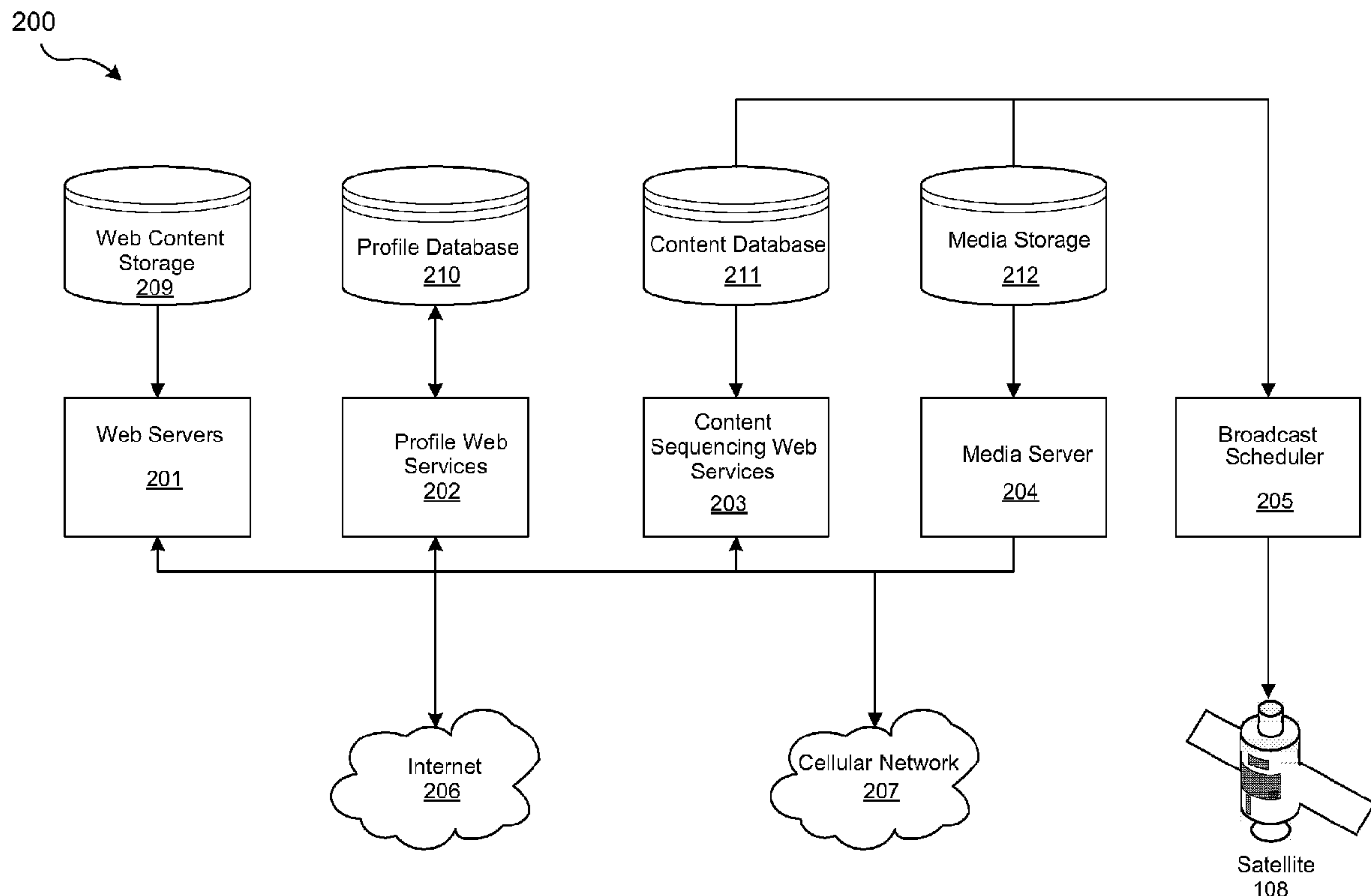




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(72) **Inventeur/Inventor:**
KINDIG, BRADLEY, US
(73) **Propriétaire/Owner:**
SLACKER, INC., US
(74) **Agent:** GOWLING WLG (CANADA) LLP

(54) **Titre : SYSTEMES ET PROCEDES DE RADIO PERSONNALISEE PORTABLE**
(54) **Title: SYSTEMS AND METHODS FOR PORTABLE PERSONALIZED RADIO**



(57) **Abrégé/Abstract:**

Systems and methods for delivering personalized content streams over a variety of devices and networks are disclosed. A user's preferences, customizations, and content are made available to the user through specialized clients for home, car, office, and portable environments. In order to enable personalized content streams on devices that are intermittently connected or that make use of network bandwidth during off-peak hours, the system prescribes a distributed content sequencing engine and a distributed, synchronized user profile and station/channel definitions. The system is also designed to support players connected via unidirectional or asymmetric connections such as satellite radios with or without an upstream data link.

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(71) Applicant (for all designated States except US):
SLACKER, INC. [US/US]; 16935 W. Bernardo Drive,
Suite 101, San Diego, CA 92127 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KINDIG, Bradley**
[US/US]; 9325 Laurentian Drive, San Diego, California
92129 (US).

(74) Agents: **TIETSWORTH, Steven** et al.; Cooley Godward
Kronish LLP, 777 6th Street, NW, Suite 1100, Washington,
DC 20001 (US).

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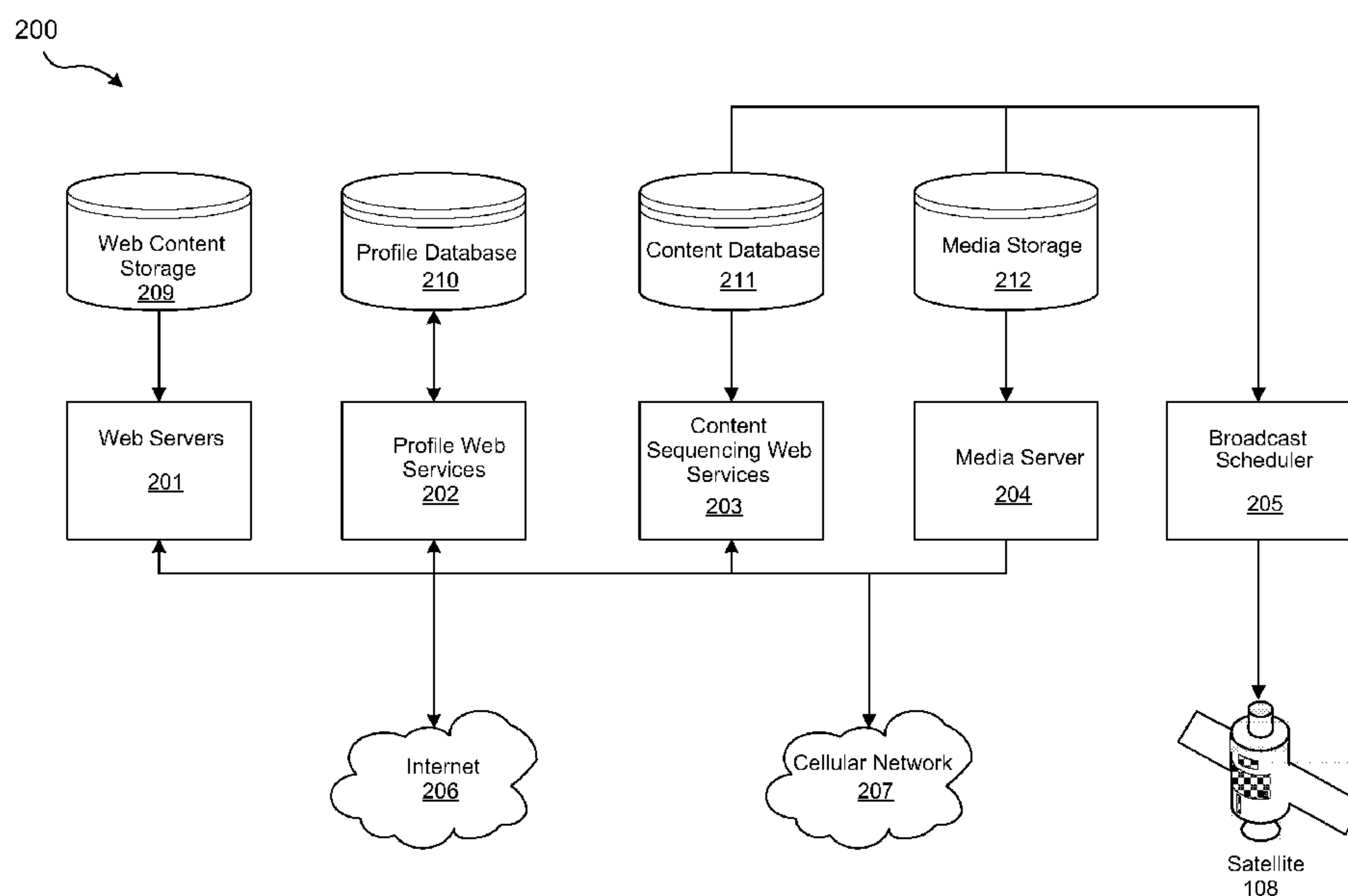
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(57) Abstract: Systems and methods for delivering personalized content streams over a variety of devices and networks are disclosed. A user's preferences, customizations, and content are made available to the user through specialized clients for home, car, office, and portable environments. In order to enable personalized content streams on devices that are intermittently connected or that make use of network bandwidth during off-peak hours, the system prescribes a distributed content sequencing engine and a distributed, synchronized user profile and station/channel definitions. The system is also designed to support players connected via unidirectional or asymmetric connections such as satellite radios with or without an upstream data link.

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SYSTEMS AND METHODS FOR PORTABLE PERSONALIZED RADIO

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to United States Provisional Patent Application Serial No. 60/894,879, entitled SYSTEM AND METHOD FOR PORTABLE, PERSONALIZED RADIO, filed March 14, 2007.

FIELD OF THE INVENTION

[0002] The present invention relates generally to the distribution of digital media. More particularly but not exclusively, the present invention relates to systems and methods for personalized digital media distribution over networks and broadcast systems.

BACKGROUND

[0003] The emergence of the Internet, and in particular, broadband connections, along with efficient media compression techniques has lead to rapid growth in the distribution of digital media. Digital audio has preceded digital video in this evolution because its smaller size allowed easier distribution within the constraints of the early Internet and storage systems. Webcasters including Musicmatch, Real Networks, Live365, Launchcast and others began sending digital audio streams to clients across the Internet. While the broadcast media (radio and television) was constrained to relatively small numbers of channels and no interactivity, webcast radio offered a virtually unlimited number of channels with each individual user having the capability interact with their programming.

[0004] As more forms of music licensing became available, much of the attention in the digital music space shifted to selling or renting individual tracks or audio. The Apple iTunes store took the lead in selling audio and video programs. Musicmatch, Napster, and Real Networks developed subscription services, offering broad access to content over the term of the subscription.

[0005] The introduction of Microsoft 'Janus' technology allowed subscription content to be loaded onto portable devices, provided the device synchronizes with the server periodically to update licensing certifying the subscription is still active. While portable

players, along with digital media stores and existing subscription services, allow the user to take their content with them, they require substantial effort on the part of the user. Users must manually acquire each new piece of content and synchronize the content to their portable device. Because users must explicitly request the content they wish to receive, these services are often termed 'pull' models.

SUMMARY

[0006] A system and method for delivering personalized content streams over a variety of devices and networks is described. The user's preferences, customizations, and content may be made available to the user through specialized clients for home, car, office, and portable environments, with content delivery managed in conjunction with one or more user profiles. In order to enable personalized content streams on devices that are intermittently connected or that make use of network bandwidth during off-peak hours, embodiments of the system include a distributed content sequencing engine and a distributed, synchronized user profile and station/channel definitions. Embodiments of the system are also designed to support players connected via unidirectional or asymmetric connections such as satellite radios with or without an upstream data link. By putting profile data-driven content sequencing logic into clients, and synchronizing the profiles, embodiments of the system are able to provide an end-user experience in which the user's personalized content streams follow the user across a variety of devices and listening environments.

[0007] In one aspect the present invention relates to a method for selecting content for distribution to a plurality of user devices. The method includes storing a plurality of content items within a content database and storing a plurality of user profiles corresponding to the plurality of user devices. A current inventory of the content items stored on a first of the user devices is determined. The method further includes identifying, based at least in part upon the current inventory and a user profile associated with the first of the user devices, a set of content items to be distributed to the device.

[0008] In another aspect the present invention relates to a method for selecting content for broadcast to a plurality of user devices. The method includes storing a plurality of content items within a content database and storing a plurality of station definitions. The method further includes determining a current client cache corresponding to those of the content items likely stored by the plurality of user devices. A set of the content items to be

broadcast to the plurality of user devices is then identified based at least in part upon the current client cache and the plurality of station definitions.

[0009] The present invention also related to a method for determining a content playback sequence for a user device. The method includes storing, within the user device, a plurality of content items, a user profile, and a plurality of station definitions. The method further includes generating, based at least in part upon the user profile, a sequence of the content items to be rendered by the user device.

[0010] In another respect the present invention is directed to a method for managing content for playback by a user device. The method includes storing, within a memory, a plurality of content items and a plurality of station definitions. The method further includes determining rankings of the plurality items relative to first and second of the plurality of station definitions. Certain of the content items are then removed from the memory based upon the rankings.

[0011] In yet another aspect the invention relates to a radio services apparatus for use within a content distribution system. The apparatus includes a content database in which are stored a plurality of content items. The apparatus also includes a profile database in which are stored a plurality of user profiles corresponding to a plurality of user devices. A processor is configured to execute a content sequencing routine operative to determine, based upon at least one of the plurality of user profiles and at least one of the plurality of station definitions, a sequence of content items to be distributed to a first of the user devices corresponding to the one of the user profiles.

[0012] In a further aspect the present invention relates to a content management apparatus for use within a player device. The apparatus includes a memory containing a content database in which are stored a plurality of content items and a plurality of station definitions. A processor configured to execute a content sequencing routine is operative to determine, based upon at least one of the plurality of station definitions, a sequence of the content items to be rendered by the device.

[0013] In another aspect the present invention relates to a system for synchronization of user profiles across a plurality of devices associated with ones of the users. A synchronization module is operative to receive a user profile from a first client device and provide a synchronized user profile to another client device.

[0014] Additional aspects of the present invention are further described below with respect to the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The foregoing aspects and the attendant advantages of the embodiments described herein will become more readily apparent by reference to the following detailed description when taken in conjunction with the accompanying drawings wherein:

[0016] **FIGURE 1** is an illustration of one embodiment of a system for providing content to multiple clients in accordance with the present invention.

[0017] **FIGURE 2** is an illustration of one embodiment of components comprising radio services in accordance with aspects of the present invention.

[0018] **FIGURE 3** is an illustration of one embodiment of a sub-system of radio services related to content sequencing in accordance with aspects of the present invention.

[0019] **FIGURE 4** is an illustration of one embodiment of a web based personalized radio client in accordance with aspects of the present invention.

[0020] **FIGURE 5** is an illustration of one embodiment of a system supporting a sometimes connected player in accordance with aspects of the present invention.

[0021] **FIGURE 6** is an illustration of one embodiment of a sometimes connected player in accordance with aspects of the present invention.

[0022] **FIGURE 7** is an illustration of one embodiment of a system supporting a sometimes connected satellite radio in accordance with aspects of the present invention.

[0023] **FIGURE 8** is an illustration of one embodiment of a sometimes connected satellite radio in accordance with aspects of the present invention.

DETAILED DESCRIPTION

[0024] This application is related to United States Utility Patent Application Serial No. 12/045666, entitled SYSTEM AND METHOD FOR PERSONALIZED PLAYBACK CONTENT THROUGH INTERACTION WITH A PLAYBACK DEVICE, to United States Utility Patent Application Serial No. 12/032637, entitled SYSTEMS AND METHODS FOR SATELLITE AUGMENTED WIRELESS COMMUNICATION NETWORKS, to United States Utility Patent Application Serial No. 11/955,299, entitled METHOD AND APPARATUS FOR INTERACTIVE DISTRIBUTION OF DIGITAL CONTENT, to United States Utility Patent Application Serial No. 11/923,573, entitled METHODS AND SYSTEMS FOR PERSONALIZED RENDERING OF DIGITAL MEDIA CONTENT and to

United States Utility Patent Application Serial No. 11/923,554, entitled SYSTEMS AND DEVICES FOR PERSONALIZED RENDERING OF DIGITAL MEDIA CONTENT. These applications may also be referred to collectively herein as the related application for purposes of brevity.

[0025] Embodiments of the present invention address the need for a ‘push’ model of content distribution uniting portable digital media players, car based media players, home based media players and personal computer based media players. In this model, user interactions with the interfaces of such players are used as a basis for modifying a user profile or personal media profile. The user profile defines favorite media channels, favorite categories or attributes of content within or across channels, custom channels and customizations to channels.

[0026] In typical embodiments the user profile is used to facilitate selection or filtering of content on behalf of the user. Thus the user need only express their preferences to access content that is tailored to their tastes. This requires much less effort than acquiring, managing and distributing a personal content library across multiple devices.

[0027] While the webcasters described in the Background section provide ‘push’ systems, including some with personalized profiles, the profiles and intelligence to apply them are centralized on the webcaster’s servers. This requires that clients be continuously connected to the servers to access personalized content or to interact with their profile. Thus webcasting has very little penetration in portable players and automobiles where a broadband connection may not be present or may be intermittent at best.

[0028] To enable the user to receive and interact with personalized content streams across a variety of devices, in one embodiment of the present invention the user profile is synchronized between client and server elements and media profile driven selection logic distributed.

[0029] The related applications, including copending United States Utility Patent Application Serial Nos. 11/955,299, 11/923,573 and 11/923,554, describe content selection and management techniques suitable for distributing media profile driven selection logic to portable devices.

[0030] The system and methods described herein enable interaction with distributed profiles and clients so as to facilitate creation of a personalized, portable radio system. While an exemplary embodiment is described in terms of audio content, it should be clear that the

invention applies equally well to audio/video media, images, or other types of multimedia content.

[0031] Referring now to Figure 1, there is shown a system 100 in which a variety of clients access, over a variety of networks, services implementing a Personalized Radio Service 100 in a manner consistent with an embodiment of the present invention.

[0032] A Web Based Player 101 is a media player that has a persistent connection to the Internet and accesses Radio Services 105 via a web-services interface.

[0033] A Wireless Networked Player 102 is a media player that connects periodically or opportunistically to wireless networks, for example, the IEEE 802.11 family of wireless networks. This client synchronizes content and personalization profiles while connected, and need not be connected while rendering personalized radio. This configuration is especially suitable for hand-held portable media players.

[0034] A Cellular Phone Based Player 103 connects to Radio Services 105 over a Cellular Network 106. Because Cellular networks may be very busy during peak times but have excess capacity during off-peak hours, the Cell Phone Based Player 103 client can synchronize content and/or personalization profiles during off peak hours, resulting in a more economical use of the network.

[0035] A Satellite Radio 104 can utilize the content sequencing logic to de-couple the rendering of audio for the end-user from the reception of content from a Satellite 108. This allows the radio to build a cache of content during periods of good reception, and to play back cached content with no audible drop-outs due to loss of signal in non-real time. The caching of content on this satellite radio client means that the radio can support more channels than the bandwidth of the satellite connection could support if broadcasting in real-time.

[0036] The Satellite Radio 104 may also have other connectivity to Radio Services 105. For example, if the Satellite Radio 104 additionally has an uplink to Radio Services 105 via an Internet, Wireless, or Cellular network connection, personalized user profile changes on the device can be synchronized back to the Radio Services 105 and ultimately to other clients. Otherwise, the Satellite Radio 104 can operate on a non-synchronized local profile, or can receive a personalized profile edited on other clients and transmitted across the Satellite link.

[0037] Referring now to Figure 2, components 200 comprising one embodiment of Radio Services 105 are detailed. Web Servers 201 and Web Content Storage 209 serve

HTML, Javascript, Images, Macromedia Flash and/or other objects utilized by web browser clients. Profile Web Services 202 and a Profile Database 210 store end-user specific profile information including station customizations, content preferences, and history of recent end-user playback and other events.

[0038] Content Sequencing Web Services 203 support content refresh for clients that cache content, as well as 'next track' requests for thin clients such as browser based players. The Content Database 211 may be used to catalog the available content. Media Servers 204 and Media Storage 212 may be used to serve content in the form of digital media files, such as are described in the related applications, to clients. A Broadcast Scheduler 205 decides which tracks should be sent across the satellite link to Satellite 108 for broadcast to Satellite Radios 104. Collectively, the web services are available across the Internet 206 or connected Cellular Networks 207.

[0039] Referring now to Figure 3, one embodiment of sub-systems 300 of Radio Services 105 related to content sequencing are described. At the core of this system is one or more Content Sequencers 304. Content Database 211 and Profile Database 210 provide the data used in Content Sequencer 304. The Content Database 211 stores a catalog of available radio audio tracks and may store the Station Definitions 306 of pre-programmed radio stations.

[0040] A Profile Database 210 stores end-user's Content Ratings and Preferences 307, Station Settings 308 and Play History 309. In an exemplary embodiment, this data is expressed as one or more XML documents or trees (nodes). The Profile Database 210 may store Station Definitions 306 where the Station Definition is custom-made by the end-user. In some embodiments user customization information including Content Ratings and Preferences, Station Settings, Play History, and/or other user customization criteria may be stored in a common user profile in Profile Database 210. In other embodiments, user customization information may be stored in one or more separate user profiles.

[0041] In some embodiments, user profiles may be synchronized between two or more types of clients, facilitating user profile updating and synchronization across multiple types of clients used by a particular end-user. For example, in some embodiments user profiles may be synchronized between a Web Based Player 101 and a Wireless Networked Player 102, Cell Phone Based Player 103 or Satellite Radio 104 so that the user profile information on all synchronized clients are updated to the most recent profile. Additional

details of one embodiment of such synchronization is further described below with respect to a Sometimes Connected Player 501.

[0042] Content Sequencer 304 utilizes the Content Database 211 in conjunction with the Station Definition 306, Content Ratings and Preferences 307, and Station Settings 308 to create and maintain a sequence of radio tracks for a particular personalized radio station.

[0043] The Content Sequencer 304 may be used by more specialized components to deliver various services to the clients. A Content Refresh Service 301 may utilize the Content Sequencer 304 to optimize the choice of tracks to download to clients. A primary specialization in one embodiment is that the Content Refresh Service 301 typically does not choose tracks that are already in the client cache.

[0044] Content Sequence Service 302 handles “thin” clients such as Web Browser based players that do not have their own Content Sequencer 304. These clients simply request the next radio track for playback and then stream the indicated track. When the track finishes, the client requests the subsequent track to play, and so on.

[0045] Satellite Scheduler 303 multiplexes the output of Content Sequencer 304 for the stations that are broadcast on the satellite link. The Satellite Scheduler 303 specializes the Content Sequencer 304 output to optimize the utilization of the satellite link: content that is most likely to be played by the players and least likely to already be in the cache is prioritized.

[0046] Referring now to Figure 4, the configuration of one embodiment of a web-based personalized radio client system 400 in a manner consistent with the present invention is described.

[0047] As shown in Figure 4, a Web Based Player 101 may be loaded into a user’s web browser 460 in one exemplary embodiment. The Web Servers 201 load a combination of Javascript programming, Flash objects, HTML, and similar browser content to implement a media player in the browser. On Microsoft operating systems, an Active X control may be employed to drive Windows Media Player or similar functionality within the browser.

[0048] In alternate embodiments, the Web Based Player functionality may be embedded in a standalone software client application or hardware devices such as consumer electronics components for a home stereo or entertainment system. However, in this configuration, the Web Based Player is presumed to have a continuous, persistent network connection.

[0049] The Web Based Player 101 interacts directly with the Profile Web services 102 to store user preferences as they are indicated by the end user through the user interface of the player. The Web Based Player 101 interacts directly with the Content Sequence Service 302 to get the next track to play in response to various events triggered by the user interface or the underlying media player, for example a user initiated request to skip the current track or the a player report that the current track has finished. The Web Based Player 101, especially in a web browser based incarnation, provides a convenient platform for the user to create and customize radio stations and generally manage preferences. The personal computer based web browser may have a large display, a keyboard, and a pointing device (e.g. mouse) to facilitate the management of personalized radio stations. However, as is discussed hereinafter, the present invention facilitates portability not achievable through the Web Based Player in and of itself.

[0050] Referring now to Figure 5, one embodiment of a configuration 500 supporting a Sometimes Connected Portable Device 501 is described. The Sometimes Connected Portable Device includes Wireless Networked Players 102 and Cellular Phone Based Players 103. These players are designed to play and manage personalized portable radio stations, such as are described in the related applications, while only intermittently connected to the network.

[0051] The Sometimes Connected Portable Device 501 synchronizes profile data including Content Ratings and Preferences 307, Station Settings 308, and Play History 309 while connected. In one embodiment the synchronization is bi-directional. That is, if the Profile Database 210 has a more recent version of an element of the profile, it is copied onto the portable device 501. If the portable device 501 has a more recent version of an element of the profile, it is copied to the profile database. This synchronization may require merging, or the resolution of conflicting elements. In an exemplary embodiment, the Profile Web Services 202 handles the merging and conflict resolution.

[0052] Once the portable device 501 has synchronized the end-user profile elements, it can request a content refresh through the Content Refresh Service 301. In an exemplary embodiment, the portable device 501 sends its current inventory associated with the station to refresh to the Content Refresh Service 301. The Content Refresh Service 301 creates a priority ordered list of content for the device to download. The device 501 then downloads the indicated content from a Media Server 204. Optionally, the device 501 may request the

content from a Content Delivery Network 401. The device uses the acquired content to supplement the given station. The device then repeats the process for the other stations.

[0053] In one exemplary embodiment, the stations are refreshed in order of need for content. That is, stations that are played often and lacking fresh content are refreshed first. Information about the share of device listening time associated with a particular station and the overall freshness of its content may be uploaded to the Content Refresh Service 301 in order to optimize the refresh process.

[0054] In one exemplary embodiment, the Station Refresh Service 301 creates a sequence of tracks as would occur in the device if it had access to the entire Content Database 211. The service then eliminates from the sequence any tracks that already reside in the player and returns the given sequence to the device as the list of content to obtain.

[0055] In an alternate embodiment, the Station Refresh Service 301 analyzes the inventory for each station and each sub-category within a station and ensures that each category has sufficient content to render a forward sequence of tracks of a target length without undue repetition.

[0056] It will be apparent to one skilled in the art that the synchronization of the profile including Station Definition 306, Content Ratings and Preferences 307, Station Settings 308 and Play History 309, along with the transmission of current station inventory and usage, enables the Station Refresh Service 301 to optimize the inventory cached on the device. This allows the Sometimes Connected player 501 to obtain content during relatively brief periods of connectivity and to render quality radio sequences during relatively long periods lacking any connectivity.

[0057] Referring now to Figure 6, one embodiment of a configuration 600 of a Sometimes Connected Player 501 is described in detail. The Content Sequencer 606 implements similar algorithms as the Content Sequencer 304 employed in the server. One skilled in the art will recognize that the two components can share a substantial amount of programming code, and/or may be ported to different programming languages or operating systems as dictated by the target platforms.

[0058] As in the server implementation described in Figure 3, the Content Sequencer 606 uses the Station Definition 306, Content Ratings 307 and Station Settings 308, and Play History 309 to sequence the available content cataloged by the Content Database 607. The Content Sequencer feeds the Media Player 602 such that the radio station is rendered for the end-user.

[0059] The User Interface 601 controls the playback functions of the media player, and can also be used to facilitate user editing of user profile information, such as the Station Definition, Content Ratings, Station Settings and/or other user customization parameters.

[0060] A Synchronization Module, such as Synchronization Engine 604, may be included to manage synchronization. Synchronization Engine 604 manages the bi-directional synchronization of the personalized profile entities, i.e. the Station Definition 306, Content Ratings 307 and Station Settings 308, Play History 309, and/or an other user customization information, where bi-directional connectivity is available. In some embodiments, Synchronization Engine 604 may be configured to synchronize user profiles between two or more clients or two or more different types of clients.

[0061] The Content Inventory Manager 605 handles the station refresh operation by connecting to the Content Refresh Service 301. The Content Inventory Manager also handles removing content from the Content Database and local media store to make room for newer, fresher content.

[0062] In one exemplary embodiment, the Content Inventory Manager 605 uses the Content Sequencer 606 to rank the content in each station or station sub-category based on how soon the content is likely to be played. Content that is likely to be played soon is considered more important and will not be discarded. Content that is least likely to play is removed from the device periodically, as needed, to make room for incoming content from the content refresh operation or received over the satellite connection. Thus, Content Inventory Manager 605 ensures that the content stored on the device is optimized over time.

[0063] Referring now to Figure 7, one embodiment of a configuration 700 supporting a Sometimes Connected Satellite Radio 701 is described. The Sometimes Connected Satellite Radio 701 is similar to the Sometimes Connected Portable Device 501 shown in Figure 5 and Figure 6, with the additional capability of receiving content from a Satellite 108.

[0064] Referring now to Figure 8, details of one embodiment of a Satellite Radio 701 are described. In typical embodiments, the configuration is similar to the configurations described for the Sometimes Connected Portable Player of Figure 5. Addition of a Satellite Receiver 801 allows content to be received from a satellite broadcast, such as from satellite 108.

[0065] In one exemplary embodiment, tracks received from satellite 108 are added to the Content Database 607 by the Content Inventory Manager 605. Periodically, the Content

Inventory Manager 605 sweeps through the Content Database 607, removing the tracks that are least likely to be needed as described above. In this way, the Satellite Radio 801 optimizes its content to the stations and preferences set by the user.

[0066] In some embodiments the Satellite Radio 801 will be configured to connect to the Radio Services 105 via other networks to synchronize user profiles and/or receive content. For example, if the Satellite Radio 801 connects periodically to bi-directional networks such as 802.11 wireless connections, Cellular networks, or wired network connections, the satellite radio will synchronize its profile data and content as described above for Sometimes Connected Portable Devices, such as in conjunction with Synchronization Engine 604.

[0067] However, Satellite Radio 801 is not required to establish bidirectional connections and participate in profile data synchronization or Content Refresh Service 301 interactions. In some embodiments, all user profile information such as custom station definitions, preferences, and settings comprising the personalized profile remain local on satellite radio 801.

[0068] Some embodiments of the present invention may include computer software and/or computer hardware/software combinations configured to implement one or more processes or functions associated with the present invention such as those described above and/or in the related applications. These embodiments may be in the form of modules implementing functionality in software and/or hardware software combinations. Embodiments may also take the form of a computer storage product with a computer-readable medium having computer code thereon for performing various computer-implemented operations, such as operations related to functionality as describe herein. The media and computer code may be those specially designed and constructed for the purposes of the present invention, or they may be of the kind well known and available to those having skill in the computer software arts, or they may be a combination of both.

[0069] Examples of computer-readable media within the spirit and scope of the present invention include, but are not limited to: magnetic media such as hard disks; optical media such as CD-ROMs, DVDs and holographic devices; magneto-optical media; and hardware devices that are specially configured to store and execute program code, such as programmable microcontrollers, application-specific integrated circuits (“ASICs”), programmable logic devices (“PLDs”) and ROM and RAM devices. Examples of computer code may include machine code, such as produced by a compiler, and files containing higher-

level code that are executed by a computer using an interpreter. Computer code may be comprised of one or more modules executing a particular process or processes to provide useful results, and the modules may communicate with one another via means known in the art. For example, some embodiments of the invention may be implemented using assembly language, Java, C, C#, C++, or other programming languages and software development tools as are known in the art. Other embodiments of the invention may be implemented in hardwired circuitry in place of, or in combination with, machine-executable software instructions.

[0070] The foregoing description, for purposes of explanation, used specific nomenclature to provide a thorough understanding of the invention. However, it will be apparent to one skilled in the art that specific details are not required in order to practice the invention. Thus, the foregoing descriptions of specific embodiments of the invention are presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed; obviously, many modifications and variations are possible in view of the above teachings. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications, they thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is intended that the following claims and their equivalents define the scope of the invention.

CLAIMS

I claim:

1. A method for selecting content at a content provider system for distribution over a network to a plurality of user devices intermittently connected to the network, the method comprising:
 - storing a plurality of content items within a content database in the content provider system;
 - storing a plurality of user profiles corresponding to the plurality of user devices in the content provider system;
 - storing a plurality of station definitions corresponding to a plurality of stations, at least a first of the station definitions including customization information associated with the first of the plurality of user devices;
 - receiving a first current inventory of ones of the content items stored on a first of the plurality of user devices wherein the first current inventory is sent by the first of the plurality of user devices and is associated with a first station of the plurality of stations;
 - receiving a second current inventory of other ones of the content items stored on the first of the plurality of user devices wherein the second current inventory is sent by the first of the plurality of user devices and is associated with a second station of the plurality of stations;
 - receiving play history information from the first of the plurality of user devices;
 - identifying, based at least in part upon the first current inventory, the second current inventory, the play history information, and a first of the user profiles, a first plurality of the content items to be distributed to the first of the plurality of user devices wherein the first plurality of the content items includes a first sequence of content items corresponding to the first station and a second sequence of content items corresponding to the second station;
 - determining a third current inventory of ones of the content items stored on a second of the plurality of user devices; and
 - identifying, based at least in part upon the third current inventory and a second of the user profiles, a second plurality of the content items to be distributed to the second of the plurality of user devices.
2. The method of claim 1 wherein the determining includes receiving, from the second of the plurality of user devices, information relating to the third current inventory.

3. The method of claim 1 further including receiving, from the first of the plurality of user devices, information relating to the first of the user profiles.

4. The method of claim 1 wherein the identifying further includes generating, based upon the first of the station definitions, the first of the user profiles, and the first current inventory, the first sequence of content items.

5. The method of claim 1 wherein the first of the plurality of user devices is configured to automatically remove selected ones of the content items stored on the first of the plurality of user devices to ensure that sufficient room exists in the memory to store the first plurality of the content items.

6. The method of claim 1 further including:
receiving, from the first of the plurality of user devices, listening time information for the first station and the second station; and
determining an order of distribution of the first sequence of content items and the second sequence of content items to the first of the plurality of user devices at least in part based upon the listening time information.

7. The method of claim 1 further including:
receiving, from the first of the plurality of user devices, the first of the user profiles wherein the first of the plurality of user devices and the first of the user profiles is associated with a first user; and
providing, to another of the plurality of user devices associated with the first user, a synchronized user profile corresponding to the first of the user profiles.

8. The method of claim 1, further including:
receiving a first station listening time and a second station listening time respectively associated with the first station and the second station;
distributing ones of the first plurality of content items in an order determined based at least in part upon the first station listening time and the second station listening time.

9. The method of claim 1 wherein the identifying further includes analyzing, based upon the first current inventory, an inventory for each sub-category of the first station, the first plurality of the content items including one or more content items for each sub-category.

10. The method of claim 1 further including generating a list of ones of the content items associated with the first station, wherein the identifying includes identifying a first set of content items included on the list and not included in the first current inventory for distribution to the first of the plurality of user devices.

11. A radio services apparatus for use within a content distribution system, comprising:
 a content database in which are stored a plurality of content items;
 a profile database in which are stored a plurality of station definitions and a plurality of user profiles corresponding to a plurality of user devices intermittently connected to a network, at least a first of the plurality of station definitions including customization information associated with the first of the plurality of user devices; and

a processor configured to execute a content sequencing routine operative to select content for distribution over the network, the content sequencing routine including the following operations:

receiving a first current inventory of ones of the content items stored on a first of the plurality of user devices wherein the first current inventory is associated with a first station of the plurality of stations;

receiving a second current inventory of other ones of the content items stored on the first of the plurality of user devices wherein the second current inventory is associated with a second station of the plurality of stations;

receiving play history information from the first of the plurality of user devices;

identifying, based at least in part upon the first current inventory, the second current inventory, the play history information and a first of the plurality of user profiles, a first plurality of the content items to be distributed to the first of the plurality of user devices wherein the first plurality of the content items includes a first sequence of content items corresponding to the first station and a second sequence of content items corresponding to the second station.

12. The apparatus of claim 11 wherein the at least one of the plurality of user profiles includes content rating and preference information.

13. The apparatus of claim 11 further including:

receiving, from the first of the plurality of user devices, the first of the user profiles wherein the first of the plurality of user devices and the first of the user profiles is associated with a first user; and

providing, to another of the plurality of user devices associated with the first user, a synchronized user profile corresponding to the first of the user profiles.

14. The apparatus of claim 11 wherein the at least one of the plurality of user profiles includes station settings information relating to a station corresponding to the at least one of the plurality of station definitions.

15. The apparatus of claim 11 wherein the processor is further configured to execute the content sequencing routine to determine a sequence of ones of the plurality of content items to be distributed to a second of the plurality of user devices.

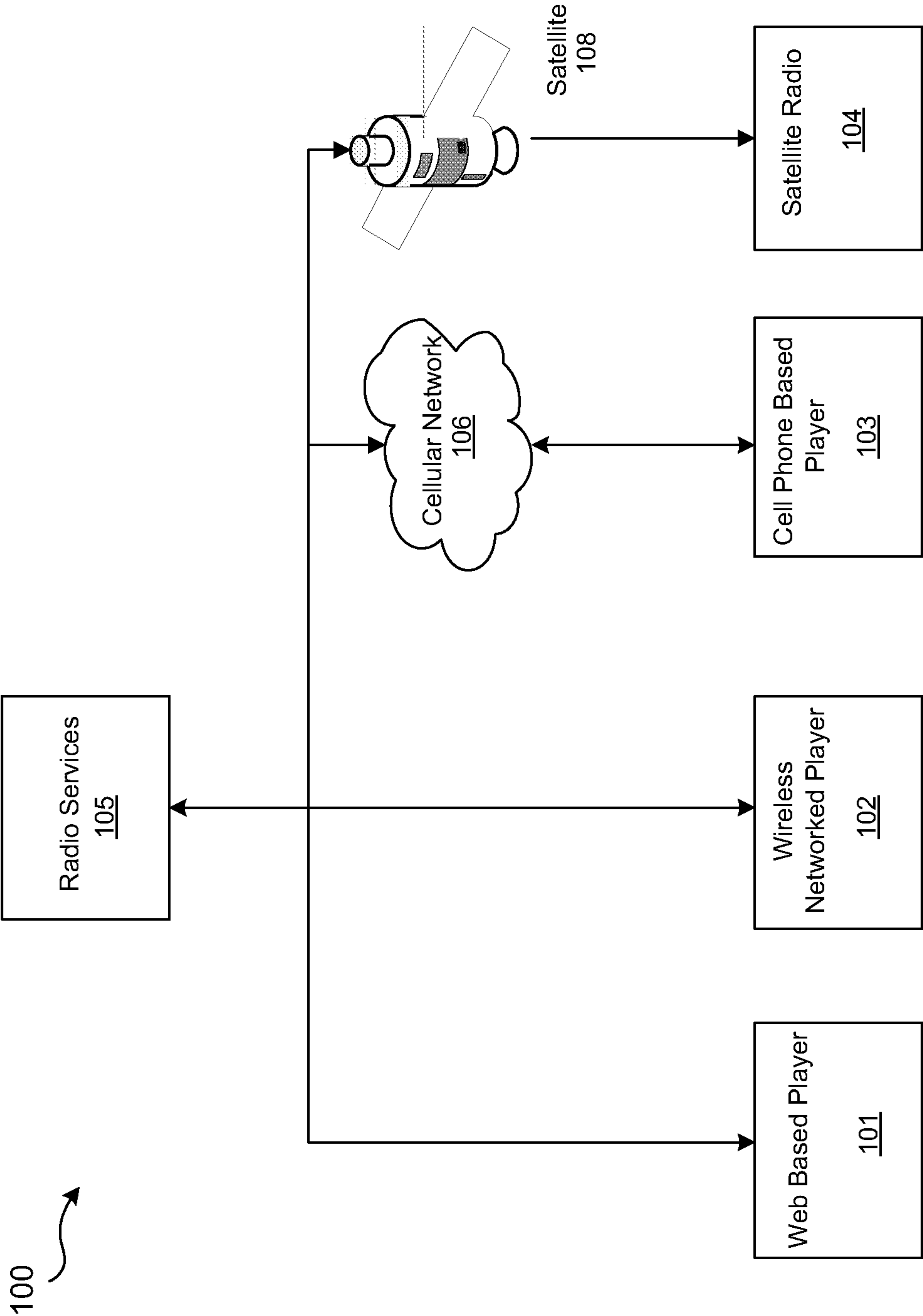


FIGURE 1

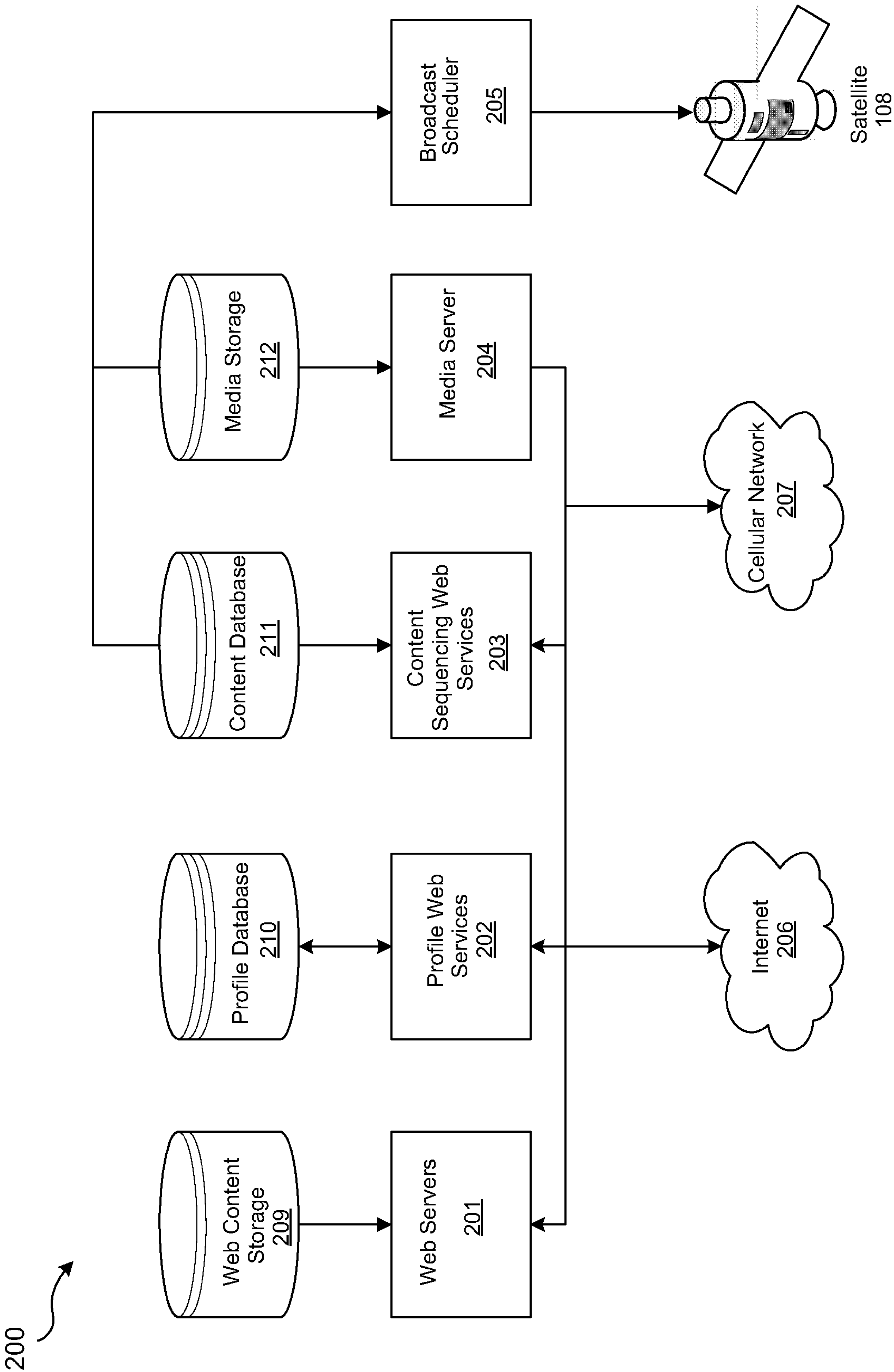


FIGURE 2

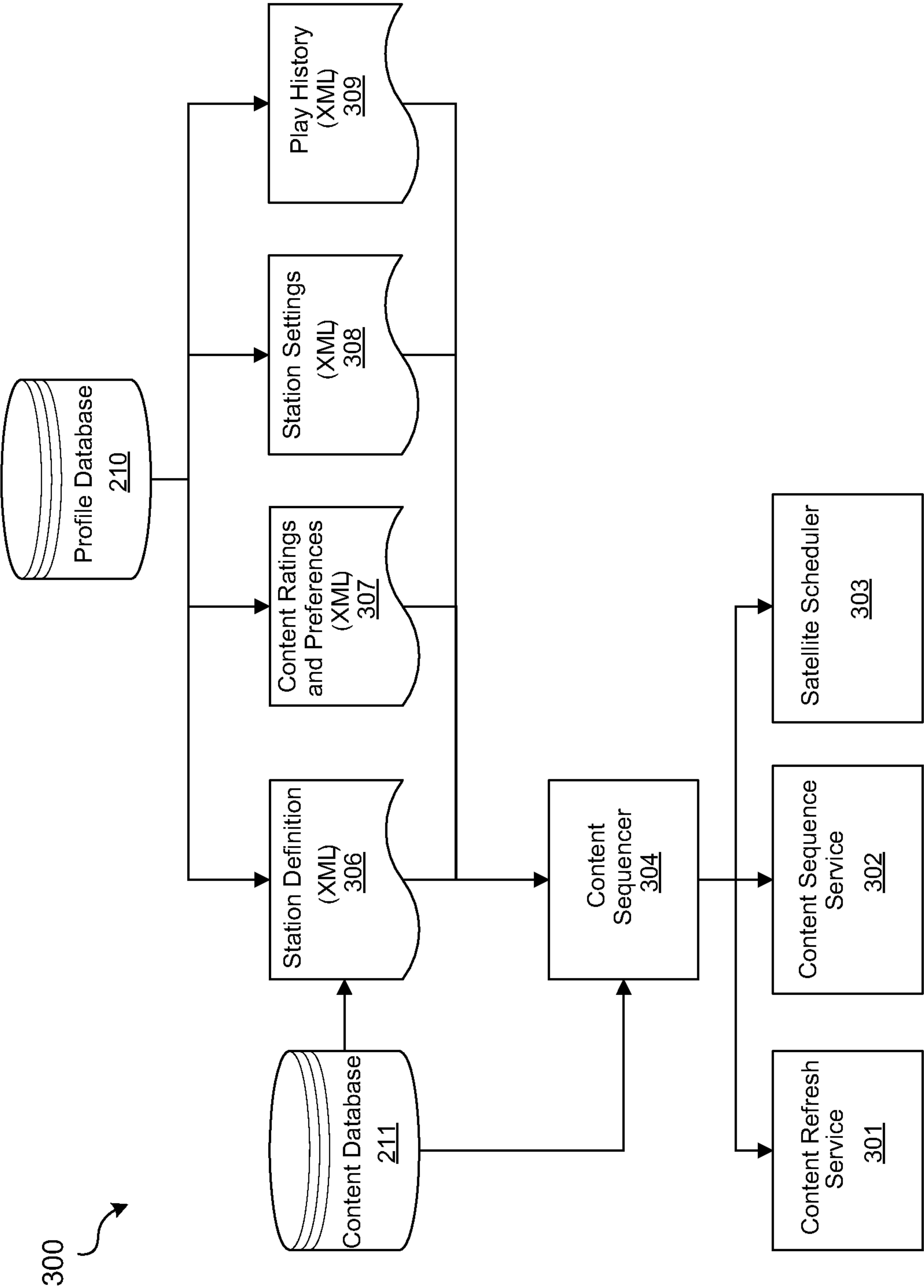


FIGURE 3

400 ↗

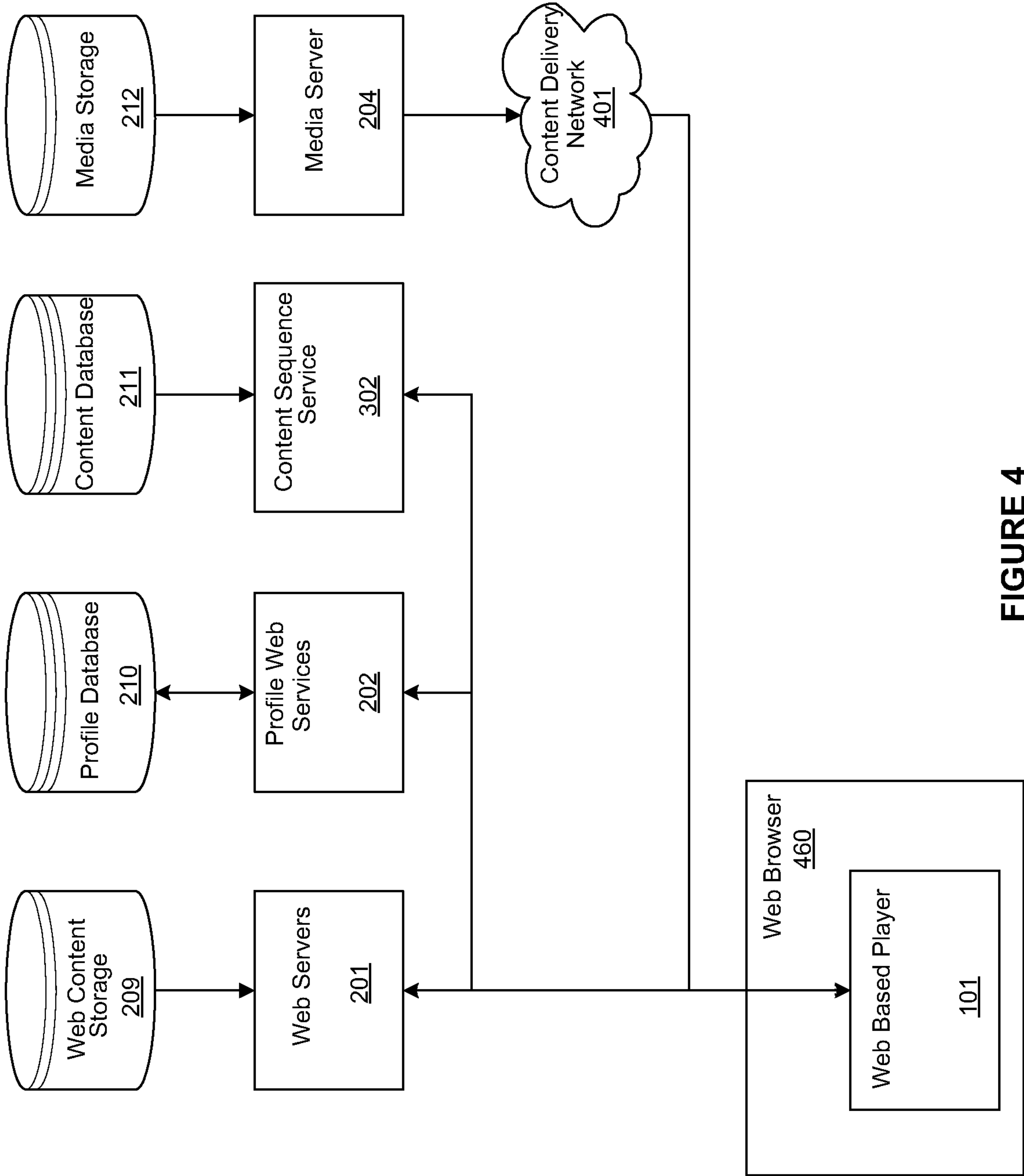
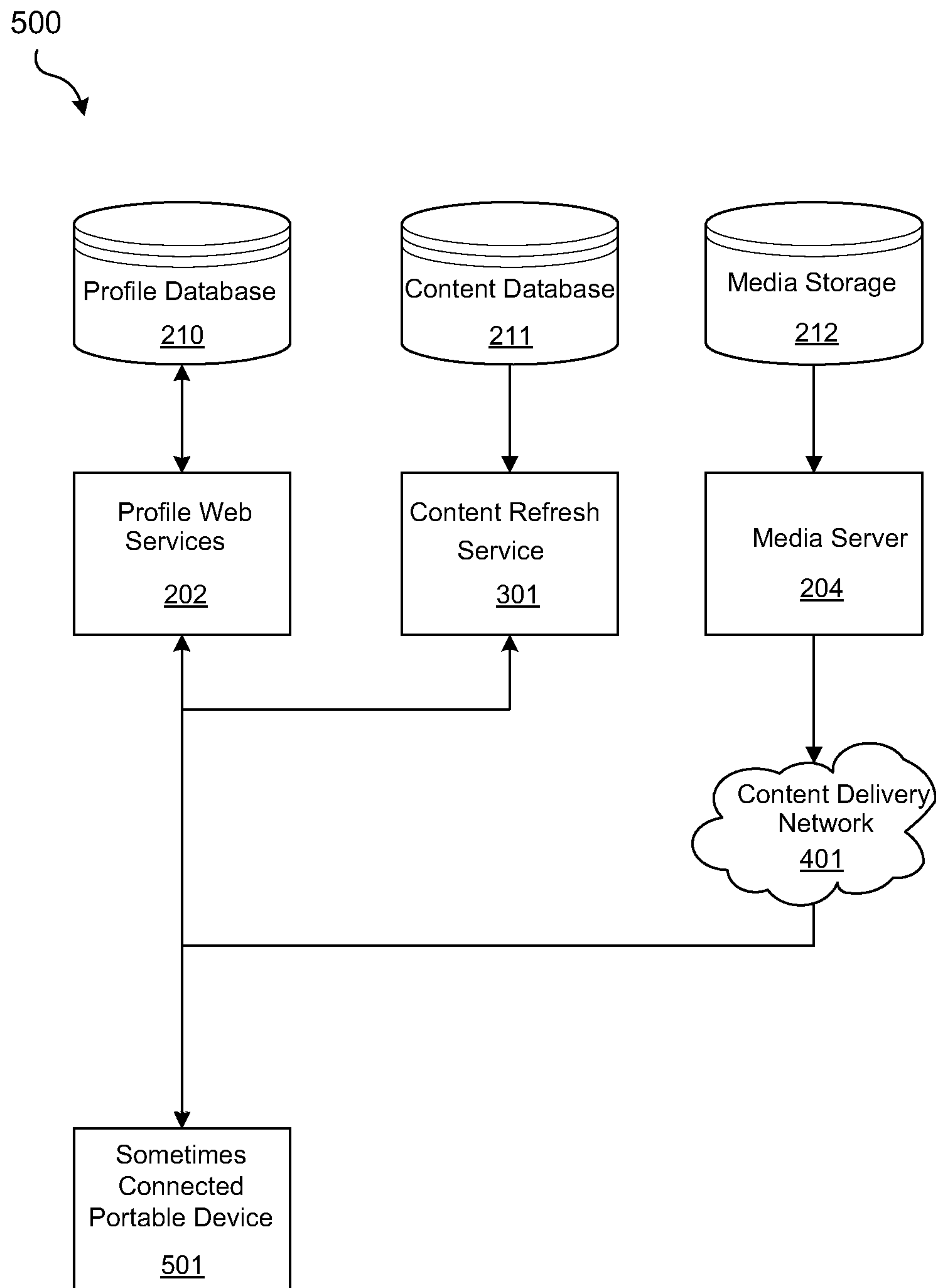


FIGURE 4

**FIGURE 5**

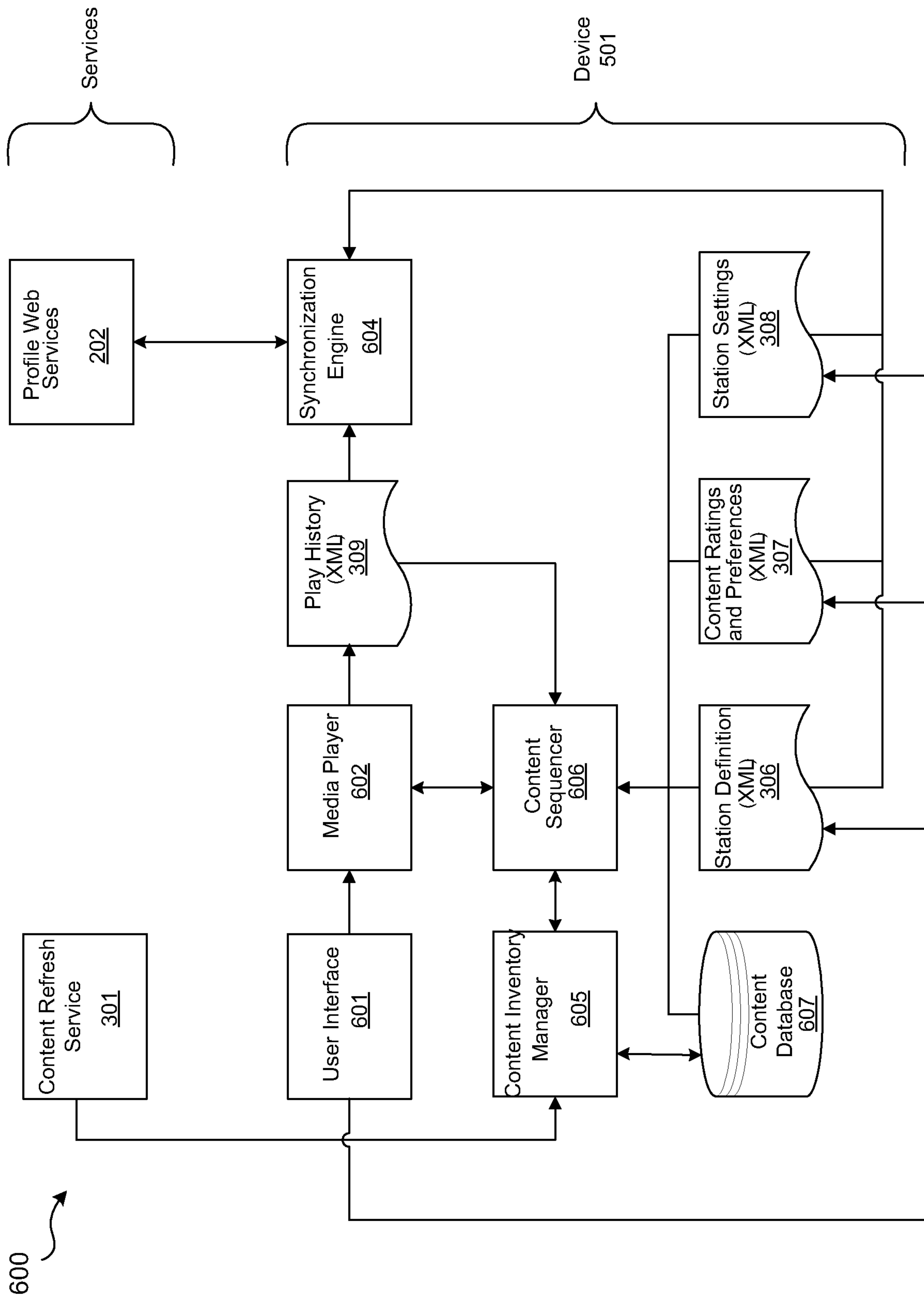


FIGURE 6

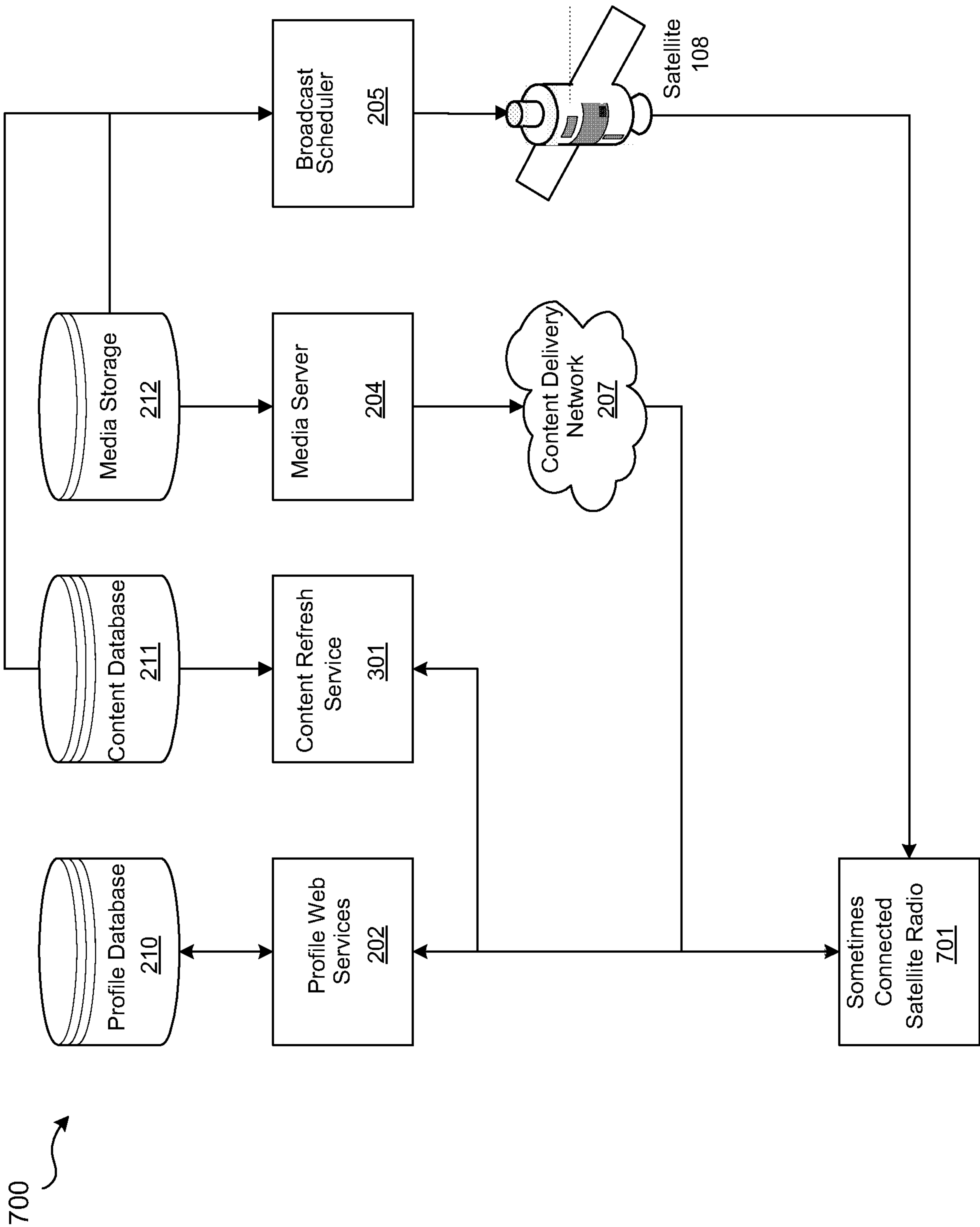


FIGURE 7

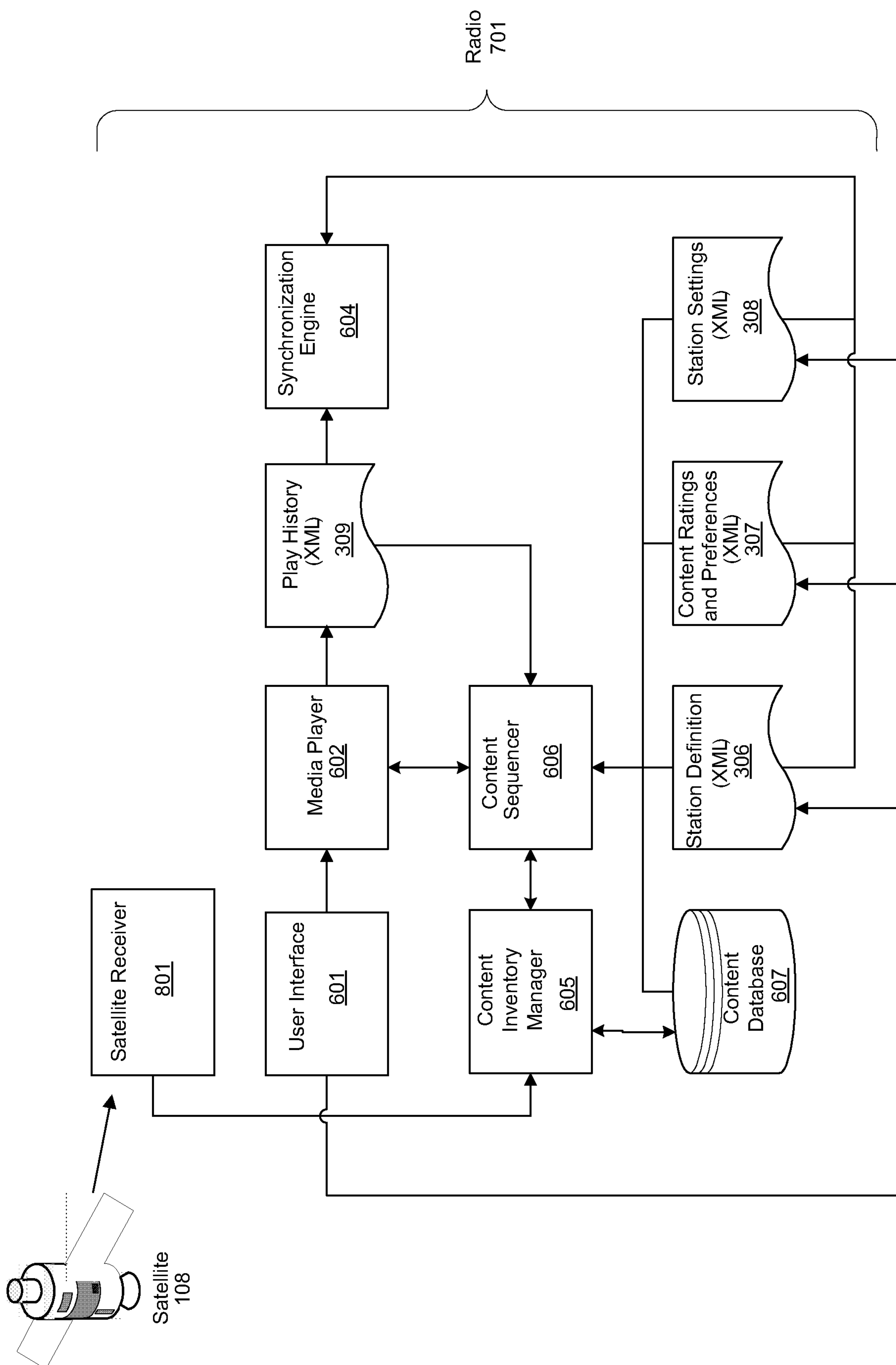


FIGURE 8

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