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(54) **MEDIA PACKAGE FORMAT FOR SUBMISSION TO A MEDIA DISTRIBUTION SYSTEM**

(75) Inventors: **Jason Robert Suitts**, San Francisco, CA (US); **Jonathan James Currey**, San Francisco, CA (US); **Max Muller, III**, San Jose, CA (US)

(73) Assignee: **Apple Inc.**, Cupertino, CA (US)

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    G06F 17/30 (2006.01)
(52) **U.S. Cl.** **707/707**; 707/695
(58) **Field of Classification Search** 707/770, 707/769, 736
    See application file for complete search history.

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(57) **ABSTRACT**

The disclosed embodiments relate generally to the submission of media content to a media distribution system and the generation of media items from the media content. The media items may include, for example, audio, video, image, or podcast data. In accordance with one embodiment, a package for use in generating a downloadable digital media content asset includes metadata content that describes how the media content in a plurality of data files including media content can be processed to generate a downloadable digital media content asset, where the package includes information identifying the plurality of data files.

35 Claims, 8 Drawing Sheets
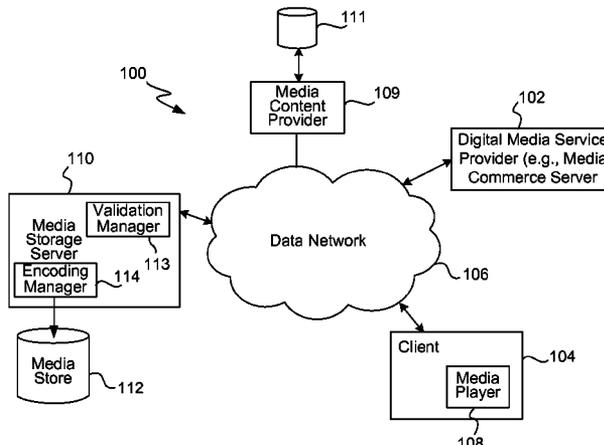
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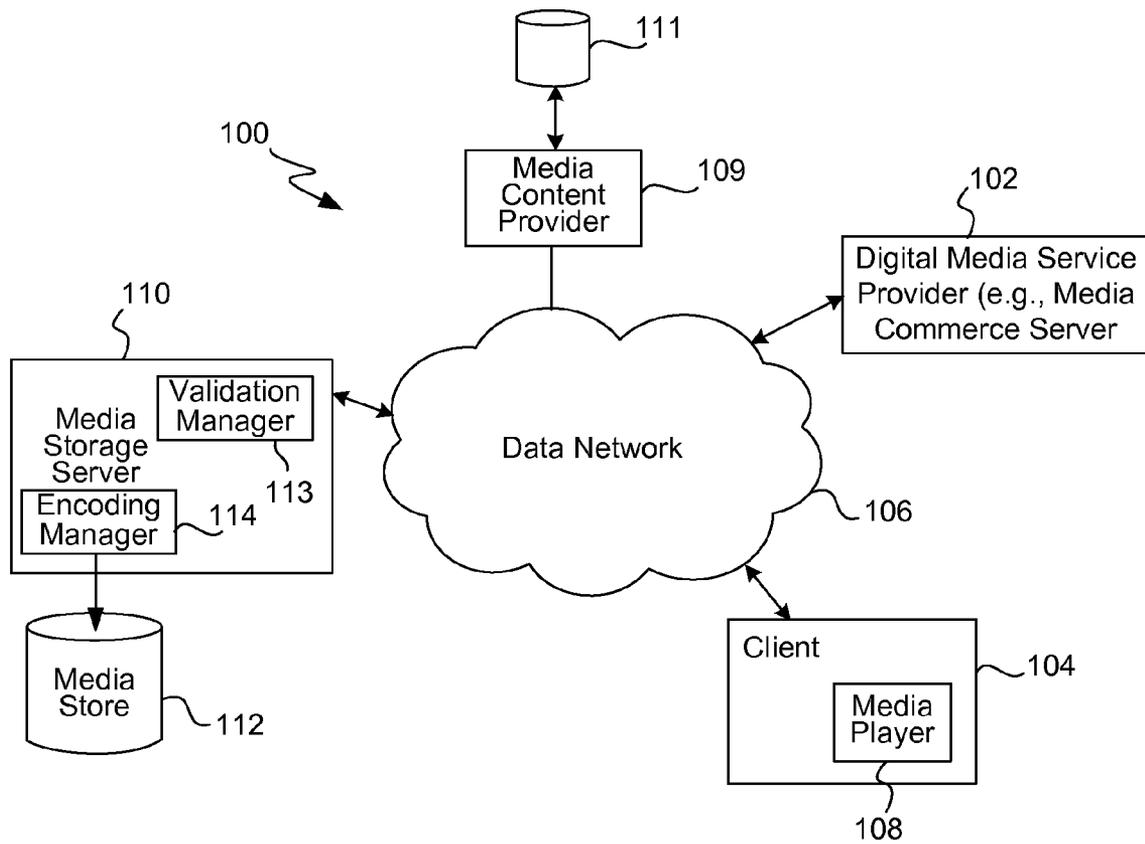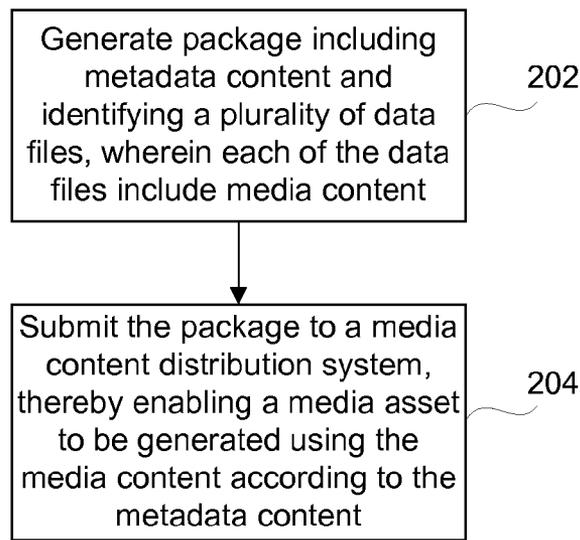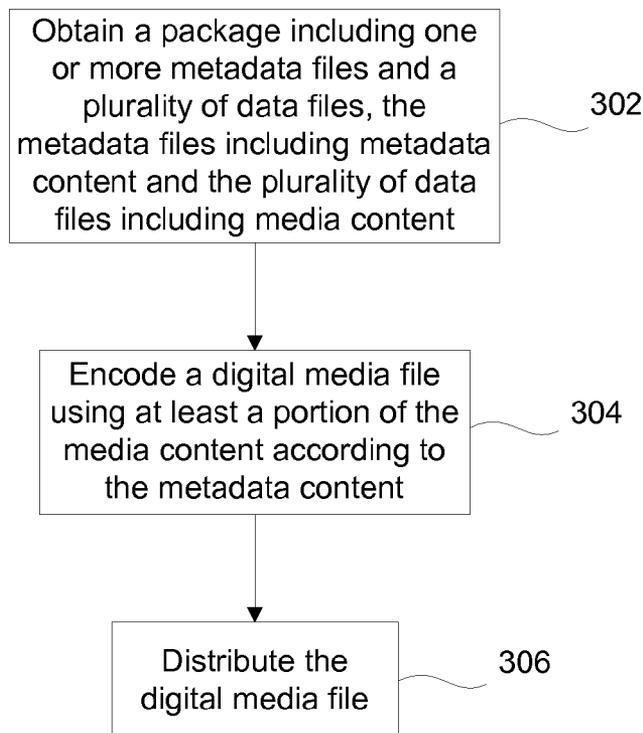
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FIG. 1

Generate package including metadata content and identifying a plurality of data files, wherein each of the data files include media content — 202

Submit the package to a media content distribution system, thereby enabling a media asset to be generated using the media content according to the metadata content — 204

FIG. 2

Obtain a package including one or more metadata files and a plurality of data files, the metadata files including metadata content and the plurality of data files including media content — 302

Encode a digital media file using at least a portion of the media content according to the metadata content — 304

Distribute the digital media file — 306

FIG. 3

PACKAGE 402

Metadata content
404

Data file 1
406

Data file 2
406

Data file n
406

FIG. 4

404 —

Processing instructions 502
Product identifier 504
Content provider 506
Asset 1 508
File 1   510
Asset 2 508
File 2   510
Asset n 508
File n   510

FIG. 5

Processing Instruction 602
Package Container Version 604
Provider 606
Video 608
Video type 610
Network name 612
Vendor Identifier 614
Episode Production Number 616
Series Name 618
Title 620
Container ID 622
Container Position 624
Release Date 626
Original Release Year 628
Genres 630
Rating 632
Advisory 634
Copyright 636
Short Description 638
Long Description 640
Data File 642
File Name 644
File Size 646
Checksum 648
Preview Start Time 650
Vendor Offer Code 652
Product 654
Territory 656
Sales Start Date 658
Sales End Date 660
Cleared For Sale 662

FIG. 6

Processing Instruction 702
Package Container 704
Provider 706
Video 708
Video type 710
Production Company 712
Vendor Identifier 714
ISAN Identifier 716
UPC 718
All Movie Guide Video ID 720
Title 722
Original Release Year 724
Country of Origin 726
Genres 728
Rating 730
Copyright 732
Cast 734
Crew 736
Synopsis 738
Asset Description 740
Asset Data File Name 742
Asset File Size 744
Asset Data File Checksum 746
Poster Image File Name 748
Poster Image Checksum 750
Bonus Material 752
Vendor Identifier 754
Name 756
Copyright 758
Volume 760
Track 762
Pre-order Only 764
Bonus file name 766
Product 768
Territory 770
Wholesale Price Tier 772
Pre-order Sales Start Date 774
Sales Start Date 776
Sales End Date 778
Cleared For Sale 780

FIG. 7A

Chapters version 782
Chapter start time 784
Chapter title 786
Chapter picture filename 788

FIG. 7B

TV Metadata XML Example

Below is an example metadata.xml for an episode of the NBC series "The Office."
You can view the product in the iTunes Music Store at this URL:
http://phobos.apple.com/WebObjects/MZStore.woa/wa/viewVideo?id=129396399&p=102802072&5=143441

Please note: the available product in the iTunes Music Store does not contain the
ratings and advisories used in this example.

```
<?xml version = "1.0" encoding = "UTF-8"?>              802               800
    <package version = "tv2.0">          804
        <provider>NBCUniversal</provider>        806
        <video>         808
            <types>tv</type>         810
            <network_name>NBC</network_name>         812
            <vendor_id>NBC_OFFICE_R2518</vendor_id>          814
            <episode_production_number>R2518</episode_production_number>         816
            <series_name> The Office</series_name>        818
            <title>Take Your Daughter to Work Day</title>         820
            <container_id>NBC_OFFICE_SEASON_002</container_id>         822
            <container_position>18</container_position>         824
            <release_date>2006-03-11</release_date>         826
            <original_release_year>2006</original_release_year>         828
            <genres>        830
                <genres>TVShows</genre>         832
            </genres>        834
            <ratings>         836
                <rating system="us-tv">TV-14</rating>          838
                <advisory system="us-cable">AL</advisory>         840
            </ratings>        842
            <copyright_cline>2005 NBC Universal</copyright_cline>         844
            <short_description>A routine office day is upended when children descend
upon Dunder Mifflin for Take Your Daughter to Work Day.</short_description>         846
            <long_description>A routine office day is upended when children descend
upon Dunder Mifflin for Take Your Daughter to Work Day. Michael (Golden
Globe winner Steve Carell) is surprised when he strikes up a friendship with the
five-year old daughter of his sworn enemy, Toby (Paul Lieberstein). Jenna
Fischer, John Krasinski, B.J. Novak, Rainn Wilson, Leslie David Baker, Brian
Baumgartner, kate Flannery, Angela Kinsey, Oscar Nunez and Phyllis Smith also
star.</long_description>         848
            <data_file>         850
                <file_name>officeR2518.mpg</file_name>         852
                <size>2595225600</size>         854              856
                <checksum type="md5">2a793a8b46037fe48a29dd739b49911a</checksum>
            </data_file>         858
            <preview starttime="60"/>         860
            <vendor_offer_code>OF9921</vendor_offer_code>         862
            <products>        864
                <product>         866
                    <territory>US</territory>         868
                    <sales_start_date>2006-03-12</sales_start_date>         870
                    <sales_end_date></sales_end_date>         872
                    <cleared_for_sale>true</cleared_for_sale>         874
                </product>         876
            </products>         878
        </video>         808
    </package>
```
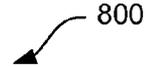
FIG. 8

MEDIA PACKAGE FORMAT FOR SUBMISSION TO A MEDIA DISTRIBUTION SYSTEM

RELATED APPLICATIONS

This application claims priority from Patent Application No. 60/800,843, entitled "TECHNIQUES AND SYSTEMS FOR ELECTRONIC SUBMISSION OF MEDIA CONTENT," by Muller et al, filed on May 15, 2006, which is incorporated herein by reference for all purposes.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to media asset management, and more particularly, to submission of media assets to a distribution system in a client-server environment.

2. Description of the Related Art

Digital media service providers distribute media content products to users. For example, a digital media service provider may make media content products available for rental, purchase, and/or free distribution. The digital media service provider is often able to fulfill a request for a user desired media content product by handling digital rights management of the desired media content product, an associated billing transaction, if any, and delivery of the desired media content product to the user. Often, media content providers, such as recording labels/distributors, movie studios/distributors, and media content creators, provide the media content to a third party digital media service provider by providing one or more files to the digital media service provider. Traditionally, for a single media content product, a single file containing the playable content (e.g., a feature film) of the media content product is provided to the digital media service provider. However, under this approach, any modification to a single component of the media content product (e.g., addition, deletion, or replacement of an alternate audio track) requires the media content provider to produce again the single media content file by incorporating the modification and uploading again the entire single media content file (containing even the unmodified components) to the digital media service provider.

In view of the above, there exists a need for a way to more flexibly manage media content provided to a digital media service provider.

SUMMARY OF THE INVENTION

The disclosed embodiments relate generally to the submission of media content to a media submission and distribution system and the generation of media items from the media content. The media items may include, for example, audio, video, image, or podcast data, which may include movies and television episodes.

In accordance with one embodiment, a package for use in generating a downloadable digital media content asset includes metadata content that describes how the media content in a plurality of data files can be processed to generate a downloadable digital media content asset, where the package includes information identifying the plurality of data files.

In accordance with another embodiment, a content provider uploads one or more packages to a media submission and distribution system. More particularly, a package including one or more metadata files and identifying a plurality of data files is generated, each of the plurality of data files including media content and the metadata files including

metadata content. The package is then submitted to a media content distribution system, thereby enabling a digital media file to be encoded using at least a portion of the media content in the plurality of data files according to at least a portion of the metadata content.

In accordance with yet another embodiment, a media distribution system obtains a package including one or more metadata files and identifying a plurality of data files, each of the plurality of data files including media content and the metadata files including metadata content. A digital media file is then encoded using at least a portion of the media content in the plurality of data files according to at least a portion of the metadata content to provide a downloadable digital media content asset.

The invention can be implemented in numerous ways, including as a method, system, device, apparatus, graphical user interface, or computer readable medium. Several embodiments of the invention are discussed below.

Other aspects and advantages of the invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings which illustrate, by way of example, the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be readily understood by the following detailed description in conjunction with the accompanying drawings, wherein like reference numerals designate like structural elements, and in which:

FIG. 1 is a block diagram of a media content submission and distribution system according to one embodiment of the invention.

FIG. 2 is a process flow diagram illustrating a method of submitting a package to the media content submission and distribution system according to one embodiment of the invention.

FIG. 3 is a process flow diagram illustrating a method of encoding a digital media asset by a media content submission and distribution system according to one embodiment of the invention.

FIG. 4 is a diagram illustrating a simplified package that can be used to submit metadata and media content for use in generating a media product to a media content submission and distribution system.

FIG. 5 is a diagram illustrating an example of metadata that can be provided in a package submitted to a media content submission and distribution system.

FIG. 6 is a diagram illustrating an example of metadata providing information for use in generating a digital media file including a television episode, sporting event, or commercial for distribution.

FIGS. 7A-B together illustrate an example of metadata providing information for use in generating a digital media file including a feature film for distribution.

FIG. 8 is a diagram illustrating an example XML file including metadata of a package for use in generating a television episode.

DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to the management and submission of media content to a distribution system. More particularly, one embodiment relates to a media package identifying and/or including media content for submission to a distribution system. Another embodiment relates to submission of the media package to the distribution system. Yet another embodiment relates to the generation of media items

from media content submitted to a distribution system. Once generated, media items can be downloaded in a client-server environment. A media item can, for example, be a podcast episode, television episode, movie, feature film, audio, video, or image data.

In one embodiment, a package that is submitted to a media submission and distribution system identifies a plurality of data files and includes metadata that defines how the plurality of data files can be used to generate a media item. For instance, a package can identify data files that include a variety of assets, such as subtitles or closed captioning information including timed text tracks, and bonus material, as well as audio and/or video file(s). Timed text tracks can include, for example, different leels of subtitling in the sae language, such as full subtitling versus just subtitling of words that appear in a video but not on the soundtrack. Audio file(s) can include audio in surround sound, as well as other audio options in different languages. Moreover, data files can include a variety of soundtracks such as commentary tracks and sound-effect only tracks in one or more languages, which can be selected to accompany other media content. From the package, it is possible to produce different media items corresponding to the same media content (e.g., television episode or film). More particularly, a media item can be generated (e.g., encoded) using a subset of the metadata and/or a subset of the plurality of data files. Moreover, multiple media items can be generated from the same package. For example, some consumers may want subtitles in a particular language, while other consumers may wish to purchase a media item that does not include subtitles. Similarly, some consumers may wish to view the bonus material, while others may not want to pay extra for bonus material that they do not want. Thus, by providing a plurality of data files (which may each be encoded) to a media distribution system, rather than a single encoded file, the distribution system can tailor media items for distribution to a variety of types of consumers. Once a single downloadable file associated with a media item has been generated, one or more encryption steps may be performed to complete at least a portion of an encryption process prior to purchase of the media item.

Embodiments of various aspects of the invention are discussed below with reference to FIGS. 1-8. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these figures is for explanatory purposes as the invention extends beyond these limited embodiments.

One aspect of the invention pertains to a system and method for submitting media content over a network to a distribution system, enabling media assets (i.e., media items) to be generated from the media content. The resulting media items can then be made available for distribution via the distribution system. For instance, the media items can be purchased and downloaded from an online media store.

In accordance with one embodiment, in order to purchase a media item from the online media store, a potential purchaser can search and browse through numerous media items that are available for purchase. Once purchased, a media item can be downloaded over the network to the purchaser. The content for the media item may be encrypted, and therefore at least some of the encryption steps may take place at the time of purchase. In this manner, a media item may be encrypted for the purchaser's use and stored on the purchaser's machine. Moreover, at least some of the encryption steps may occur after the content for the media item has been downloaded to a client. Thereafter, the purchaser can make use of the media item (e.g., play the media item). However, the use of the media item can still be limited. For example, only up to

a predetermined number user machines can be authorized to use the media item, or only up to a predetermined number of compact disc copies can be made of a grouping or collection of media items (e.g., a playlist).

FIG. 1 is a block diagram of a media content submission and distribution system 100 according to one embodiment of the invention. Media content submission and distribution system 100 includes a digital media service provider such as a media commerce server 102. Media commerce server 102 coordinates review, purchase, and/or rental of media items through on-line transactions. On-line transactions to purchase media items is also referred to as electronic commerce (e-commerce). Media content submission and distribution system 100 also includes a client 104. Typically, media content submission and distribution system 100 would include a plurality of different clients 104. Each client 104 can include a media player 108. Media player 108 is an application program (e.g., software application) that operates on client 104, which is a computing device. Client 104 is coupled to media commerce server 102 through a data network 106. Hence, any of clients 104 can interact with media commerce server 102 to review and/or purchase media items. In one embodiment, data network 106 includes at least a portion of the Internet. Clients 104 can vary with application but generally are computing devices that have memory storage. Often, clients 104 are personal computers or other computing devices that are capable of storing and presenting media to their users.

Media content submission and distribution system 100 is also accessible to one or more media content providers 109. A media content provider 109 may be, for example, a movie studio, television network, or record company providing media content that can be distributed via one or more digital media service providers (e.g., via a media distribution system). Each media content provider 109 may submit media content 111 in the form of packages, as will be described in further detail below. For instance, a package can be submitted in association with a feature film or television episode. Generally, a package includes metadata and identifies a plurality of data files, where the metadata describes how the plurality of data files can be used to generate a downloadable digital media content asset.

Media content submission and distribution system 100 also includes a media storage server 110 and a media store 112. Media storage server 110 represents a remote storage server that couples to the data network 106. Media store 112 provides mass storage for media content that is available for purchase via media content submission and distribution system 100. In accordance with one embodiment, media store 112 stores or has access to packages that have been submitted to media content submission and distribution system 100. In one embodiment, a validation manager 113 validates packages that have been submitted to media content submission and distribution system 100. For instance, validation manager 113 may check the presence (or absence) of files that are identified in a package, check that various attributes of the package are present, check the values of various attributes of the package, and/or check that extensions of one or more of the identified files are correct.

In accordance with another embodiment, an encoding manager 114 encodes media items from metadata and data files identified in packages. Encoding manager 114 can encode the media items as they are purchased, or can encode the media items prior to purchase by a consumer. Thus, media store 112 may store media items that have been generated, as well as store packages that have been submitted for distribution by media content and distribution system 100. Once

purchased, the media items can be accessed from media store **112** over the data network **106** by way of media storage server **110**.

More particularly, media content and distribution system **100** allows a user of client **104** to utilize media player **108** to browse, search or sort through a plurality of media items that can be purchased from media commerce server **102**. Media player **108** may also allow the user to preview a media clip of the media items. In the event that the user of media player **108** desires to purchase a particular media item, the user (via the media player **108**) and media commerce server **102** engage in an on-line commerce transaction in which the user pays for access rights to the particular media item. In one embodiment, a credit card associated with the user is charged for the purchase amount of the particular media item.

In media content and distribution system **100** shown in FIG. **1**, the media content (e.g., packages and/or media items that have been encoded from the packages) are stored in media store **112** and retrieved via media storage server **110**. Hence, media commerce server **102** need not burden its resources to deliver any of the media items that may be purchased to client **104**. Instead, on purchasing a particular media item, encoding manager **114** can generate the desired media item (e.g., by encoding the purchased media asset) or obtain a media item that the encoding manager **114** has already generated from a corresponding package. In this regard, encoding manager **114** can obtain the media content corresponding to the particular media item from media store **112** and download such content through data network **106** to client **104**. The downloaded media content can then be stored on client **104**. In one embodiment, the downloaded media content is stored on client **104** as received. In another embodiment, the downloaded media content is transcrypted from one encryption key to another encryption key before persistent storage on client **104**. In still another embodiment, the downloaded media content is encrypted as received at client **104** but is decrypted and then re-encrypted before persistent storage on client **104**. Thereafter, media player **108** can present (e.g., play) the media content at client **104**.

One or more of the connections through data network **106** between media commerce server **102**, client **104** and media storage server **110** can be through secure connections, such as Secure Sockets Layer (SSL). For instance, a client can be authenticated prior to downloading content from media storage server **110** in order to ensure that the client can download content from media storage server **110**. Moreover, a given client can be authenticated in order to ensure that the client is authorized to download the content that the client wants to download. Further, the media content can be encrypted at one or more stages as set forth above prior to and/or after the media content is stored at client **104**.

In order to make media content for a media item available for distribution, a media content provider **109** can submit a set of files that can be used in whole or in part to generate the media item. For instance, the set of files can include one or more metadata files including metadata, as well as a plurality of data files. More particularly, the metadata defines how the media item can be generated from the plurality of data files. The set of files can be submitted together, separately, or in groups.

In accordance with one embodiment, a media content provider **109** can submit the set of files in the form of a package. FIG. **2** is a process flow diagram illustrating a method of submitting a package to the media content submission and distribution system according to one embodiment of the invention. A media content provider generates a package including metadata content and identifying a plurality of data

files at **202**, where each of the data files includes media content. For instance, the package can include one or more metadata files including the metadata content. The metadata content can identify one or more of the plurality of data files.

The media content provider then submits the package to a media content distribution system at **204**, thereby enabling a media asset to be generated using the media content according to the metadata content. For instance, in order to generate a digital media file storing thereon a media asset such as a movie in Italian, the media file can be generated using a subset of the plurality of data files that include the Italian audio file and/or Italian subtitles. As set forth above, the media file can be generated prior to and/or subsequent to purchase of the media asset.

In accordance with one embodiment, the package includes the plurality of data files. In another embodiment, upon submission of the package, the media content submission and distribution system requests the data files upon validation of the package. The data files can be submitted in a subsequent package along with the metadata, or the data files can be submitted separately from the package format.

Once the package has been submitted, the package or portion thereof can be stored in a directory structure. For instance, the metadata file(s) or information obtained from the metadata file(s) can be stored in a directory structure together with or separately from corresponding data file(s)

Once the metadata and media files are stored, a digital media asset can be generated (e.g., encoded) using the information provided in the metadata. FIG. **3** is a process flow diagram illustrating a method of encoding a digital media asset by a media content submission and distribution system according to one embodiment of the invention. A package is obtained (e.g., in response to the purchase of a media item) at **302**, where the package includes one or more metadata files that include metadata content and a plurality of data files that include media content. A digital media file is then generated (e.g., encoded) at **304** using at least a portion of the media content according to at least a portion of the metadata content. Thus, multiple digital media files may be produced from a single package using overlapping or non-overlapping subsets of the data files and metadata within the package. More particularly, in order to generate a media product, two or more of the plurality of data files can be combined during an encoding process. Generation of the digital media file can include further processing of one or more of the data files, such as transcoding and encryption of video files. The digital media file can then be distributed at **306**. For instance, the digital media file can be sold, rented, or made available for re-sale. Distribution can include the distribution of the digital media file via the Internet. Alternatively, distribution can include the distribution of a physical media such as a DVD storing thereon the digital media file. Such a physical media can similarly be sold via the Internet, or can be made available for sale in retail stores.

FIG. **4** is a diagram illustrating a simplified package that can be used to submit metadata and media content for use in generating a media product to a media content submission and distribution system. A package **402** for use in generating a downloadable digital media content asset includes metadata content **404**. In addition, the package **402** also includes information identifying a plurality of data files **406**, where each of the plurality of data files includes media content. The metadata content describes how the media content in the plurality of data files can be processed to generate a downloadable digital media content asset.

Metadata content **404** can be provided in the form of one or more metadata files. For instance, each metadata file can be

provided in the form of an XML file. Moreover, the metadata content 404 can identify one or more of the plurality of data files. In other words, the data files 406 can be identified within the context of the metadata content 404. For instance, the metadata content 404 can identify various image files, audio files, text files, video files, etc. The package 402 can also include the actual data files 406.

FIG. 5 is a diagram illustrating an example of metadata content 404 that can be provided in a package submitted to a media content submission and distribution system. As shown in this example, metadata content 404 can include one or more processing instructions (e.g., tags) indicating how the data files submitted are to be processed. The metadata content can also include a number of attributes that include information pertinent to the product. For instance, the metadata content can include identifying information such as a product identifier 504 identifying the corresponding media product (e.g., movie or album) and a content provider identifier 506 identifying the content provider (e.g., record company or movie studio). The metadata content 404 can identify a plurality of assets 508, where each of the assets 508 is provided in a corresponding identified file 510. For instance, each of the assets 508 can include an image, video clip, audio clip, song, feature film, television episode, sporting event, commercial, audiobook, game, etc.

The metadata content 404 can be generated and submitted to the media submission and distribution system in a variety of formats. For example, the metadata content 404 may be described using a plurality of attributes. Some of the metadata attributes may have one or more corresponding data values, as will be described in further detail below with respect to FIGS. 6-7B. More particularly, example metadata content describing a television episode will be described in further detail below with reference to FIG. 6, while example metadata content describing a feature film will be described in further detail below with reference to FIGS. 7A-7B.

FIG. 6 is a diagram illustrating an example of metadata providing information for use in generating a digital media file including a television episode, sporting event, or commercial for distribution. In order to ensure that the metadata can be parsed, it may be desirable to indicate the manner in which the document is generated and/or encoded. As shown in FIG. 6, a processing instruction 602 can be used to define the character encoding of the document that is submitted. For instance, the processing instruction 602 can indicate that the document is encoded via UTF-8 encoding. In addition, a package container version 604 can indicate a version of the specification to which the metadata conforms. For instance, the version can indicate that the metadata conforms to a television specification, as well as the specified version of the television specification. For example, the version "tv2.0" can be used to indicate that the metadata conforms to version 2 of the television specification.

In addition, a content provider 606 providing content to the submission and distribution system can be identified. For example, the content provider 606 can be a television network. The specification of the content provider 606 in the metadata enables the product to be associated with the content provider 606, as well as enable any pertinent contracts to be identified.

As set forth above, the metadata may identify those assets that are being submitted in association with the package. A different set of metadata attributes and corresponding values is provided for each different asset that is being submitted in association with the package. One type of asset that can be submitted in the package (or in association with the package) is a video. For each video that is submitted, a different set of

corresponding metadata attributes and associated values is provided. For instance, if a video is being provided in the package, the metadata can include a video attribute (e.g., tag) 608. More particularly, a video tag can be used to signify the beginning of the video element of the package. In accordance with one embodiment, one video element can be defined per TV episode.

A video type 610 can be used to indicate how the media submission and distribution system should process the video. For instance, the video type 610 can indicate that the video type is television or "tv." A television video type can be used to indicate that the video is a television series episode, sporting event, or commercial.

A network name 612 can be used to identify a network that airs the video. For instance, the network name can be a customer presentable name such as "NBC." Thus, the media product can be encoded such that the network name 612 is displayed when the media product is played.

A vendor identifier 614 can be used to identify the video separately from any other video submitted by a content provider. The vendor identifier 614 can be used to uniquely identify the video in the media submission and distribution system. More particularly, the vendor identifier 614 can be used in conjunction with the content provider 606 to uniquely identify the video in the media submission and distribution system. In one embodiment, the vendor identifier may consist of uppercase or lowercase alphanumeric characters and other characters such as the underscore mark or hyphens.

An episode production number 616 can identify a production number for the episode. In this manner, an episode of a series can be uniquely identified. The episode production number 616 can be provided via a display, enabling a purchaser to uniquely identify the episode of a series. A series name 618 can be used to identify the name of the television series or sporting event. In addition, a title 620 can be used to uniquely identify the title of the episode contained in the video.

In one embodiment, a container identifier 622 can be used to identify episodes of a particular season. For instance, a container identifier 622 such as "NBC_OFFICE_SEASON_002" can be used to identify the second season of The Office. Each video within a container can be identified by a container position 624. For instance, a an 18th episode in a season can be identified by container position 18.

A release date 626 can be used to identify the original air date of the episode. In one embodiment, the release date 626 is in the format YYYY-MM-DD, where YYYY is the 4-digit year, MM is the 2-digit month, and DD is the 2-digit day. In addition, an original release year 628 can be used to identify the year that the video was originally made available.

In addition, a genre 630 in which the television series episode, sporting event, or commercial has been categorized can be provided. For instance, a genre can be Action & Adventure, Anime, Classics, Comedy, Documentary, Drama, Foreign, Horror, Independent, Kids & Family, Music, Romance, Sci-Fi & Fantasy, Short Films, Special Interest, Thriller, Sports, Western, or Urban. Of course, these examples are merely illustrative, and a television show could be categorized in other genres.

A rating 632 can be used to specify a rating label for the corresponding media product. In one embodiment, more than one rating can be specified (e.g., for multiple rating systems, which may correspond to different countries). For instance, a rating label within the US-TV system can be TV-Y, TV-Y7, TV-G, TV-PG, TV-14, or TV-MA.

Similarly, the metadata can further specify one or more content advisory indicators 634. For instance, within the US-

CABLE system, possible content advisories include Violence (V), Mild Violence (MV), Graphic Violence (GV), Adult Language (AL), Graphic Language (GL), Adult Content (AC), Sexual Content (SC), Nudity (N), Brief Nudity (BN), and Rape (RP). Within the US-TV system possible content advisories include Fantasy Violence (FV), Sexual Content (S), Violence (V), Language (L), and Dialogue (D).

In addition, a copyright 636 can be specified for the video. In one embodiment, the copyright 636 is provided in the format "year" followed by "owner."

The metadata can include a short description 638, as well as a long description 640. The short description 638 can include a single sentence describing the video. The long description 640 can include a brief synopsis of the video.

If video source material is delivered electronically, the metadata can include a data file element (e.g., tag) 642 for each file being submitted. For instance, a file name 644 and file size 646 can be specified. In one embodiment, the file name 644 can include the file name extension (e.g., mpg). In addition, a checksum 648 can be provided, enabling the media submission and distribution system (or content provider) to ensure that the correct file has been provided or uploaded to the system. In accordance with one embodiment, a hashing function can be used on the file to determine whether the resulting value matches the checksum value that was provided in the metadata.

The metadata can also include a preview start time 650, which enables a content provider to specify a custom start time for a preview video. For instance, the preview start time 650 can specify a number of seconds from program start at which a preview video is to begin. A vendor offer code 652 can be used as an identifier for accounting purposes.

In one embodiment, a product element 654 defines a product for each territory in which a video is to be sold. For instance, a territory 656 attribute can be used to identify a territory. As one example, the territory 656 can specify a territory country code, such as "US." World-wide clearances can be specified using a World-wide country code "WW."

The metadata can further include a sales start date 658 specifying a date that the video is to be made available for sale to customers. In one embodiment, if this element is omitted, the video can be assumed to be for sale immediately. A sales end date 660 can similarly specify a date that the video can no longer be made available for purchase (e.g., via an online media store). In one embodiment, if no value is specified, it can be assumed that the video can be sold indefinitely. A cleared for sale attribute 662 can indicate whether the video is cleared for sale. For instance, the media submission and distribution system can ascertain whether the video is cleared for sale according to contracts with the content provider.

FIGS. 7A-B together illustrate an example of metadata providing information for use in generating a digital media file including a feature film for distribution. The metadata can include a plurality of attributes. In order to ensure that the metadata can be parsed, it may be desirable to indicate the manner in which the document is generated and/or encoded. As shown in FIG. 7, a processing instruction 702 can be used to define the character encoding of the document that is submitted. For instance, the processing instruction 702 can indicate that the document is encoded via UTF-8 encoding. In addition, a package container version 704 can indicate a version of the specification to which the metadata conforms. For instance, the version can indicate that the metadata conforms to a film specification, as well as the specified version of the film specification. For example, the version "film2.1" can be used to indicate that the metadata conforms to version 2.1 of the film specification.

In addition, a content provider 706 providing content to the submission and distribution system can be identified. For example, the content provider 706 can be a television network or a movie studio such as "Paramount." The specification of the content provider 706 in the metadata enables the product to be associated with the content provider 706, as well as enable any pertinent contracts to be identified.

As set forth above, the metadata may identify those assets that are being submitted in the package. One type of asset that can be submitted in the package is a video. If a video is being provided in the package, the metadata can include a video attribute (e.g., tag) 708. More particularly, a video tag can be used to signify the beginning of the video element of the package. In accordance with one embodiment, one video element can be defined per movie.

A video type 710 can be used to indicate how the media submission and distribution system should process the video. For instance, the video type 710 can indicate that the media content being submitted is a film. More particularly, in one embodiment, the video type is "film" for feature films or "short" for short films under one hour in length.

A production company attribute 712 can be used to identify a customer presentable name of the production company that created the film. For instance, the production company can be "Paramount Pictures."

A vendor identifier 714 can be used to identify the video separately from any other video submitted by a content provider. The vendor identifier 714 can be used to uniquely identify the video in the media submission and distribution system. For instance, a value such as an International Standard Audiovisual Number (ISAN) or Universal Product Code (UPC) can be used as the vendor identifier 714. In one embodiment, the vendor identifier may consist of uppercase alphanumeric characters, the underscore mark, and dashes. An ISAN identifier 716 and UPC 718 can also be separately identified. The UPC 718 can be used if the film is sold as physical media in stores. In addition, an All Movie Guide Video ID (AMG V_ID) 720 can be provided. The AMG V_ID can be obtained from an AMG Database Dictionary for Movies or from an AMG Movie Overview page.

A title 722 can be used to uniquely identify the title of the film contained in the video. An original release year 724 can identify the year the film was originally released for public viewing in the theater, on television, or on physical media. A country of origin 726 can identify the country in which the film was primarily produced.

One or more genres 728 can be identified for a film. For instance, a possible genre can be Action & Adventure, Anime, Classics, Comedy, Documentary, Drama, Foreign, Horror, Independent, Kids & Family, Music, Romance, Sci-Fi & Fantasy, Short Films, Special Interest, Thriller, Sports, Western, or Urban.

One or more ratings 730 can be specified for the media content being submitted. For instance, the MPAA system supports the following ratings: General Audience (G), GP, Parental Guidance Suggested (PG), Parents Strongly Cautioned (PG-13), M, Restricted®, No One 17 and Under Admitted (NC-17), X, and Unrated (UR). A system attribute can be used to specify the MPAA rating system. A reason attribute can also be provided, which indicates a reason for the specified rating. For example, a reason for a PG-13 rating may indicate that a film was "Rated PG-13 for drug content, some sensuality and war violence."

A copyright 732 can also be specified for the video. In one embodiment, the copyright 732 is provided in the format "year" followed by "owner."

Information associated with the cast **734** of a film can also be specified. For instance, cast actors can be listed along with the character name portrayed by the actor. The name of an actor can be provided where the last name comes first. In addition, the actor's name can also be specified in the manner in which it would naturally be displayed (e.g., where the first name comes before the last name). An All Movie Guide person ID assigned to the actor can also be specified. If an actor requires top billing for the film, a billing attribute can indicate that the actor requires top billing.

Similarly, information associated with the crew **736** can also be specified. For instance, crew members can be listed along with the role (e.g., Director) that they performed. The name of a crew member can be provided where the last name comes first. In addition, the crew member's name can also be specified in the manner in which it would naturally be displayed (e.g., where the first name comes before the last name). An All Movie Guide person ID assigned to the crew member can also be specified. If a crew member such as the Director requires top billing for the film, a billing attribute can indicate that the crew member requires top billing.

A synopsis **738** including a general summary of the film's content and story line can be provided.

An asset description **740** may describe the delivered assets for the film. If video source material is delivered electronically, the metadata can include a data file element (e.g., tag) for each file being submitted. For instance, a file name **742** and file size **744** can be specified. The file name **742** should include the file name extension (e.g., mpg). In addition, a checksum **746** can be provided, enabling the media submission and distribution system to ensure that the correct file has been provided or uploaded to the system. Similarly, a poster image can be identified by file name **748**. A checksum **750** corresponding to the poster image file can also be specified.

Bonus material **752** can also be submitted. Bonus material **752** can be identified by filename, for example. Bonus material **752** can include, for example, material such as a video showing the making of the film, or additional footage not shown in the film. Alternatively, the bonus material **752** could include a digital booklet or an interactive booklet. A vendor identifier **754** can be used as an identifier for the bonus material. Vendor identifier **754** can be unique with respect to other vendor identifiers of any other bonus material in the same package. Vendor identifier **754** can be used to relate bonus material updates (e.g., sent in a package after the initial package delivery) to the correct item of bonus material. As long as the vendor identifier is specified, any other attribute of the bonus material, including the file name, can be changed. In one embodiment, if a vendor identifier **754** is not specified, the file name of the bonus asset can be used implicitly as the vendor identifier and therefore cannot be changed. In other words, submission of additional bonus material would result in a second item of bonus material being added. A name **756** of the bonus material that can be provided for display in an online media store can be provided, as well as any copyright **758** of the bonus material. In addition, a volume number **760** of the bonus material can be submitted. A track number **762** of the bonus material can also be specified for use in ordering the bonus material among other items within the same volume within the package. In other words, the volume number and track number can be unique across all track items in the package. A pre-order only **764** attribute can indicate whether the bonus material item is only made available to customers who purchase the pre-order. A bonus file name **766** identifies the file that contains the bonus material being submitted.

In one embodiment, a product element **768** defines a product for each territory in which a video is to be sold. For

instance, a territory **770** attribute can be used to identify a territory. As one example, the territory **770** can specify a territory country code, such as "US." World-wide clearances can be specified using a World-wide country code "WW."

The content provider can have one or more contracts with the media submission and distribution system for distributing media content. In the contracts, a wholesale price tier can be identified. Thus, a wholesale price tier **772** identifying a wholesale price tier for the video can be specified.

If it is possible to pre-order the media content, a pre-order sales start date **774** indicating a date on which a pre-order should become available (e.g., in the territory that the product is for) can be specified. The pre-order can end (and fulfill) on the regular sales start date of the product. If a pre-order sales start date **774** is not specified, a pre-order is not available (e.g., within the specified territory for the product).

The metadata can further include a sales start date **776** specifying a date that the video is to be made available for sale to customers. If this element is omitted, the video can be assumed to be for sale immediately. A sales end date **778** can similarly specify a date that the video can no longer be made available for purchase (e.g., via an online media store). If no value is specified, it can be assumed that the video can be sold indefinitely. A cleared for sale attribute **780** can indicate whether the video is cleared for sale. For instance, the media submission and distribution system can ascertain whether the video is cleared for sale according to contracts with the content provider.

Often, videos such as movies are divided into chapters for easy access by viewers. Thus, chaptering information for one or more chapters associated with the media content can also be submitted. For instance, the chaptering information can be provided in the same or a different XML file.

Chaptering information can be submitted in conformance with a chaptering metadata format. As shown in FIG. 7B, a chapters version **782** can indicate a version of the chaptering metadata format in use. For instance, the chapters version **782** can be version **1**.

A chapter element can define a chapter in the provided media by specifying a chapter start time **784**. More particularly, the start time **784** indicates the start time of that chapter in the video stream. For example, the start time can be specified in hours, minutes, and seconds in a format such as hours:minutes:seconds. A chapter title **786** associated with the chapter can also be provided. If no chapter title **786** is provided, a default title such as "Chapter n" can be displayed upon viewing the media, where n is the chapter number starting at 1. In addition, a chapter picture filename **788** identifying a file including an image to be used to represent the chapter can be provided.

A package such as that illustrated in FIG. **6** or FIGS. **7A-B** can be submitted for use in submitting a media item to media submission and distribution system. Once submitted, updates can be submitted using the same package format.

Metadata such as that described above with reference to FIGS. **6-7B** can be provided in the form of one or more XML files. FIG. **8** is a diagram illustrating an example XML file including metadata of a package for use in generating a digital media file including a television episode. More particularly, different metadata tags can be used to identify the various metadata attributes such as those described above with reference to FIG. **6**. As shown in this example, XML file **800** can include an <XML version> tag **802** identifying the processing instruction **602**. In addition, a <package version> tag **804** can identify the package container version **604**, while a <provider> tag **806** identifies the content provider **606**.

For each video being submitted with the package, a different set of corresponding XML tags and associated values can be provided. In this example, a <video> tag **808** can be used to indicate the beginning of the video element **608**, as well as the end of the video element **608**. A <type> tag **810** can include the video type **610**. Similarly, a <network name> tag **812**, <vendor id> tag **814**, <episode production number> tag **816**, <series name> tag **818**, <title> tag **820**, <container id> tag **822**, <container position> tag **824**, <release date> tag **826**, and <original release year> tag **828** can identify the corresponding network name **612**, vendor identifier **614**, episode production number **616**, series name **618**, title **620**, container ID **622**, container position **624**, release date **626**, and original release year **628**.

A <genres> tag **830** can be used to delineate the genres section of the metadata content as set forth above with respect to **630**. For each genre, a <genre> tag **832** can be provided. Another <genres> tag **834** can be used to designate the end of the genres section of the metadata content.

A <ratings> tag **836** can be used to delineate the ratings section of the metadata content. A <rating> tag **838** can be used to specify each rating value, as set forth above with respect to **632** of FIG. **6**. Similarly, an <advisory> tag **840** can be used to specify each advisory **634**. Another <ratings> tag **842** can be used to designate the end of the ratings section of the metadata content.

A <copyright> tag **844** can be used to identify a copyright **636**. In addition, a <short description> tag **846** can be used to provide a short description **838**, while a <long description> tag **848** can be used to provide a long description **840**.

For each data file that is provided, a <data file> tag **850** can be used to define the data file section as described above at **642**. A <file name> tag **852** can be used to define the file name **644**. In addition, a <size> tag **854** can be used to define the size **64** of the data file, while a <checksum> tag **856** can be used to define a calculated checksum value as described above at **648**. Another <data file> tag **858** can be used to designate the end of the data file section of the metadata content.

A <preview starttime> tag **860** can be used to define the preview start time **650**. Similarly, a <vendor offer code> tag **862** can be used to identify the vendor offer code **652**.

A <products> tag **864** can be used to delineate the products section of the metadata. For each product element **654**, a <product> tag **866** can be provided, followed by a <territory> tag **868**, <sales start date> tag **870**, <sales end date> tag **872**, and/or <cleared for sale> tag **874**, corresponding to the territory **656**, sales start date **658**, sales end date **660**, and/or cleared for sale indicator **662** that are provided in the metadata. Another <product> tag **876** can be used to define the end of the information for a single product, while another <products> tag **878** can be used to define the end of the products section of the metadata.

The example described above with reference to FIG. **8** is directed to a television episode in accordance with the format described with reference to FIG. **6**. A similar XML file can be generated for use in specifying information for a film in accordance with a format such as that described above with reference to FIGS. 7A-B.

The various aspects, features, embodiments or implementations of the invention described above can be used alone or in various combinations. The media items can pertain to podcast episodes, audio items (e.g., audio files or songs, such as for music or audiobooks), video items (e.g., video files, television episodes or movies), or image items (e.g., photos).

The invention is preferably implemented by software, but can also be implemented in hardware or a combination of

hardware and software. The invention can also be embodied as computer readable code on a computer readable medium. The computer readable medium is any data storage device that can store data which can thereafter be read by a computer system. Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, DVDs, magnetic tape, and optical data storage devices. The computer readable medium can also be distributed over network-coupled computer systems so that the computer readable code is stored and executed in a distributed fashion.

The advantages of the invention are numerous. Different embodiments or implementations may, but need not, yield one or more of the following advantages. One advantage of the invention is that media items are able to be generated (e.g., encoded) from a subset of media data provided in a plurality of data files. Another advantage of the invention is that information supporting the generation of media items can be uploaded in a package format that identifies the plurality of data files. For instance, the package can include a metadata file that identifies the data files, as well as define the manner in which the data files can be used to generate a digital media item.

The many features and advantages of the present invention are apparent from the written description and, thus, it is intended by the appended claims to cover all such features and advantages of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, the invention should not be limited to the exact construction and operation as illustrated and described. Hence, all suitable modifications and equivalents may be resorted to as falling within the scope of the invention.

The invention claimed is:

1. A system for using a package to generate at least one downloadable digital media content asset, comprising:

a package generator configured to generate the package, the package including: metadata content having a plurality of attributes;

information identifying a plurality of data files, each of the plurality of data files including media content,

wherein one or more of the plurality of attributes for the metadata content includes associated tag and associated data, and wherein at least one or more of the plurality of attributes for the metadata content includes information influencing how the media content in the plurality of data files can be processed to generate one or more digital media content assets; and

a digital media asset server configured to receive the package and generate the one or more digital media content assets using at least a portion the metadata content in the package and at least a subset of the plurality of data files identified by the information in the package, and wherein the processing to generate the one or more digital media content assets is dependent on the information influencing how the media content in the plurality of data files can be processed,

wherein two or more of the plurality of data files are combined to form a single electronic file when generating at least one of the one or more digital media content assets, and

wherein, using the plurality of files within the same package, two or more of the one or more digital media content assets are able to be generated by the digital media asset server, whereby the media content assets being generated from the plurality of files within the same package are able to different and thus tailored for different users.

2. The system as recited in claim **1**, wherein the package includes one or more metadata files including the metadata content, wherein the metadata content identifies one or more of the plurality of data files.

3. The system as recited in claim **1**, wherein the package further includes the plurality of data files.

4. The system as recited in claim **1**, wherein the plurality of data files include a file including closed captioning information.

5. The package system as recited in claim **1**, wherein the metadata content identifies one or more chapters.

6. The system as recited in claim **5**, wherein each of the chapters is identified by a title and has a corresponding start time.

7. The system as recited in claim **5**, wherein each of the chapters has an image associated therewith, and wherein the plurality of data files include an image file for each image.

8. The system as recited in claim **1**, wherein the metadata content identifies a territory in which the digital media content asset is to be made available.

9. The system as recited in claim **1**, wherein the metadata content includes one or more ratings associated with the media content, each of the ratings being associated with a different rating system.

10. The system as recited in claim **9**, wherein each of the rating systems is associated with a country or region within a country.

11. The system as recited in claim **1**, wherein the metadata content includes one or more advisories.

12. The system as recited in claim **1**, wherein the metadata content identifies at least one genre in which the media content has been categorized.

13. The system as recited in claim **1**, wherein the plurality of data files include one or more audio files.

14. The system as recited in claim **1**, wherein the plurality of data files include an audio file including surround sound.

15. The system as recited in claim **1**, wherein the plurality of data files include one or more audio files associated with one or more languages in which the media content can be presented.

16. The system as recited in claim **1**, wherein the plurality of data files include one or more audio files associated with different soundtracks in the same language, wherein one or more of the different soundtracks can be selected to accompany the media content.

17. The system as recited in claim **1**, wherein the metadata content includes subtitle information identifying one or more of the plurality of data files including one or more timed text tracks.

18. The system as recited in claim **17**, wherein the timed text tracks are provided in one or more languages.

19. The system as recited in claim **18**, wherein the timed text tracks are in the same language but represent two or more levels of subtitling.

20. The system as recited in claim **1**, wherein the plurality of data files include bonus material.

21. The system as recited in claim **20**, wherein the metadata content further indicates whether the bonus material is available to customers who purchase a pre-order.

22. The system as recited in claim **1**, wherein the media content includes at least one of music, video, a television episode, or a film.

23. The system as recited in claim **1**, wherein the metadata content includes a series name and an episode production number, wherein the series name identifies a television series, sporting event season or commercial and wherein the episode production number identifies an episode in the series.

24. The system as recited in claim **23**, wherein the metadata content further includes a title of the episode.

25. The system as recited in claim **1**, wherein the metadata content includes a container identifier and a container position, wherein the container identifier identifies a season for a television series or sporting event and wherein the container position identifies an episode within the season.

26. The system as recited in claim **1**, wherein the metadata content includes a video type.

27. The system as recited in claim **26**, wherein the video type is tv and wherein the media content includes a television episode, sporting event, or commercial.

28. The system as recited in claim **26**, wherein the video type indicates that the media content is a film.

29. The system as recited in claim **1**, wherein the metadata content identifies a content provider that provided the package.

30. The system as recited in claim **1**, wherein the metadata content includes an identifier that identifies the media content.

31. The system as recited in claim **1**, wherein the metadata content includes at least one of a sales start date indicating a date that the digital media content asset is available for sale, a sales end date indicating a date that the digital media content asset is no longer available for sale, or an indication as to whether the media content is cleared for distribution.

32. The system as recited in claim **1**, wherein the metadata content includes a pre-order sale start date indicating a date on which a pre-order can be submitted for the media content.

33. The system as recited in claim **1**, wherein the metadata content includes a checksum for one or more of the plurality of data files.

34. A program storage device readable by a machine tangibly embodying a program of instructions executable by the machine to perform a method for using a package to generate at least one downloadable digital media content asset, the method comprising:

generating the package, by a package generator, the package including:

metadata content; and

information identifying a plurality of data files, each of the plurality of data files including media content;

wherein one or more of the plurality of attributes for the metadata content includes associated tag and associated data, and wherein at least one or more of the plurality of attributes for the metadata content includes information influencing how the media content in the plurality of data files are processed when generating one or more digital media content assets;

receiving the package at a digital media asset server; and

generating the one or more digital media content assets using at least a portion the metadata content in the package and at least a subset of the plurality of data files identified by the information in the package, and wherein the processing to generate the one or more digital media content assets is dependent on the information influencing how the media content in the plurality of data files are processed,

wherein two or more of the plurality of data files are combined to form a single electronic file when generating at least one of the one or more digital media content assets, and

wherein, using the plurality of files within the same package, two or more of the one or more digital media content assets are able to be generated by the digital media asset server, whereby the media content assets being gener-

ated from the plurality of files within the same package are able to different and thus tailored for different users.

35. A program storage device readable as recited in claim 34, wherein said generating comprises encoding the two or more of the plurality of data files being combined to form the at least one of the one or more digital media content assets.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.   : 7,827,162 B2
APPLICATION NO. : 11/786031
DATED   : November 2, 2010
INVENTOR(S)   : Jason Robert Suitts et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 3, line 14, delete "leels" and insert -- levels --, therefor.

In column 3, line 14, delete "sae" and insert -- same --, therefor.

In column 6, line 26, after "file(s)" insert -- . --.

In column 9, line 19, delete "(e.g., mpg)." and insert -- (e.g., .mpg). --, therefor.

In column 11, line 29, delete "(e.g., mpg)." and insert -- (e.g., .mpg). --, therefor.

In column 14, lines 34-67, in Claim 1, delete "A system for using a package to generate at least one downloadable digital media content asset, comprising:
a package generator configured to generate the package, the package including: metadata content having a plurality of attributes;
   information identifying a plurality of data files, each of the plurality of data files including media content,
wherein one or more of the plurality of attributes for the metadata content includes associated tag and associated data, and wherein at least one or more of the plurality of attributes for the metadata content includes information influencing how the media content in the plurality of data files can be processed to generate one or more digital media content assets; and
   a digital media asset server configured to receive the package and generate the one or more digital media content assets using at least a portion the metadata content in the package and at least a subset of the plurality of data files identified by the information in the package, and
   wherein the processing to generate the one or more digital media content assets is dependent on the information influencing how the media content in the plurality of data files can be processed,
   wherein two or more of the plurality of data files are combined to form a single electronic file when generating at least one of the one or more digital media content assets, and
   wherein, using the plurality of files within the same package, two or more of the one or more digital media content assets are able to be generated by the digital media asset server, whereby the

Signed and Sealed this
Fifteenth Day of November, 2011
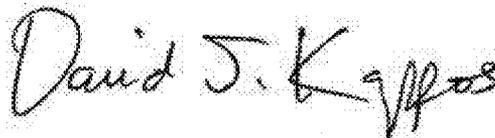
David J. Kappos
Director of the United States Patent and Trademark Office

media content assets being generated from the plurality of files within the same package
are able to different and thus tailored for different users."

and insert
-- A system for using a package to generate at least one downloadable digital media content asset,
comprising:
a package generator configured to generate the package, the package including: ;
       metadata content having a plurality of attributes;
       information identifying a plurality of data files, each of the plurality of data files including
          media content, ;
       wherein one or more of the plurality of attributes for the metadata content includes associated
tag and associated data, and wherein at least one or more of the plurality of attributes for the
metadata content includes information influencing how the media content in the plurality of data files
can be processed to generate one or more digital media content assets; and
a digital media asset server configured to receive the package and generate the one or more digital
media content assets using at least a portion the metadata content in the package and at least a subset
of the plurality of data files identified by the information in the package, and
       wherein the processing to generate the one or more digital media content assets is dependent
on the information influencing how the media content in the plurality of data files can be processed,
       wherein two or more of the plurality of data files are combined to form a single electronic file
when generating at least one of the one or more digital media content assets, and
       wherein, using the plurality of files within the same package, two or more of the one or more
digital media content assets are able to be generated by the digital media asset server, whereby the
media content assets being generated from the plurality of files within the same package are able to
different and thus tailored for different users. --, therefor.

In column 14, line 51, in Claim 1, after "portion" insert -- of --.

In column 15, line 10, in Claim 5, delete "The package system" and insert -- The system --, therefor.

In column 16, line 53, in Claim 41, after "portion" insert -- of --.