it can be placed either on the disc or on an online server for fulfillment.

In some cases the AC may be obtained by making a copy or transcode of the Original Media. In this case, the Client Device must be authorized to perform such a copy or conversion. This scenario is described in more detail in Section 4.

4. Case Study: AACS Mandatory Managed Copy (MMC)

Advanced Access Content System (“AACS”) is a collection of technologies and methods for data encryption, encryption key management, encryption system renewability and forensic tracing licensed by AACS LA on behalf of its creators. Use of AACS is mandatory for commercially released Blu-ray ROM discs and is optional for HD DVD ROM discs. At the time of writing, as such, AACS discs have been available to consumers for almost two years; however, the AACS technology has been licensed to licensees for the full extent of this period via Interim Agreements that address certain aspects of the licensed technologies in terms of a future Final Agreement embodiment. AACS’s “Managed Copy Obligation” is introduced and described in the Interim Agreements as an obligation that is invoked relative to availability of the Final Agreements which, at the time of writing, are not published.

The Interim Agreements (publicly available at www.aacsla.com) introduce the concept of a Managed Copy Obligation related to use of the “Consumer Mark” on AACS disc media, but the AACS Compliance Rules expressly forbid the use of both features until the Final Agreements are in place. As such, no AACS disc media have been made with the Consumer Mark and Managed Copy Obligation embedded such that current or future AACS playback devices may enact the two technologies.

The Consumer Mark is described in the AACS documentation as an Audio Watermark. The watermark is a security technology embedded in the soundtrack of the AACS disc content which, when detected by an AACS playback device, causes the playback device to determine the authenticity of the disc media or (authorized) copy thereof before continuing playback. The AACS Interim Agreements describe a set of future circumstances whereby use of the Consumer Mark on AACS disc media creates a Managed Copy Obligation for the Licensee where the Licensee is obliged to offer the consumer (owner of the original disc) the facility to make a mandatory Managed Copy of “substantially similar Digital Entertainment Content.” The Interim Agreements largely refer to this obligation being mandated under the Final Agreements and introduce the concept of a “Required Managed Copy Sunrise” date expected to be a delay after the availability of the Final Agreements after which, the mandatory Managed Copy obligation shall be enforced.

As stated previously, at the time of writing, the AACS Interim Agreements are still operative and no Final Agreements have been signed; as such, no AACS discs with the Consumer Mark embedded according to AACS specifications have been sold and no Managed Copy obligations have been enforced. However, it is anticipated that later in 2008, AACS will publish Final Agreements and a Required Managed Copy Sunrise

date will be set. Since the Consumer Mark and its important link to authentic media and authorized copies thereof is of high importance and value to content providers, it is further anticipated that the majority of Studio AACS movie disc media (Blu-ray movies) will utilize the Consumer Mark and thus provide the Studio (AACS Licensee) with the obligation to provide the owner of the disc with a mandatory managed Copy facility.

The Interim Agreements describe the mandatory Managed Copy obligation as one that requires the Licensee to offer a substantially similar copy of the movie or content. The term “Managed Copy” used by AACS is used to describe what has elsewhere in this document been termed an Authorized Copy. The method by which Licensees make available the Managed Copy to disc owners will be to a large extent left to the Licensee (Studio) although certain AACS specifications will need to be observed for the transaction. Also, it is anticipated that, since Managed Copy is an AACS obligation, AACS will offer a default Managed Copy service to Licensees who choose to have AACS manage the copy transaction in accordance with AACS specifications. In either case, the mandatory Managed Copy may be made available to the disc owner in a variety of methods described elsewhere in this document; both the Digital Copy and E-copy case studies outlined below are applicable to AACS disc media and its mandatory Managed Copy obligation associated with Licensee’s optional use of the Consumer Mark audio watermark.

Whilst the obligation to provide consumers with substantially similar copies of the disc content exists in the AACS specifications, the commercial terms under which this transaction occurs are not tightly defined and, as such, the Managed Copy obligation provides further opportunity to content provider Licensees to incorporate offers and other consumer value propositions as part of or in addition to the Managed Copy option. It is anticipated, therefore, that Blu-ray movies, following the Required Managed Copy Sunrise date, will become the first major consumer physical media format where authorized copying and provision of additional consumer value are a fundamental part of the consumer value proposition present on the vast majority of discs.

(It should be noted that the above statements and expectations are derived from the AACS Interim Agreements. The Managed Copy Obligation is associated primarily with the Final Agreements which are not yet published and may contain certain changes to the usage methodology detailed in the Interim Agreements.)

5. Case Study: Digital Copy/Second Session for Optical Media

Digital Copy (also referred to as Second Session) involves placing one or more pre-prepared digital copies of the original content item (or portions thereof) on one or more of the Original Media shipped in the retail/physical packaging. In the cases of DVD and Blu-ray Disc as the Original Media, the Digital Copy (or Copies) is typically placed on the same disc as the movie, or on a separate ‘bonus’ disc packaged with the movie.

This approach offers consumer an immediate solution without waiting for a download over the Internet – the Digital Copy need only be copied from the disc. However, this approach may require substantial space on the disc (depending on the desired resolution and quality of the Digital Copy), which reduces the amount of other DVD-Video or bonus content that be placed on the same disc.

The steps for the Digital Copy process are outlined below:

- a) In the case of DVD, the first step of the Digital Copy process is to generate authorization tokens to be used for each individual Original Media package. As described in Section 3, these authorization tokens are used as the Unique Identifiers to uniquely identify each package or a title/sku. In the case of DVD, these tokens are typically Printed Identifiers and placed in the retail packaging (such as on an insert) of the Original Media to be used by the consumer to authorize their AC. In the case of Blu-ray Disc, it is possible to use a Printed Identifier or an Electronic Identifier using the Pre-recorded Media Serial Number (or PMSN), the latter of which is ‘burned’ on the disc in the Burst Cutting Area (or BCA). The Electronic Identifier can then be ready by an authorized software application.
- b) In the case of Digital Copy, each file must be pre-encoded, pre-Packaged and placed on to the appropriate disc, or Original Media. Today, Digital Copy is predominantly limited to computers running Windows and Apple using Windows Media with Windows Media DRM and Apple iTunes with

Fairplay DRM, respectively, although other formats for Digital Copy are also anticipated. Encoding and Packaging of the AC must take into account the target device, resolution, and video/DRM versions due to specific compatibility requirements of each device (Target Player). As described earlier, it is possible to place multiple Digital Copies on the same disc (or across discs) using a variety of video and DRM types.

- c) Once the consumer places the Original Media into their computer, the consumer must enter their unique authorization token to play the AC. Some implementations of Digital Copy provide a computer application that automatically launches from Original Media when placed into the computer and provides step by step instructions that walk the consumer through the process of obtaining the AC through an online web site. Other implementations launch an online Authorization URL when the consumer attempts to directly play the Digital Copy file. In either case, for DVD the consumer is required to enter their unique authorization token on an online web site to access and play the Digital Copy, or for Blu-ray Disc, the authorized software application must be able to read the Electronic Identifier and pass this identifier to the server to provide access to the Digital Copy.
- d) Once the authorization token has been validated, a License is then issued (specific to the DRM type used on the Digital Copy). The same authorization token may be used for multiple Digital Copy files as well as multiple DRM types. The last step is to copy the Digital Copy from the Original Media to the Target Player (computer, portable device, or other). This can be done automatically for the consumer via a computer application, or the consumer can manually copy the Digital Copy to the desired location and/or device (subject to the Usage Rules defined by the content owner).

6. Case Study: Electronic Fulfillment (E-Copy)

E-Copy is similar to Digital Copy described above, however, with E-Copy the AC is delivered via download over the Internet (versus on the Original Media). E-Copy involves using the Original Media as a trigger to download a copy of the original content item (or portions thereof), however the electronic version of the AC is located at a remote server and not contained on the authentic physical disc. Similar to Digital Copy, E-Copy can be used with either DVD and Blu-ray Disc as the Original Media.

This approach requires bandwidth resources (and related costs) as the consumer must download the E-Copy over the Internet. Depending on the consumer's home Internet connection, the download may take a substantial amount of time. However, this approach does not require any additional on-disc space like the Digital Copy solution."

The steps for the E-Copy process are outlined below:

- a) In the case of DVD, the first step of the E-Copy process is to generate authorization tokens to be used for each individual Original Media package. As described in Section 3, these authorization tokens are used as the Unique Identifiers to uniquely identify each package or a title/sku. In the case of DVD, these tokens are typically Printed Identifiers and placed in the retail packaging (such as on an insert) of the Original Media to be used by the consumer to authorize their AC. In the case of Blu-ray Disc, it is possible to use a Printed Identifier or an Electronic Identifier using the Pre-recorded Media Serial Number (or PMSN), the latter of which is 'burned' on the disc in the Burst Cutting Area (or BCA). The Electronic Identifier can then be read by an authorized software application.
- b) In the case of E-Copy, each file must be pre-encoded, pre-Packaged and then placed on one or more consumer-accessible servers. Like Digital Copy, E-Copy is predominantly limited to computers running Windows and Apple using Windows Media with Windows Media DRM and Apple iTunes with Fairplay DRM, respectively, although other formats for E-Copy are also anticipated. Encoding and Packaging of the AC must take into account the target device, resolution, and video/DRM versions due to specific compatibility requirements of each device (Target Player), each of which can be stored on the online servers. The appropriate version of the AC to download can be determined prior to the download process commencing.
- c) After the consumer obtains the Original Media, the consumer must enter their unique authorization token to play the AC. This can happen via a standard web browser on a computer, or some implementations of E-Copy provide a computer application that automatically launches from Original

Media when placed into the computer and provides step by step instructions that walk the consumer through the process of obtaining the AC through an online web site. In either case, for DVD the consumer is required to enter their unique authorization token on an online web site to download and play the E-Copy, or for Blu-ray Disc, the authorized software application must be able to read the Electronic Identifier and pass this identifier to the server to provide access to the E-Copy.

- d) Once the authorization token has been validated, a License is then issued (specific to the DRM type used on the desired E-Copy) and the E-Copy is downloaded from an online server to the Target Player (computer, portable device, or other). The same authorization token may be used for multiple E-Copy files as well as multiple DRM types, as defined in the Usage Rules by the rights holder.

7. Glossary

- a) Authorization Server: These online server(s) 'authorize' and validate that the consumer is allowed to obtain and play the AC. The Authorization Server enforces the Usage Rules (rights) defined by the content-owner (such as number of plays, types of devices to which the AC may be copied, etc.). Once an AC is authorized, the Authorization Server may instruct a separate License Server to issue the appropriate License.
- b) Authorized Copy (AC): A version of – or a content item related to – an original content item that was previously obtained on a physical medium (e.g., DVD, next generation HD optical disc, Flash media, etc.). The AC is suitable for one or more distribution and usage scenarios that are different from the original.
- c) Client Device: A personal computer, consumer electronics device or other device that initiates the AC process.
- d) License: The License stores the usage rules associated with the AC for a specific DRM type.
- e) License Server: These online server(s) issue the License for the AC that is specific to the desired DRM type. Since a content holder may desire to centralize management of the AC Usage Rules across multiple DRM types, a License Server for each DRM type may be associated with a single Authorization Server.
- f) Original Media: A pre-manufactured DVD, Blu-ray Disc, HD DVD or other non-volatile media (such as Flash memory, SD card, etc.) that contains the original content of which the consumer desires to make a copy.
- g) Packaged: The process of applying the appropriate DRM system and content owner Usage Rules (such as Windows Media DRM, Fairplay, other). is called Packaging. An AC that has the appropriate DRM system and content owner Usage Rules applied is considered to have been Packaged.
- h) Usage Rules: Defined the content owner 'rules' associated with how the AC can be created, used, copied or otherwise.
- i) Target Player: Could be same as Client Device (depending on scenario)
- j) Unique Identifier: A code or identifier that is unique to each individual instance of a package or Original Media, or may be common across multiple instances. By way of example: in the first case, if a movie were to ship on 1M units of Original Media, the Unique Identifier provides a method for uniquely identifying each of the 1M units shipped; in the second case of a common identifier, all 1M units would ship with the same identifier. The Unique Identifier can be implemented as a printed code (as part of the physical package) or as an electronic identifier which can be logically read from the Original Media.