(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 February 2002 (28.02.2002)

PCT

(10) International Publication Number
WO 02/17205 A2

(51) International Patent Classification[7]: G06F 17/60

(21) International Application Number: PCT/US01/41837

(22) International Filing Date: 21 August 2001 (21.08.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/643,083 21 August 2000 (21.08.2000) US

(71) Applicant: **KINECTA CORPORATION** [US/US]; 1338 Mission Street, San Francisco, CA 94103 (US).

(72) Inventors: **DO, Arthur, L.**; 10 Trish Court, Danville, CA 94506 (US). **SOUZIS, Adam, B.**; 4104 24th Street #422, San Francisco, CA 94114 (US). **MATHISON, David, B.**; 96 Barbaree Way, Tiburon, CA 94920 (US).

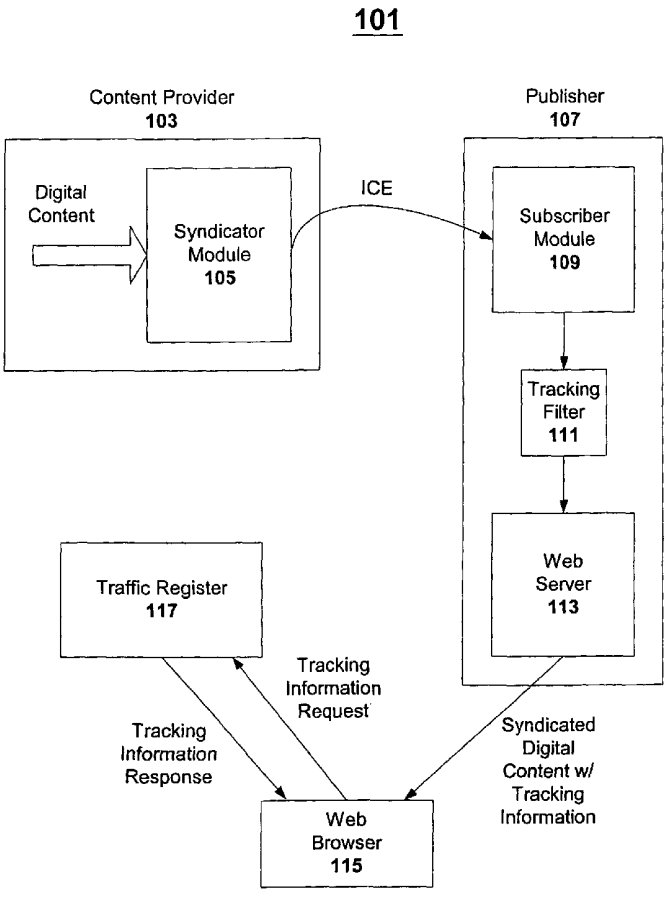
(74) Agents: **MALONEY, Neil, F.** et al.; Fenwick & West LLP, Two Palo Alto Square, Palo Alto, CA 94306 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,

[Continued on next page]

(54) Title: TRACKING AND RECORDING TECHNIQUES FOR ONLINE CONTENT



(57) Abstract: One embodiment of the present invention provides a method for publishing syndicated digital content received from a content provider. Another embodiment of the present invention provides a method for receiving syndicated digital content from a publisher. Another embodiment of the present invention provides a method for tracking syndicated digital content from a content provider. Another embodiment of the present invention provides a method for providing a syndicated digital content report to a content provider. Another embodiment of the present invention provides an online syndicated digital content management system. Another embodiment of the present invention provides a tracking facility system for tracking syndicated digital content from a content provider. Another embodiment of the present invention provides a system for providing a syndicated digital content report to a content provider.

WO 02/17205 A2

CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

TRACKING AND RECORDING TECHNIQUES FOR ONLINE CONTENT

FIELD OF THE INVENTION

The invention relates to online management and exchange of information, and more particularly, to the tracking and recording of online digital content.

DESCRIPTION OF THE RELATED ART

The World Wide Web is an Internet facility that includes the largest collection of online information in the world. For the sake of clarity, the web is generally referred to as the Internet, and information accessible from the Internet is generally referred to as online information. This online information, which resides on a vast number of web servers, includes digital content such as multimedia text, images and graphics, and sounds. The online information is stored in the form of electronic documents having a standard format referred to as hypertext markup language (HTML). HTML documents can be accessed and interpreted by a user's browser. The location of electronic documents on the Internet is given by a link referred to as a uniform resource locator (URL). Some HTML documents contain links (e.g., hyperlinks) to other HTML documents (e.g., hypertext), whether on the same web server or on any web server connected to the global Internet. A user can view a document having such links as a seamless whole despite that document might be located on a multitude of web servers. In short, there is a wealth of information available on the Internet.

However, this wealth of information is not necessarily organized or catalogued in any particular manner. Thus, looking for specific types of information (e.g., top news stories, weather reports, sports news, entertainment, current medical advances, technology and business developments) among all the online information that is available can be a daunting and overwhelming task. As such, and in response to a need for greater organization and

management of information available on the Internet, various business functions have developed. For example, a content provider is an entity that distributes syndicated digital content. Syndicated content may include, for example, news feeds, photos, stock quotes, streaming media, or engineering drawings.

A publisher, on the other hand, is an entity that receives and publishes syndicated digital content on its own site (such as an intranet, extranet, e-commerce website, or portal). Publishers are generally referred to as content subscribers as they receive subscriptions from one or more content providers. A subscription in this context is a package of digital content. For instance, a healthcare provider might subscribe to news stories related to healthcare, fitness and weight loss (e.g., a "healthcare subscription"). Another example might be a financial website that subscribes to content from content providers such as Reuters, Merrill Lynch, and Dow Jones (e.g., a "financial news subscription" and a "stock quotes subscription"). Such subscriptions can be renewed on a regular basis (e.g., daily, weekly, monthly, yearly), or can simply be a one time purchase of digital content. A publisher may also syndicate its subscriptions to other sites (e.g., other publishers) for republishing.

Various standards have developed to facilitate the exchange of online content between content providers and publishers. For example, the information and content exchange (ICE) protocol was designed to reduce the cost of doing business online and to increase the value of business relationships by enabling companies to control the ways they exchange and manage digital content. ICE is based on the extensible markup language (XML) standard, which uses familiar HTML-style tags to represent data hierarchies. XML essentially converts structured data (e.g., spreadsheets, address books, financial transactions, technical drawings) into text files to facilitate e-commerce.

As competition amongst rival publishers increases, various techniques have developed to more accurately target the desired audience or end users of syndicated digital content. Such techniques focus on user behavior. Based on this user behavior, for example, marketing strategies can be refined and improved. For instance, assume that a certain type of content (e.g., stock quotes) is frequented mostly by users having the following characteristics: dual-income household and no children (based on demographics). Thus, marketers selling products targeted for children or the parents of children would be less interested in paying for advertising space associated with that type of content. On the other hand, marketers selling products targeted to people having a large disposable income might be very interested in advertising space associated with that type of content. Publishers of such content, therefore,

can capitalize on this demographic information by, for example, selling advertisement space at a premium to the marketers selling high-end products targeted to people having a large disposable income.

Similarly, users' click-behavior can be monitored. For example, assume that a company selling widgets purchases advertisement space associated with two types of content. Also, assume that the same advertisement is placed in both advertisement spaces. If the advertisement associated with the first type content triggers more widget purchases than the same advertisement associated with the second type content, then it would be appropriate for the publisher of the first type content to charge more for the widget advertisements as opposed to other advertisements. Additionally, a company can monitor the effect of its own, as well as its competitors' advertising campaigns based on such user-based data.

These conventional techniques place the focus on the end-user's behavior. Information such as the number of unique users, local users versus foreign users, average time per visit per users, user click patterns, and user demographics allows publishers to adjust their content types to maximize user throughput and optimize marketing potential. However, such techniques fail to provide a means to identify the source of the digital content – the content provider. As such, the digital content may not be properly valued by content providers. This is because once the digital content is released to a publisher, there is no mechanism to trace the content back to its source or provider. Thus, content providers are at a disadvantage as they are effectively disconnected from the end user.

What is needed, therefore, is a content management technique that allows content providers to properly value the digital content that they provide.

BRIEF SUMMARY OF THE INVENTION

One embodiment of the present invention provides a method for publishing syndicated digital content received from a content provider by embedding tracking information including an identity of the content provider into syndicated digital content, and providing to a user the syndicated digital content having the identity of the content provider embedded therein.

Another embodiment of the present invention provides a method for receiving syndicated digital content from a publisher by receiving the syndicated digital content having tracking information including an identity of the content provider embedded therein, generating a tracking information request that includes the tracking information, and sending the tracking information request to a tracking facility for processing.

Another embodiment of the present invention provides a method for tracking syndicated digital content from a content provider, wherein in response to a tracking facility receiving a tracking information request, extracting an identity of the content provider from tracking information included in the tracking information request, and responding to the tracking information request with a repeat visitor indicator that includes an identity of the content provider.

Another embodiment of the present invention provides a method for providing a syndicated digital content report to a content provider, wherein in response to receiving a report request from the content provider, retrieving data relevant to that request, wherein the data includes, or is derived from, tracking information, and allows the content provider to properly value syndicated digital content, generating a report that includes the data relevant to the request, and providing the syndicated digital content report to the content provider.

Another embodiment of the present invention provides an online syndicated digital content management system comprising a publisher for publishing syndicated digital content received from a content provider, the publisher comprising a subscriber module for receiving the syndicated digital content from the content provider, and a tracking filter for embedding tracking information including an identity of the content provider in the syndicated digital content. An alternate of this embodiment can further include a tracking facility for identifying the syndicated digital content and its source in response to receiving a tracking request.

Another embodiment of the present invention provides a tracking facility system for tracking syndicated digital content from a content provider, the system comprising a data responder module for, in response to receiving a tracking information request, extracting an identity of the content provider from tracking information included in the tracking information request, the data responder module also for responding to the tracking information request with a repeat visitor indicator that includes the identity of the content provider.

Another embodiment of the present invention provides a system for providing a syndicated digital content report to a content provider, the system comprising a report generator for, in response to receiving a report request from the content provider, generating a report that includes the data relevant to the request, wherein the data includes, or is derived from, tracking information, and allows the content provider to properly value syndicated digital content.

The features and advantages described in the specification are not all inclusive and, in particular, many additional features and advantages will be apparent to one of ordinary skill in

the art in view of the drawings, specification, and claims. Moreover, it should be noted that the language used in the specification has been principally selected for readability and instructional purposes, and may not have been selected to delineate or circumscribe the inventive subject matter.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a block diagram illustrating an online syndicated digital content management system in accordance with one embodiment of the present invention.

Figure 2a is a block diagram illustrating response and collection functions of a tracking facility in accordance with one embodiment of the present invention.

Figure 2b is a block diagram illustrating a reporting function of a tracking facility in accordance with one embodiment of the present invention.

Figure 3 is a flowchart illustrating a method for publishing syndicated digital content received from a content provider in accordance with one embodiment of the present invention.

Figure 4 is a flowchart illustrating a method for receiving syndicated digital content from a publisher in accordance with one embodiment of the present invention.

Figure 5 is a flowchart illustrating a method for tracking syndicated digital content from a content provider in accordance with one embodiment of the present invention.

Figure 6 is a flowchart illustrating a method for providing a content report to a content provider in accordance with one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1 is a block diagram illustrating an online syndicated digital content management system in accordance with one embodiment of the present invention. The embodiment shown, generally referred to as system 101, includes a content provider 103, a publisher 107, a traffic register 117, and a web browser 115. Content provider 103 further includes a syndicator module 105. Publisher 107 further includes a subscriber module 109, a tracking filter 111, and a web server 113. Each of the components included in content provider 103 and publisher 107, as well as traffic register 117, can be implemented in software, hardware, firmware or any combination thereof, and will now be discussed in detail.

Content provider 103 can be any entity providing syndicated digital content. Example content providers are Reuters, Financial Times, Fidelity Investments, and Astrology.com.

Syndicator module 105 receives digital content, and distributes that digital content to various publishers 107. Example publishers are Yahoo.com, AOL.com, and Excite@Home.com. In one embodiment, syndicator module 105 is implemented in software running on a server (or equivalent computing environment) associated with content provider 103. The digital content received by syndicator module 105 is online information that can have a variety of digital formats, including XML, HTML, text, graphics, streaming audio and video, and various types of documents. The digital content can be original (e.g., created by content provider 103), or aggregated (e.g., collected from a number of sources). Syndicator module 105 may further include a content repository for storing the digital content to be syndicated.

Subscriber module 109 receives syndicated digital content from syndicator 105. In one embodiment, subscriber module 109 is implemented in software running on a server (or equivalent computing environment) associated with publisher 107. Subscriber module 109 can, for example, receive a one time delivery of syndicated digital content from syndicator module 105. Alternatively, subscriber module 109 can determine whether there is new syndicated digital content to be retrieved by communicating with syndicator module 105. This communication can be performed on a regular basis (e.g., once a day at midnight or once every half hour). For example, a data flag associated with syndicator module 105 is set when new digital content is received. Subscriber module 109 can poll this flag and, responsive to the flag being set, download the new content from syndicator module 105 using the ICE protocol. Other communication protocols that allow digital information to be transferred from one entity to another can also be used (e.g., HTTP or File Transfer Protocol). Subscriber module 109 may further include a content repository for storing the syndicated digital content to be published.

For the purposes of clarity, syndicated digital content is any form of online digital content that is distributed by a content provider to a publisher. The relationship between the content provider and the publisher may be, for example, a business relationship where the publisher pays a fee to the content provider as consideration for receiving the syndicated digital content. Alternatively, the publisher can receive the digital content from the content provider free of charge and or for some other form of compensation (e.g., free advertising space for the content provider). The content provider may be a distinct and separate business entity from the publisher (e.g., ContentProvider, Inc. and Publisher, Inc.). Alternatively, the content provider and the publisher may be part of a larger business entity (e.g., ContentProvider Division or Department of Company X and Publisher Division or Department

of Company X). Regardless of the relationship between the content provider and the publisher, the tracking and recording techniques described herein can be employed.

Each unit of syndicated digital content received by subscriber module 109 eventually passes through tracking filter 111, which tags each unit of the syndicated digital content prior to its publication for tracking purposes. A unit of syndicated digital content, for example, can be a HTML page or an XML document or other communicative medium that contains some portion of digital content provided by content provider 103 (e.g., image file or audio file). Such a unit of syndicated digital content can be included in a digital content offer. An offer is a collection of related syndicated digital content to which a publisher can subscribe. For example, a domestic sports offer might contain information (e.g., articles, streaming media such as video and audio feeds, photographs, and statistics) on college and professional baseball, an international politics offer might contain information on current presidential foreign policy and military deployments, or a business news offer might contain information about current mergers and acquisitions involving Fortune 500 companies.

Tracking filter 111 can be implemented, for example, in software running on a server (or equivalent computing environment) associated with publisher 107. In one embodiment, tracking filter 111 embeds a tracking URL containing tracking information about the syndicated digital content in each unit of the syndicated digital content. In such an embodiment, the tracking information might include the identification code (ID) of content provider 103, the ID of syndicator module 105, the ID of subscriber module 109, the ID of the digital content offer to which the syndicated digital content is associated, and the ID of the page in which the syndicated digital content is embedded. An ID can be, for example, a universally unique identifier (UUID) as referred to in the ICE protocol specification. Other tracking information, such as an address of a tracking server (e.g., traffic register 117) and the type of that server (e.g., Apache C module) can also be included in the tracking URL.

Web server 113 receives from tracking filter 111 syndicated digital content having tracking information embedded therein. Web server 113 can be, for example, any conventional HTTP-type server. Web server 113, which is generally accessible by users via a network, such as the Internet or an office local or wide local area network, serves pages containing the syndicated digital content having tracking information to requesting users. Such users can be, for example, limited to those who have agreed to terms defined by publisher 107. Alternatively, such users can be unrestricted, where any person with Internet access can access the syndicated digital content with tracking information. Various other

relationships, whether commercial or non-commercial, can exist between users and publisher 107. Regardless, a qualified user can employ a web browser 115 (e.g., operating on a computer) to access web server 113, which serves the syndicated digital content having tracking information to web browser 115 for viewing by the end user. Web browser 115 can be, for example, any conventional browser capable of viewing HTML or other types of content.

Once web browser 115 receives a page including the syndicated digital content and tracking information, a tracking information request is generated and transmitted to traffic register 117, which tracks the usage of the syndicated digital content published by publisher 107. In one embodiment, traffic register 117 is implemented in software running on a server (referred to as a tracking server). Other equivalent computing environments can be used as well to run traffic register 117. In such an embodiment, a tracking URL embedded by tracking filter 111 in the page or document being viewed via browser 115 can be used to generate the tracking information request. Generally, the browser 115 parses the syndicated digital content contained in the page or document and processes the tracking URL. For example, consider the tracking URL:

http://tr.kinecta.net/1px?syn=123&sub=456&oid=33&ofr=abc&itm=789,

where "tr.kinecta.net" is the address of the tracking server or computing system associated with traffic register 117, "1px" indicates the type of tracking server (which in this case is an Apache C module), "syn" is the ID of syndicator module 105, "sub" is the ID of subscriber module 109, "oid" is the ID of the offer to which the syndicated digital content is associated, "ofr" is the name of the offer name, and "itm" is the ID of the item or unit of the syndicated digital content. Additional codes may be used to further categorize syndicated digital content. Alternatively, the syndicated digital content can be categorized internally by traffic register 117 or by content provider 103.

With such tracking information, traffic register 117 can identify the syndicated digital content (e.g., the offer to which the content is associated and the actual item of content) as well as its source (e.g., content provider 103 and syndicator 105). Additionally, the tracking information request can further include a cookie that indicates the user viewing the syndicated digital content has previously viewed or visited the current page or document at least once before. Such a cookie can be stored on the user's computer (e.g., on the hard disk) during a previous viewing of the content thereby indicating that the user is a repeat visitor to that page or document. If the user has not viewed the page or document before, then the tracking

information request will not contain a cookie thereby indicating that the user is a first time visitor to that page or document. Thus, information such as the number of unique visitors (e.g., based on a tally of first time visits), the number of repeat visitors (e.g., based on a tally of second time visits), the number of times one user has visited can also be determined (e.g., based on a tally of all visits by that user), or the average number of visits. Each of these and other numerical analyses can be made at various levels including, but not limited to, the particular document or page level, the digital content offer level, the content provider level or syndicator level, the publisher level, or a regional level (e.g., including all content providers or publishers in a particular geographic region). Such information can be determined for a given period of time (e.g., per every 12 hours, per day, per week, per month, or per year).

In order to satisfy the HTTP protocol, traffic register 117 can also respond to the tracking information request. This response can include, for example, data that notifies web browser 115 that the transaction is completed. In one embodiment, this data is a hard coded 1 pixel graphic interchange format (GIF) image. This image does not affect, nor is it relevant to, the user experience, but provides a means to properly complete the request-response format associated with the HTTP protocol. The response to the tracking information request can also include a cookie. This cookie is stored on the user's computer as explained above, and can be used as a repeat visitor indicator. In addition, the cookie can contain the ID of syndicator 105 so that it can be determined whether a visitor is unique for a particular syndicator 105.

Figure 2a is a block diagram illustrating response and collection functions of a tracking facility in accordance with one embodiment of the present invention. In this embodiment, traffic register 117 includes a load balancer 205, a number of web servers 207 (e.g., 207a and 207b), a server log 209 for each web server 207 (e.g., 209a and 209b), a data responder module 211 for each web server 207 (e.g., 211a and 211b), a data collector module, and a database 215. Each of these components, which can be implemented in software, hardware, firmware or any combination thereof, will now be discussed in detail.

Load balancer 205 receives tracking information requests from web browser 115 and distributes those requests evenly among the number of web servers 209. Other conventional load distribution means can be used as well to ensure that no one web server 207 is overloaded more than other web servers 207. In the embodiment shown, there are two web servers, 207a and 207b. However, the number of web servers 207 can vary depending on, for example, desired system performance and number of tracking information requests received. Web

servers 207 can be, for example, any conventional HTTP-type server (e.g., an Apache web server).

Data responder module 211a receives and responds to tracking information requests from web server 207a, while data responder module 211b receives and responds to tracking information requests from web server 207b. In one embodiment, data responder modules 211 are implemented with a software module that runs on the corresponding server 207. For example, data responder module 211 can be programmed to return data and a cookie. The data can be a 1 pixel GIF image as explained earlier. The cookie can contain, for instance, the ID of syndicator 105 so that a determination can be made as to whether a visitor is unique for a particular syndicator 105. The data responder module 211 does not have to process any incoming cookie or other information associated with the tracking information request (e.g., URL arguments). Rather, the cookie and other information can be stored in database 215 and processed and or used later. Thus, example pseudo code for implementing data responder modules 211 might resemble the following:

```
for each tracking information request {
        syn_id = extractSyndicatorID(URL);
        response = makeCookie(syn_id);
        response += get1PixelGIF();
        write(response);
}
```

The corresponding web server 207 can then serve the resulting response to web browser 115 via load balancer 205. This process is generally invisible to the user and does not affect the user's online experience.

Server log 209 is essentially a record of activity that the corresponding web server 207 has engaged in. In one embodiment, server log 209a contains a record of every tracking information request made to web server 207a, as well as any data associated with those tracking information requests. Similarly, server log 209b contains a record of every tracking information request made to web server 207b, as well as any data associated with those tracking information requests. Server logs 209 might be, for example, a text file or a linked data structure. Each tracking information request received (and any associated data) can be represented in one entry in server log 209.

Server logs 209 are retrieved and processed by data collector 213, and then loaded into database 215. For example, server logs 209 can be retrieved using the file transfer protocol (FTP) or other file transfer protocols. Server logs 209 can also be transformed into a format suitable for loading (e.g., bulk loading) into database 215. In one embodiment, server logs are processed on a periodic basis (e.g., every 30 minutes, every 12 hours, or every week). The shorter the amount of time that server logs 209 are allowed to grow, the less data there is for data collector 213 to process and load into database 215. Example pseudo code for implementing data collector module 213 might resemble the following:

```
for each server log {
        retrieve log;
        parse log;
        bulk_load log into database;
}
```

Figure 2b is a block diagram illustrating a reporting function of a tracking facility in accordance with one embodiment of the present invention. In this embodiment, traffic register 117 includes a web server 221, an application server 223, a report generator 225 and database 215. The functionality included in this embodiment can be included in the embodiment shown in Figure 2a to form a third embodiment of traffic register 117. Each of the components shown in Figure 2b, which can be implemented in software, hardware, firmware or any combination thereof, will now be discussed in detail.

Content provider 103 provides a request to web server 221 for a report regarding various digital content. In one embodiment, content provider 103 can access web server 221 by a web browser, and the report request can be in the form of a page or document. Web server 221, which can be any conventional HTTP server, receives the report request. Application server 223 acts as an interface between web server 221 (e.g., HTML environment) and report generator 225 (e.g., applications environment). In one embodiment, application server 223 is a Java application server. Report generator 225 receives the report request from application server 223, retrieves from database 215 data related to the request and then generates a report based on that data. For example, the data retrieved from the database can include tracking information (e.g., the identity of the content provider) or derivatives of tracking information (e.g., a tally of unique visits to a particular unit of syndicated digital content).

Such derivative tracking information can be pre-calculated and updated by data collector 213 of Figure 2a prior to storing that information in database 215. Alternatively, report generator 225 can perform such calculations in real-time once the tracking information is retrieved from database 215 in response to receiving a report request. Whether the derivative tracking information is pre-calculated or determined in real-time depends on various factors, such as the availability of tracking information, processing speeds of the system, and availability of memory resources. The report generated by report generator 225 is then provided to the application server, which generates a page or document embodying the report, and provides that page or document to web server 221. Web server 221 can then serve that page or document to content provider 103 via a browser.

In an alternative embodiment, content provider 103 can simply request a report in person or via telephone. The request could then be provided to report generator 225, which would generate a report containing the requested information. A hard copy of the report could then be created (e.g., by a conventional printer coupled to report generator 225) and provided to the requesting content provider 103. Example pseudo code for implementing report generator 225 might resemble the following:

```
for each report request {
        get data from database;
        build report;
}
```

Regardless of how the report is generated or how the report is communicated to content provider 103, the function of report generator 225 is to provide relevant content information to content provider 103. This will allow content provider to properly assess the value of the content they syndicate (or intend to syndicate) so that they can, for example, more accurately charge publishers for access to such content, and more effectively market that content. Digital content statistics, for example, can be provided that might include any combination of the following: the number of times a particular page is viewed (e.g., tracking image hits), the average number of times a particular page is viewed on a periodic basis (e.g., average number of tracking image hits per day), the number of unique visitors to a particular page, the number of user visits to a particular content offer, the domain of visitors (e.g., using a reverse domain naming system and a visitor's internet protocol address), the country of origin of visitors (e.g., based on .com for US, .uk for Britain), the browser type of visitors, the

browser revision of visitors, the system type of visitors and operating system of the visitors, and the time and date of the visit. Various desirable demographics can presented in the report. The format of the report can be varied to suit the requestor's preferences.

Figure 3 is a flowchart illustrating a method for publishing syndicated digital content received from a content provider in accordance with one embodiment of the present invention. In this embodiment, the method begins with, responsive to determining that a content provider has desired syndicated digital content, downloading 305 that syndicated digital content. For example, the content provider can signal that a digital content offer to which a publisher subscribes has been recently updated. The publisher can then download the updated portions of the digital content offer. On the other hand, a newly subscribing publisher can download the entire digital content offer. Such a download can be a one time event, or a repeatable event to maintain an updated subscription.

The method continues with embedding 310 tracking information including the identity of the content provider into a unit of the syndicated digital content. Generally, a unit of syndicated digital content is a page or document or other communicative medium that contains some portion of digital content provided to the publisher by the content provider. In one embodiment, the identity of the content provider is the ID of the syndicator module associated with the content provider's server. The syndicator ID can be included, for example, in a tracking request URL that is embedded in the unit of syndicated digital content. However, the syndicator ID can be included in the unit of syndicated digital content by other means as well. For example, the syndicator ID can be included in a script file that is embedded in the unit of syndicated digital content. Regardless, the identity of the content provider is associated with the unit of syndicated digital content.

The method continues with providing 315 the unit of syndicated digital content having the identity of the content provider embedded therein to a user in response to a request for that content by that user. The request by the user can be generated, for example, when the user selects (e.g., via a mouse click) a URL or hyperlink that triggers the unit of syndicated digital content to be served to the user's browser 115. The presence of the tracking information embedded in the unit of syndicated digital content is generally hidden from a user, and any action associated with the embedded tracking information will not manifest in browser 115. For example, once browser 115 loads the unit of syndicated digital content, a URL or script file embedded in that content will automatically operate unbeknownst to the user.

Figure 4 is a flowchart illustrating a method for receiving syndicated digital content from a publisher in accordance with one embodiment of the present invention. This embodiment of the method begins by receiving 405 a unit of syndicated digital content having tracking information including the identity of the content provider (e.g., syndicator ID) embedded therein. This unit of syndicated digital content can be received, for example, by a user's browser. The method proceeds with generating 410 a tracking information request that includes the tracking information. In one embodiment, this request is generated by a tracking URL embedded in the unit of syndicated digital content. Thus, when the user's browser loads the unit of syndicated digital content, the embedded tracking URL is automatically processed by the browser. The method further includes sending 415 the tracking information request to a tracking facility for processing and storing of the tracking information. In one embodiment, this tracking facility could be a traffic register 117 as described above. In such an embodiment, a tracking URL embedded in the unit of syndicated digital content could identify the address of a tracking server where the traffic register is running. Other means that cause browser 115 to transfer the tracking information to a tracking facility can be used as well.

Figure 5 is a flowchart illustrating a method for tracking syndicated digital content from a content provider in accordance with one embodiment of the present invention. In this embodiment, the method begins with, responsive to a tracking facility receiving a tracking information request, extracting 505 the identity of the content provider from tracking information included in the tracking information request. The method further includes responding 510 to the tracking information request with a repeat visitor indicator that includes the identity of the content provider. In one embodiment, the repeat visitor indicator is a cookie that contains the ID of the syndicator module associated with content provider as explained above. In such an embodiment, a determination can then be made as to whether a visitor is unique for a particular content provider. Other determinations and statistical analyses can be performed as well as explained above.

The method continues with transferring 515 the tracking information included in the tracking information request to a storage area. For example, every request received by the tracking facility can be collected and recorded in a server log. Such a server log can be periodically transferred (e.g., every 30 minutes) to a database included in the tracking facility. Alternatively, such a database can be located in a location external to the tracking facility. In another embodiment, the method might further include transforming the collected tracking information into a format that is suitable for bulk loading into the database.

Figure 6 is a flowchart illustrating a method for providing a syndicated digital content report to a content provider in accordance with one embodiment of the present invention. In this embodiment, the method begins with, responsive to receiving a report request from a content provider, retrieving 605 data relevant to that request. Such data may include tracking information, or be derived from tracking information. For example, the data might include any combination of the following: the number of times a particular unit of syndicated digital content is viewed (e.g., tracking image hits), the average number of times a particular page is viewed on a periodic basis (e.g., average number of tracking image hits per day), the number of unique visitors to a particular unit of syndicated digital content (e.g., a web page), the number of user visits to a particular syndicated digital content offer, the domain of visitors (e.g., using a reverse domain naming system and a visitor's internet protocol address), the country of origin of visitors (e.g., based on .com for US, .uk for Britain), the browser type of visitors, the browser revision of visitors, the system type and operating system of the visitors, and the time and date of the visit. The data relevant to a request might be related to syndicated digital content that was provided by the content provider making the request. On the other hand, the data relevant to a request might be unrelated to any syndicated digital content that was provided by the content provider making the request (e.g., the content provider may be conducting research on what digital content it would like to provide to certain-type publishers).

The method continues with generating 610 a report that includes the data relevant to the request. The report may be in electronic form, such as a web page(s) or an e-mail or a word processor document. Alternatively, the report can be a hard copy. Any medium to effectively communicate the substance of the report to the content provider can be used. The method further includes providing 615 the syndicated digital content report to the content provider. The content provider can then use the information contained in the report in determining, for example, whether to sell subscriptions of a particular syndicated digital content offer, or to discontinue such subscriptions, or to increase (or decrease) the cost of a subscription that a publisher is charged. Likewise, the content provider can use the information contained in the report to more effectively market its syndicated digital content based on demographics associated with that content. Various other uses will be apparent to those skilled in the art in light of this disclosure.

The foregoing description of the embodiments of the invention has been presented for the purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modifications and variations are possible in

light of the above teaching. It is intended that the scope of the invention be limited not by this detailed description, but rather by the claims appended hereto.

CLAIMS

What is claimed is:

1. A method for publishing syndicated digital content received from a content provider, the method comprising:

embedding tracking information including an identity of the content provider into a unit of the syndicated digital content; and

providing to a user the unit of syndicated digital content having the identity of the content provider embedded therein.

2. The method of claim 1 further comprising:

responsive to determining that the content provider has desired syndicated digital content, downloading the desired syndicated digital content.

3. The method of claim 1 wherein the tracking information is included in a tracking request URL that is embedded in the unit of syndicated digital content.

4. The method of claim 1 wherein the method is performed by a publisher that subscribes to the syndicated digital content received from the content provider.

5. A method for receiving syndicated digital content from a publisher, the method comprising:

receiving a unit of syndicated digital content having tracking information including an identity of the content provider embedded therein;

generating a tracking information request that includes the tracking information; and

sending the tracking information request to a tracking facility for processing.

6. The method of claim 5 wherein the tracking information request is generated by a tracking URL embedded in the unit of syndicated digital content.

7. The method of claim 5 wherein a tracking URL embedded in the unit of syndicated digital content identifies an address of a tracking server associated with the tracking facility.

8. A method for tracking syndicated digital content from a content provider, the method comprising:

responsive to a tracking facility receiving a tracking information request, extracting an identity of the content provider from tracking information included in the tracking information request; and

responding to the tracking information request with a repeat visitor indicator that includes an identity of the content provider.

9. The method of claim 8 further comprising:

transferring the tracking information included in the tracking information request to a storage area associated with the tracking facility.

10. The method of claim 8 wherein the repeat visitor indicator is a cookie that contains the identity of the content provider.

11. The method of claim 8 further comprising:

determining whether a visitor associated with the tracking information request is a repeat visitor for the content provider based on the repeat visitor indicator.

12. The method of claim 8 further comprising:

collecting tracking information included in a plurality of tracking information requests; and

transforming the collected tracking information into a format that is suitable for bulk loading into the storage area.

13. A method for providing a syndicated digital content report to a content provider, the method comprising:

responsive to receiving a report request from the content provider, retrieving data relevant to that request, wherein the data includes, or is derived from, tracking information, and allows the content provider to properly value syndicated digital content;

generating a report that includes the data relevant to the request; and

providing the syndicated digital content report to the content provider.

14. The method of claim 13 wherein the data relevant to the report request includes statistical data about syndicated digital content that was provided by the content provider making the request.

15. An online syndicated digital content management system comprising:

a publisher for publishing syndicated digital content received from a content provider, the publisher further comprising:

a subscriber module for receiving the syndicated digital content from the content provider; and

a tracking filter for embedding tracking information including an identity of the content provider in each unit of the syndicated digital content.

16. The system of claim 15 wherein the content provider includes a syndicator module for distributing syndicated digital content to the subscriber module included in the publisher.

17. The system of claim 15 wherein the subscriber module determines whether there is syndicated digital content to be retrieved from the content provider by communicating with the syndicator module.

18. The system of claim 15 further comprising:

a tracking facility for identifying the syndicated digital content and its source in response to receiving a tracking request, the tracking request being generated in response to a browser receiving the syndicated digital content.

19. A tracking facility system for tracking syndicated digital content from a content provider, the system comprising:

a data responder module for:

in response to receiving a tracking information request, extracting an identity of the content provider from tracking information included in the tracking information request, and

responding to the tracking information request with a repeat visitor indicator that includes the identity of the content provider.

20. The system of claim 19 further comprising:

a data collector module for transferring the tracking information included in the tracking information request to a storage area included in the tracking facility.

21. The system of claim 19 wherein the repeat visitor indicator is a cookie that contains the identity of the content provider.

22. A system for providing a syndicated digital content report to a content provider, the system comprising:

a report generator for, in response to receiving a report request from the content provider, retrieving data relevant to that request, the report generator also for generating a report that includes the data relevant to the request;

wherein the data includes, or is derived from, tracking information, and allows the content provider to properly value syndicated digital content.

23. The system of claim 22 wherein the data relevant to the report request includes statistical data about syndicated digital content that was provided by the content provider making the request.

24. A computer program product, stored on a computer readable medium, for publishing syndicated digital content received from a content provider, wherein in response to the computer program product being executed by a processor, the processor performs the steps of:

embedding tracking information including an identity of the content provider into a unit of the syndicated digital content; and

providing to a user the unit of syndicated digital content having the identity of the content provider embedded therein.

25. A computer program product, stored on a computer readable medium, for receiving syndicated digital content from a publisher, wherein in response to the computer program product being executed by a processor, the processor performs the steps of:

receiving a unit of syndicated digital content having tracking information including an identity of the content provider embedded therein;

generating a tracking information request that includes the tracking information; and

sending the tracking information request to a tracking facility for processing.

26. A computer program product, stored on a computer readable medium, for tracking syndicated digital content from a content provider, wherein in response to the computer program product being executed by a processor, the processor performs the steps of:

responsive to a tracking facility receiving a tracking information request, extracting an identity of the content provider from tracking information included in the tracking information request; and

responding to the tracking information request with a repeat visitor indicator that includes an identity of the content provider.

27. The computer program product of claim 26 further comprising:

transferring the tracking information included in the tracking information request to a storage area included in the tracking facility.

28. The computer program product of claim 26 wherein the repeat visitor indicator is a cookie that contains the identity of the content provider.

29. The computer program product of claim 26 further comprising:

determining whether a visitor associated with the tracking information request is a repeat visitor for the content provider based on the repeat visitor indicator.

30. A computer program product, stored on a computer readable medium, for providing a syndicated digital content report to a content provider, wherein in response to the computer program product being executed by a processor, the processor performs the steps of:

responsive to receiving a report request from the content provider, retrieving data relevant to that request, wherein the data includes, or is derived from, tracking information, and allows the content provider to properly value syndicated digital content;

generating a report that includes the data relevant to the request; and

providing the syndicated digital content report to the content provider.

31. The computer program product of claim 30 wherein the data relevant to the report request includes statistical data about syndicated digital content that was provided by the content provider making the request.

32. An online syndicated digital content management system comprising:

a publisher for publishing syndicated digital content received from a content provider, the publisher comprising:

a subscriber module for receiving the syndicated digital content from the content provider; and

a tracking filter for embedding tracking information including an identity of the content provider in each unit of the syndicated digital content;

a tracking facility for receiving and processing a tracking information request containing the tracking information, the tracking facility having a data responder module for:

in response to a client browser loading the syndicated digital content thereby generating the tracking information request, extracting the identity of the content provider from the tracking information included in the tracking information request, and

responding to the tracking information request with a repeat visitor indicator that includes the identity of the content provider; and

a report generator for, in response to receiving a report request from the content provider, generating a report that includes data relevant to the report request, wherein the data includes, or is derived from, the tracking information, and allows the content provider to properly value the syndicated digital content.

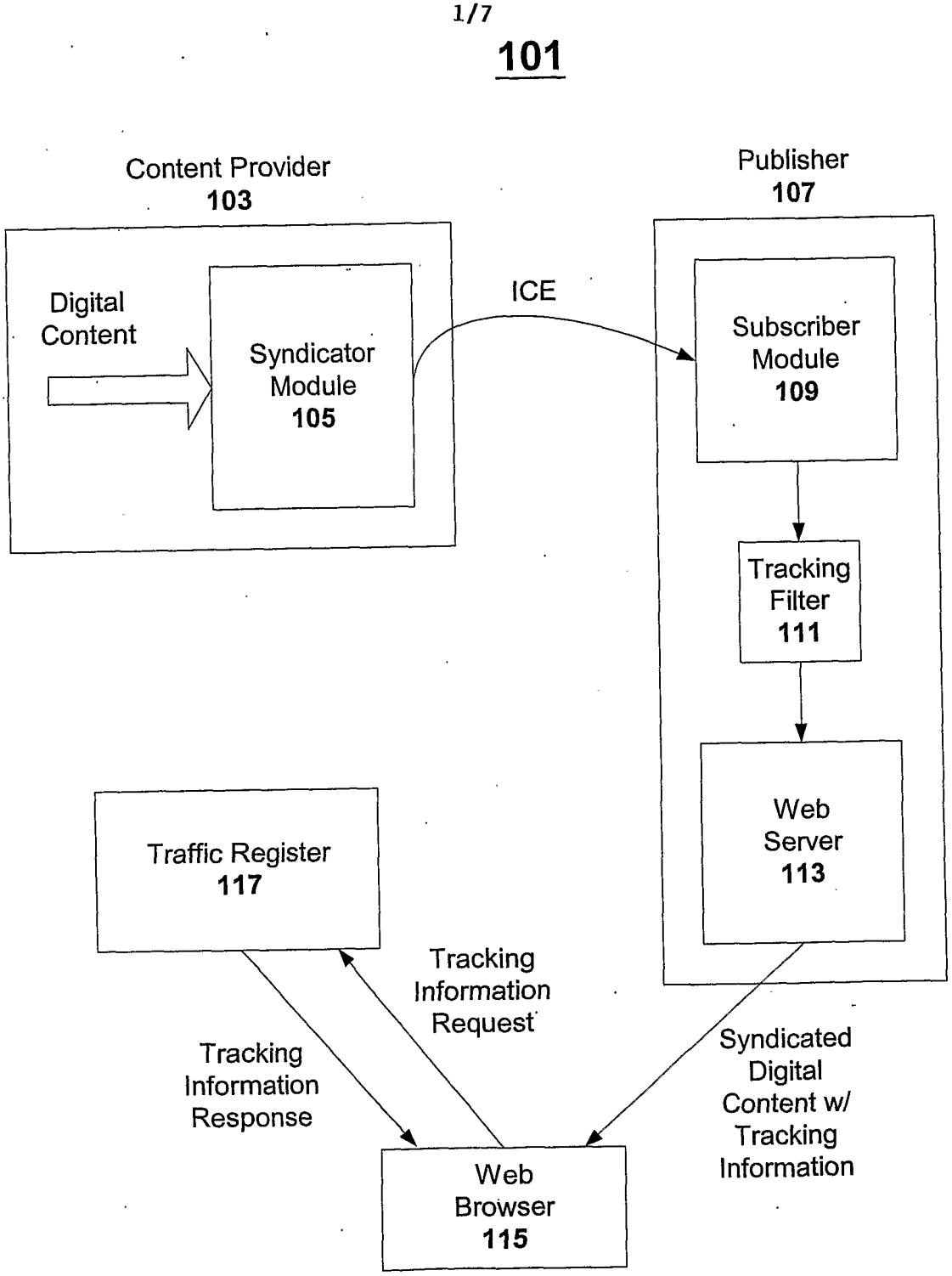

101
Content Provider
103
Digital
Content
Syndicator
Module
105
ICE
Publisher
107
Subscriber
Module
109
Tracking
Filter
111
Web
Server
113
Traffic Register
117
Tracking
Information
Request
Tracking
Information
Response
Syndicated
Digital
Content w/
Tracking
Information
Web
Browser
115

Fig. 1

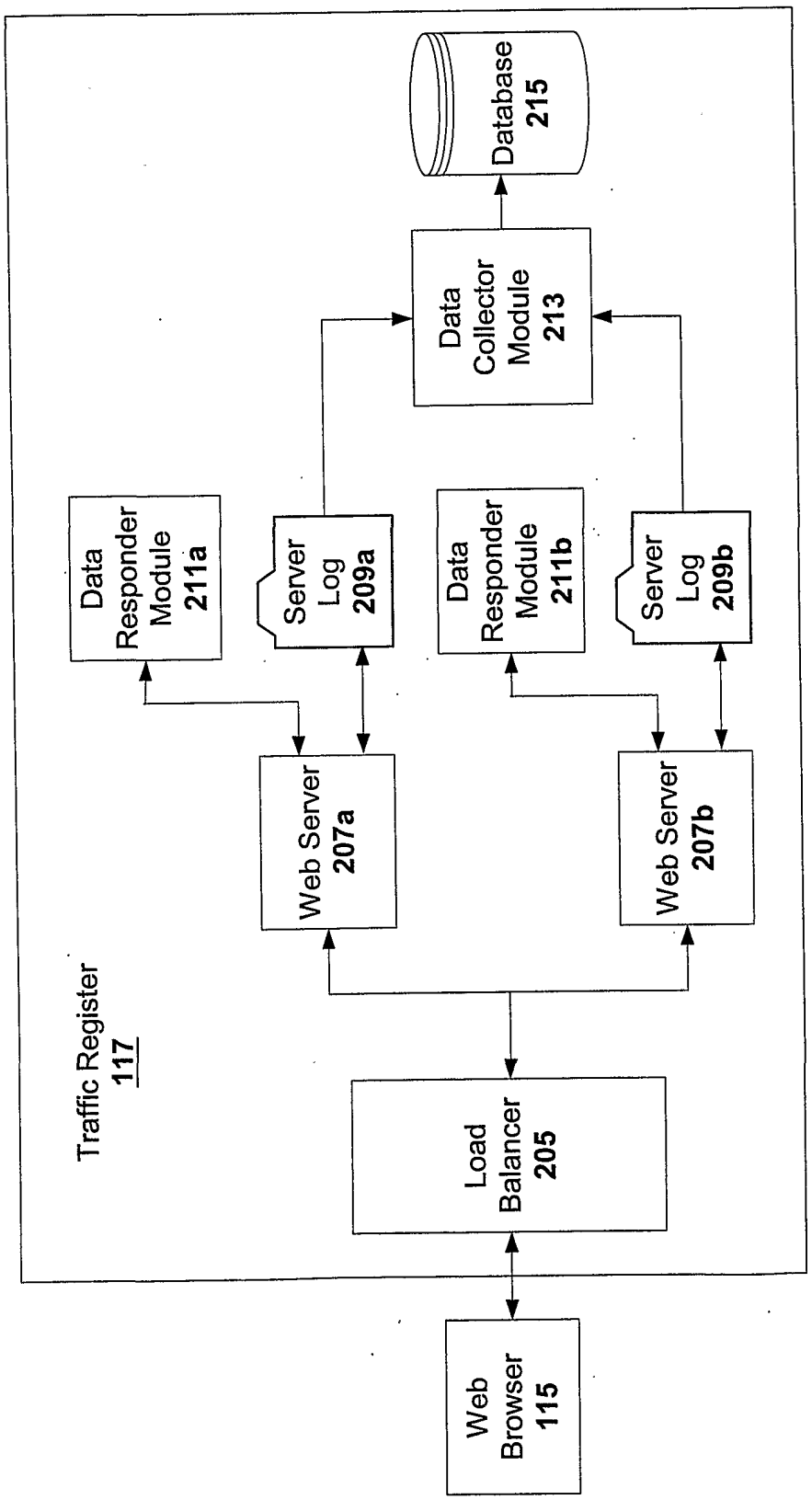

Database
215
Data
Collector
Module
213
Data
Responder
Module
211a
Server
Log
209a
Data
Responder
Module
211b
Server
Log
209b
Web Server
207a
Web Server
207b
Traffic Register
117
Load
Balancer
205
Web
Browser
115

Fig. 2a

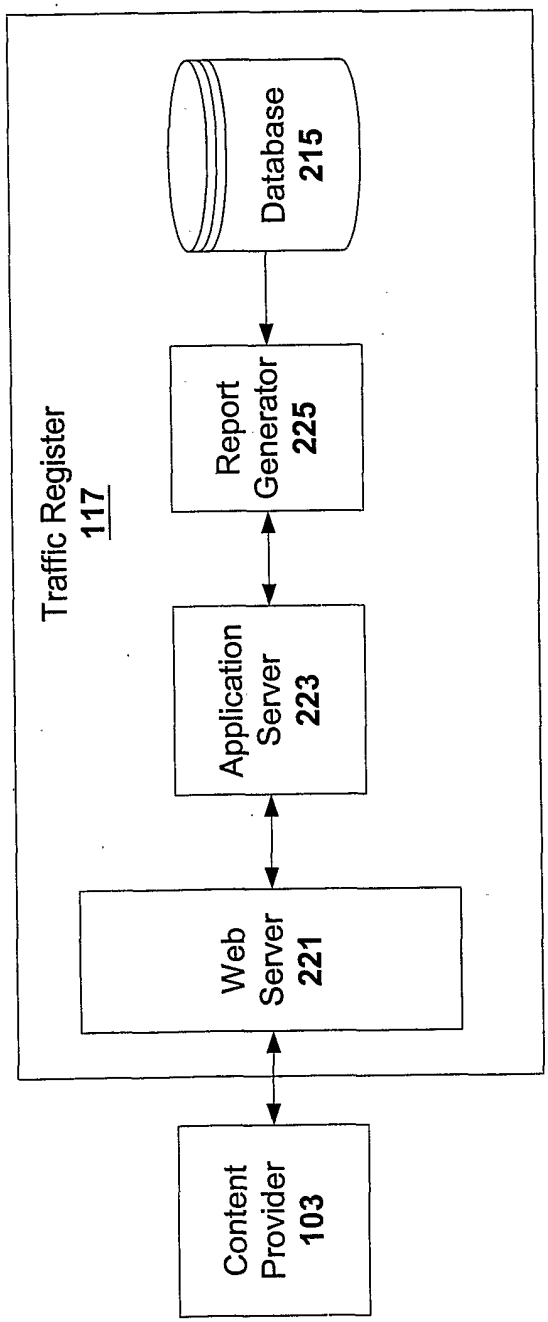

Traffic Register
117
Database
215
Report
Generator
225
Application
Server
223
Web
Server
221
Content
Provider
103

Fig. 2b

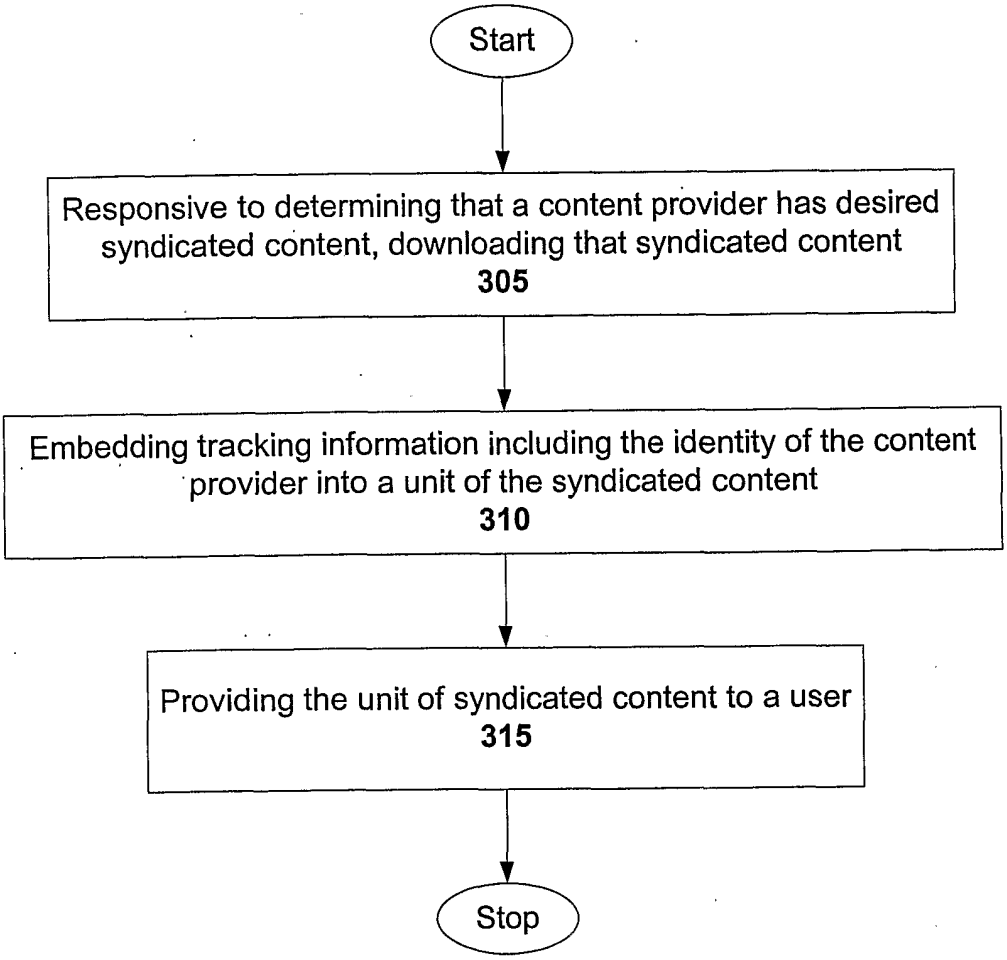

Start
Responsive to determining that a content provider has desired syndicated content, downloading that syndicated content
305
Embedding tracking information including the identity of the content provider into a unit of the syndicated content
310
Providing the unit of syndicated content to a user
315
Stop

Fig. 3

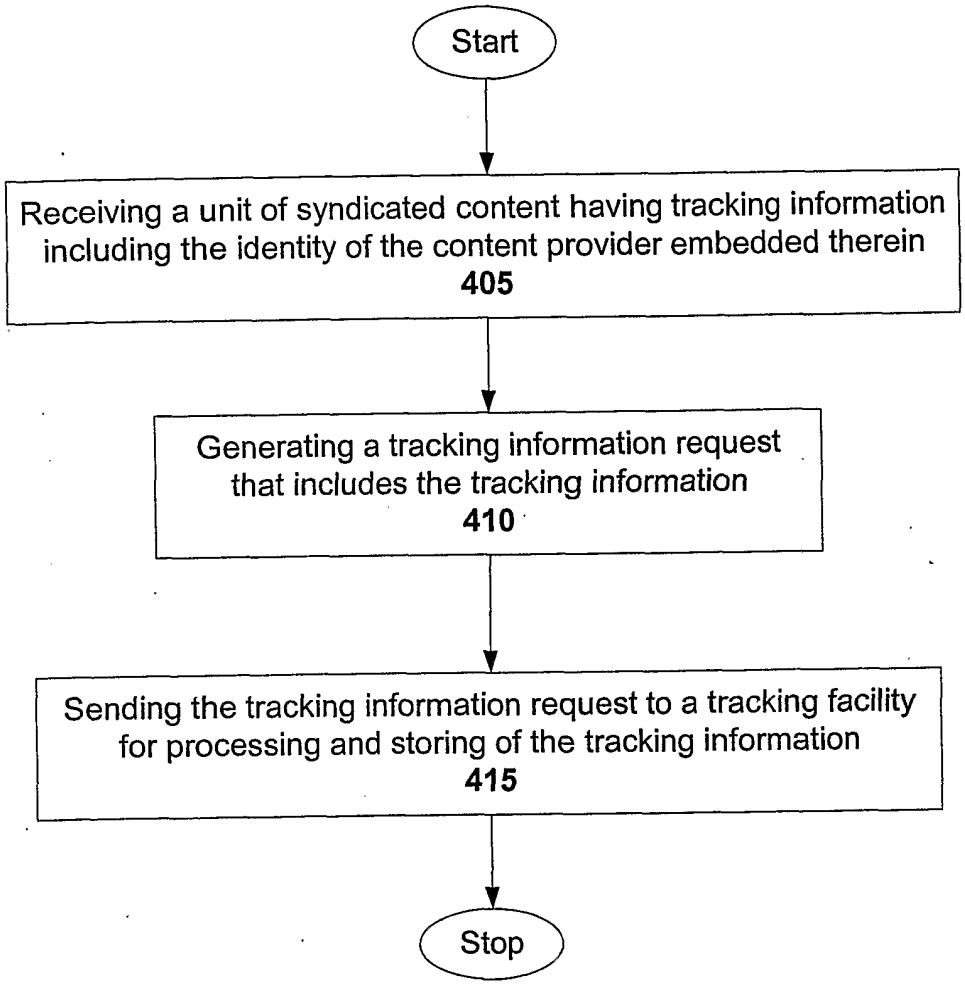

Start
Receiving a unit of syndicated content having tracking information including the identity of the content provider embedded therein
405
Generating a tracking information request that includes the tracking information
410
Sending the tracking information request to a tracking facility for processing and storing of the tracking information
415
Stop

Fig. 4

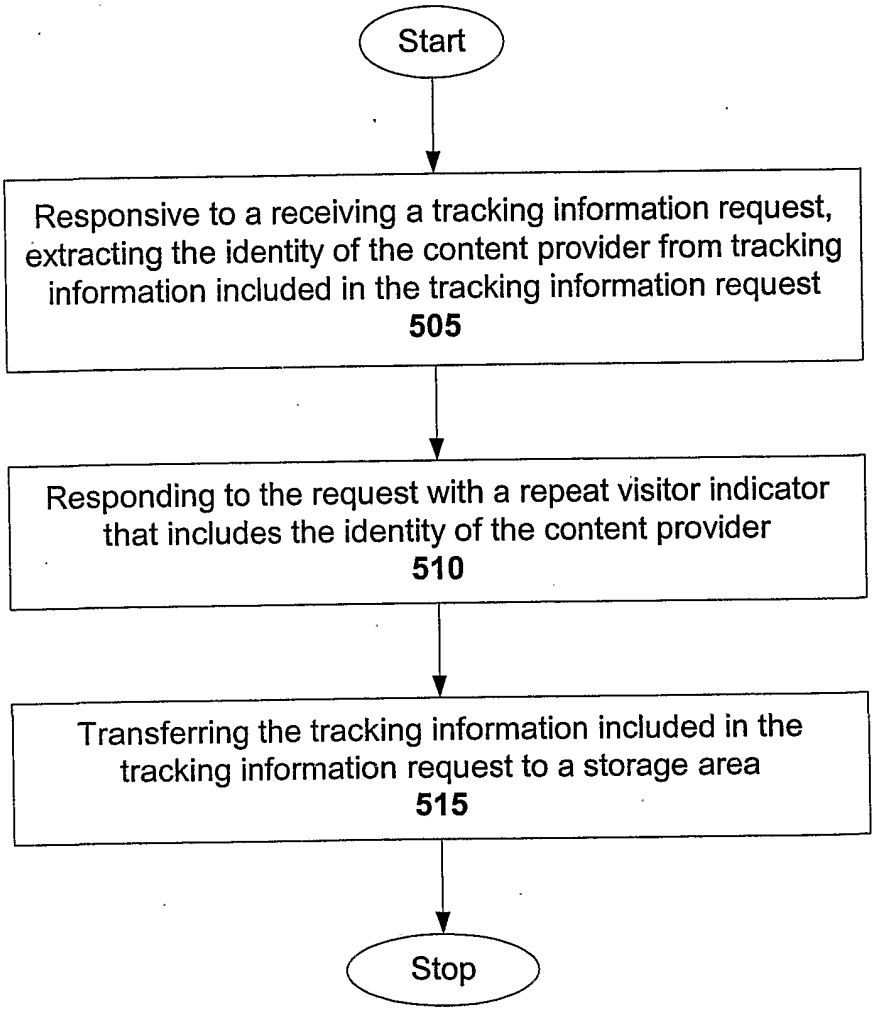

Start
Responsive to a receiving a tracking information request, extracting the identity of the content provider from tracking information included in the tracking information request
505
Responding to the request with a repeat visitor indicator that includes the identity of the content provider
510
Transferring the tracking information included in the tracking information request to a storage area
515
Stop

Fig. 5

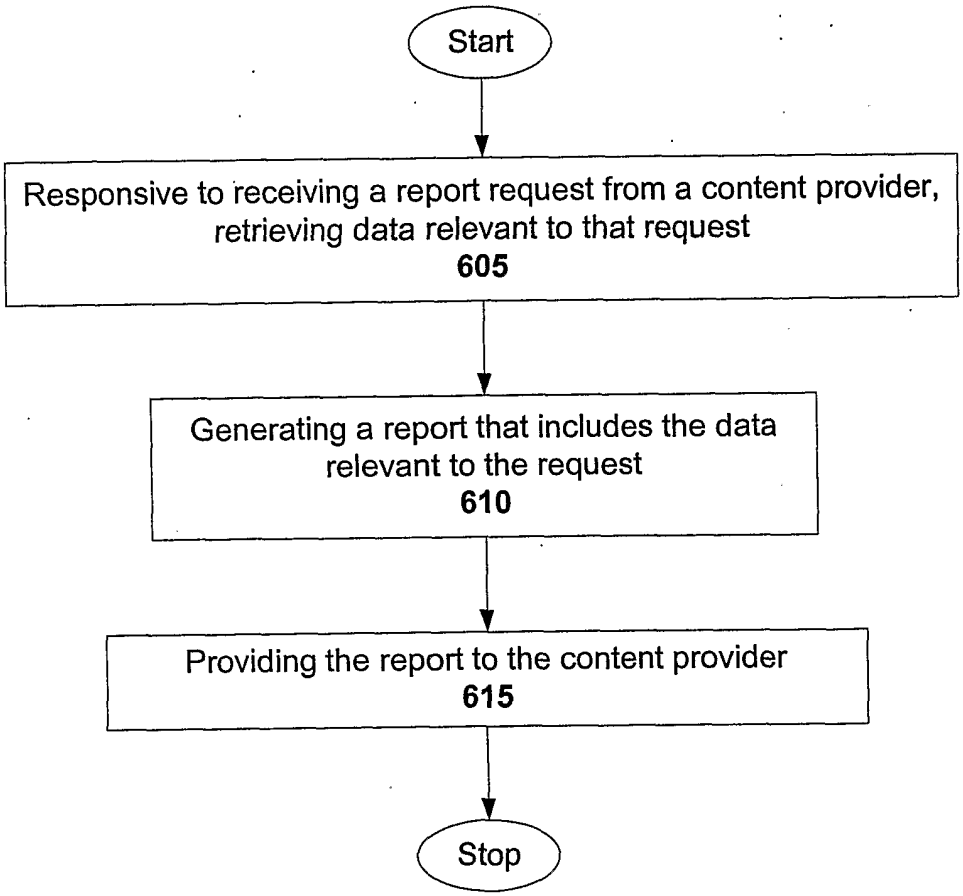

Start
Responsive to receiving a report request from a content provider, retrieving data relevant to that request
605
Generating a report that includes the data relevant to the request
610
Providing the report to the content provider
615
Stop

Fig. 6