

(51) International Patent Classification:
H04L 12/58 (2006.01)(21) International Application Number:
PCT/US2016/037592(22) International Filing Date:
15 June 2016 (15.06.2016)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/180,024 15 June 2015 (15.06.2015) US(71) Applicant: **WEBTEXT HOLDINGS LIMITED** [IE/IE];
193 Lower Kimmage Road, Dublin, 6W (IE).(71) Applicant (for MW only): **ZIEGLER IP LAW GROUP, LLC** [US/US]; 55 Greens Farms Road, Westport, CT 06880 (US).(72) Inventors: **CAHILL, Anthony**; 8 Gortard Avenue, Rockbarton North, Salthill, County Galway (IE). **KEATING, Colm**; Lastree Lodge, Marine Court, Sandycove, County Dublin (IE).(74) Agent: **GAMBERDELL, Joseph**; Ziegler IP Law Group, LLC, 55 Greens Farms Road, Westport, CT 06880 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: MULTIMEDIA MESSAGING SERVICE GATEWAY (MMSGW) SYSTEM, METHOD OF OPERATING A MULTIMEDIA MESSAGING SERVICE GATEWAY (MMSGW) SYSTEM AND A SOFTWARE PRODUCT

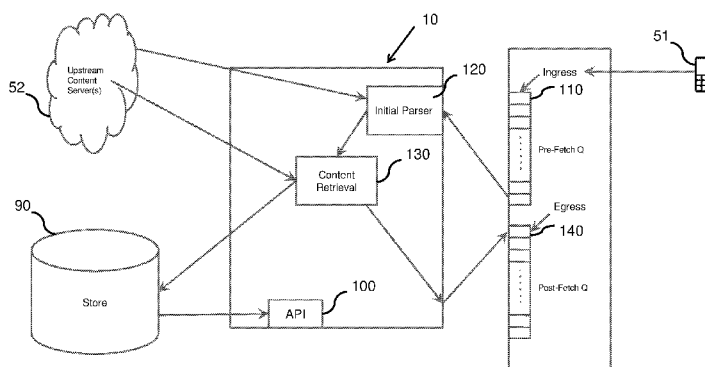


FIG. 2A

(57) Abstract: A Multimedia Messaging Service Gateway (MMSGW) system, method of operating the MMSGW system and a software product. A Multimedia Messaging Service Gateway (MMSGW) system, for the reception of a content associated with a MMS message, the MMS message originating from a mobile device arranged in co-operation with a carrier comprising a server, the MMSGW comprising: • an ingress, for reception of a notification to the MMSGW of sending of the MMS message and for forwarding of the notification to, • an initial parser, arranged in co-operation with the server and arranged to obtain metadata associated with the content, for production of an IP object based on the notification, • a content retrieval for download of the content from the server according to the IP object, • a store for storage of the retrieved content and/or metadata associated with the retrieved content, • an egress arranged to transmit a MMSGW process completion indicator, • an API, arranged to facilitate retrieval of the retrieved content and/or metadata by at least one remote party.

MULTIMEDIA MESSAGING SERVICE GATEWAY (MMSGW) SYSTEM, METHOD OF OPERATING A MULTIMEDIA MESSAGING SERVICE GATEWAY (MMSGW) SYSTEM AND A SOFTWARE PRODUCT.

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 61/180,024, filed on 15 June 2015, which is incorporated herein by reference in its entirety.

FIELD

[0002] The present invention relates to the field of MMS messaging, in particular to the handling of content associated with an MMS message.

BACKGROUND

[0003] While systems and methods have been developed for the exchange of messages between different messaging systems, these are primarily concerned with messages containing text.

[0004] As remote & (and) mobile users become more sophisticated in their requirements, a need arises to handle more complex content, images, rich text, videos etc. To facilitate these forms of content between mobile users, the MMS (Multimedia Messaging Service) standard was developed, whereby a mobile user could send content such as a video, document or image, to other mobile users.

[0005] There is, therefore, a need to bring these forms of content into third party, mostly non-mobile, environments.

PROBLEM DESCRIPTION

[0006] Many business applications/use cases exist where a key process relies on the receipt of media-rich content by a business or provider, from a customer or subscriber, such media being for example images/photos or videos. For example,

one industry, where this is a common requirement, is the insurance industry, where a customer or agent of an insurance company needs to relay an image to the company when assessing damage or injury in relation to an ongoing or potential insurance claim. While the client end of this use case is sufficiently equipped for this transfer of data, with most people possessing a cellphone or similar device capable of producing and transmitting imagery, the consumer end of the scenario, in this example the insurance company, often has no means of receiving and viewing the imagery, or relies on arduous and cumbersome mechanisms, for example having a cell phone in the office which is used to receive the messages, then manually downloading these media files manually via a cable to an office computer, for filing and viewing by staff members.

BRIEF SUMMARY OF THE INVENTION

[0007] The MMS Gateway (MMSGW) is a system or collection of systems whose purpose is to receive and process incoming MMS messages from handsets, store content related to those messages, in a format or formats compatible with any of a number of consumer platforms, and to make available to said platforms a means of retrieving information about such content, and the content itself. The MMSGW also takes requests for outbound MMS messages from the client platforms, and converts or modifies the content destined for recipient handsets, into a format or formats compatible with said handsets and the carriers/operators of those handsets.

[0008] It is an objective of the present invention to facilitate easy transfer and access to content associated with an MMS message for at least one remote party, optionally in a desired format.

[0009] This objective is achieved by provision of a Multimedia Messaging Service Gateway (MMSGW) system, as outlined in appended claim 1, specifically by :-

[0010] A Multimedia Messaging Service Gateway (MMSGW) system, for the reception of a content associated with a MMS message, the MMS message originating from a mobile device arranged in co-operation with a carrier comprising a server, the MMSGW comprising :-

- an ingress, for reception of a notification to the MMSGW of sending of the MMS message and for forwarding of the notification to,

- an initial parser, arranged in co-operation with the server and arranged to obtain metadata associated with the content, for production of an IP object based on the notification,
- a content retrieval for download of the content from the server according to the IP object,
- a store for storage of the retrieved content and/or metadata associated with the retrieved content,
- an egress arranged to transmit a MMSGW process completion indicator,
- an API, arranged to facilitate retrieval of the retrieved content and/or metadata by at least one remote party.

[0011] Optionally, the mobile device comprises one of : a handset ; a mobile phone ; a computer terminal.

[0012] Optionally, the notification :-

- originates from one of : the carrier, a third party or network, a third party service provider; and/or,
- comprises a protocol, said protocol optionally comprising HTTP, SMPP, MM4 or MM7; and/or,
- comprises a descriptive file describing the content, optionally in XML or JSON format; and/or,
- comprises an identifier, optionally arranged to facilitate obtaining a description of the content; and/or,
- comprises metadata associated with the content.

[0013] Optionally, the content comprises at least one file, optionally an image, a video, or a sound file.

[0014] Optionally, the initial parser further comprises a metadata retrieval and/or a metadata localization.

[0015] Optionally, the store comprises a content store and/or a meta store, arranged internal or external to the MMSGW, and optionally implemented as a memory or a database or a plurality of memories or databases.

[0016] Optionally, the ingress comprises a pre-fetch queue and/or the egress comprises a post-fetch queue.

[0017] Optionally, the server comprises a plurality of servers.

[0018] Optionally, the MMSGW further comprises a content processing, for post-retrieval processing of the content to produce a CP output, and arranged in co-operation with the content retrieval and the egress.

[0019] Optionally, the content processing is further arranged in co-operation with the store for storage of the CP output from the content processing.

[0020] Optionally, the CP output from the content processing is arranged to comprise at least one file associated with the content, said at least one file being optionally arranged in a desired format, and/or metadata associated with the at least one file.

[0021] Optionally, the API is arranged to provide the at least one remote party with an API output, said API output optionally comprising JSON format, and/or optionally comprising at least one of : a number of parts of the message, a MIME type, a size and/or a file name of a message component.

[0022] In another aspect of the present invention, there is provided a method of operating a Multimedia Messaging Service Gateway (MMSGW) system, as outlined in appended claim 13, specifically there is provided :-

a method of operating a Multimedia Messaging Service Gateway (MMSGW) system, the MMSGW arranged for the reception of a content associated with a MMS message, the MMS message originating from a mobile device arranged in co-operation with a carrier comprising a server, the MMSGW comprising :-

- providing an ingress, for reception of a notification to the MMSGW of sending of the MMS message and for forwarding of the notification to an initial parser,
- providing the initial parser, arranged in co-operation with the server and arranged to obtain metadata associated with the content, for production of an IP object based on the notification,
- providing a content retrieval for download of the content from the server according to the IP object,

- providing a store for storage of the retrieved content and/or metadata associated with the retrieved content,
- providing an egress arranged to transmit a MMSGW process completion indicator,
- providing an API, arranged to facilitate retrieval of the retrieved content and/or metadata by at least one remote party.

[0023] Optionally, the method further comprises at least one of the further steps of :-

- arranging the mobile device to comprise one of : a handset ; a mobile phone ;
- a computer terminal;
- arranging the notification to,
 - originate from one of : the carrier, a third party or network, a third party service provider; and/or,
 - comprise a protocol, said protocol optionally comprising HTTP, SMPP, MM4 or MM7; and/or,
 - comprise a descriptive file describing the content, optionally in XML or JSON format; and/or,
 - comprise an identifier, optionally arranged to facilitate obtaining a description of the content; and/or,
 - comprise metadata associated with the content;
- arranging the content to comprise at least one file, optionally an image, a video, or a sound file.
- arranging the initial parser to further comprise a metadata retrieval and/or a metadata localization;
- arranging the store to comprise a content store and/or a meta store, arranged internal or external to the MMSGW, and optionally implemented as a memory or a database or a plurality of memories or databases;
- arranging the ingress to comprise a pre-fetch queue and/or the egress comprises a post-fetch queue;

- arranging the server to comprise a plurality of servers.

[0024] Optionally, the method further comprises the step of :-

- arranging the MMSGW to further comprise a content processing, for post-retrieval processing of the content to produce a CP output, and arranged in co-operation with the content retrieval and the egress;

and, optionally, further comprises the step of:-

- arranging the content processing in co-operation with the store for storage of the CP output from the content processing;

and/or further comprises the step of,

- arranging the CP output from the content processing to comprise at least one file associated with the content, said at least one file being optionally arranged in a desired format, and/or metadata associated with the at least one file.

[0025] Optionally, the method further comprises the step of :-

- arranging the API to provide the at least one remote party with an API output, said API output optionally comprising JSON format, and/or optionally comprising at least one of : a number of parts of the message, a MIME type, a size and/or a file name of a message component.

[0026] In another aspect of the present invention, there is provided a software product, as claimed in appended claim 17, the software product being recorded on machine readable data storage media, characterized in that said software product is executable upon computing hardware for implementing a method according to embodiments of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027] The invention will now be further elucidated by reference to the figures.

[0028] FIG. 1 shows an overview of a messaging system;

[0029] FIG. 2A shows a high level view of a MMSGW according to an embodiment of the present invention;

[0030] FIG. 2B shows a high level view of a MMSGW according to an embodiment of the present invention;

[0031] FIG. 3 shows a more detailed view of the initial parser (IP) according to an embodiment of the present invention;

[0032] FIG. 4 shows the content handling modules, namely content retrieval (CR) and content processing (CP), according to an embodiment of the present invention;

[0033] FIG. 5 shows an overview of the API in use according to an embodiment of the present invention;

[0034] FIG. 6 shows methods employed by the metadata localisation module (ML) according to an embodiment of the present invention; and

[0035] FIG. 7 illustrates an exemplary architecture for a computing device that can be used to practice aspects of the disclosed embodiments.

DETAILED DESCRIPTION

[0036] **FIG. 1** shows an overview of a messaging system **1**, and the implementation of a MMSGW **10**, in association with a MIG **20**. A MIG **20** is a Message Interchange Gateway, as described in patent application PCT/US2016/022607. The MMSGW **10** is shown cooperating with a content store **30** and a meta store **40**, both of which are shown, in this example, as external to the MMSGW **10**. Said stores may also be implemented internal to the MMSGW as one entity or a plurality of different entities, optionally each specified to store particular forms of data or files. Mobile subscribers **50** send MMS messages from e.g. a handset **51** which are handled by e.g. a carrier (not shown) to which the handset is subscribed. A handset is an example of a mobile device suitable for use with the present invention.

[0037] In the example of FIG. 1, the MMSGW **10** is arranged cooperative with a MIG **20** which in turn is associated with different types of users. For example, online agents **60A 60B** are connected to the MIG **20** by means of remote platform technology **70A 70B** and a computer, and an offline (roaming) agent **80** is connected to the MIG **20** by means of a handset.

[0038] **FIG. 2A** shows a high level view of a MMSGW according to an embodiment of the present invention. The Multimedia Messaging Service Gateway system **10** is

designed to receive content associated with a MMS message, originally sent from a mobile device such as a handset **51**. The message is processed for sending at least partly in association with servers **52**, upstream content servers for example, where the carrier or other provider stores the content of the message and the message itself. The MMSGW **10** receives a notification of the sending of the message, achieved by means of a carrier or other provider with which the mobile device is associated. The actual message or associated content may not be provided to the MMSGW, rather, upon notification, the MMSGW is facilitated to retrieve the content and relocate the content to its own store **90**. Here the store **90** is shown as comprised in the MMSGW **10**. An API **100** comprised in the MMSGW **10** is provided for a third party to be able to retrieve metadata associated with the newly relocated content, file or files, etc.

[0039] As shown in FIG. 2A, the MMSGW **10** according to an embodiment of the present invention comprises :-

- an ingress **110**, for reception of a notification to the MMSGW of sending of the MMS message and for forwarding of the notification to,
- an initial parser **120**, arranged in co-operation with the server **52** and arranged to obtain metadata associated with the content, for production of an IP object based on the notification,
- a content retrieval **130** for download of the content from the server according to the IP object,
- a store **90** for storage of the retrieved content and/or metadata associated with the retrieved content,
- an egress **140** arranged to transmit a MMSGW process completion indicator,
- an API **100**, arranged to facilitate retrieval of the retrieved content and/or metadata by at least one remote party.

[0040] It is envisaged that a notification is received in association with the sending of one MMS message. This should not be considered as limiting, however, as a notification may be arranged associated with multiple messages if desired. Naturally, the MMSGW **10** is capable of receiving information concerning a plurality

of MMS messages and comprises a queuing system at ingress and egress in order to administrate and order the incoming information.

[0041] The action and details of the MMSGW **10** are further discussed below in association with FIG. 2B. FIG. 2B shows an MMSGW **10** according to the present invention, further comprising a content processing **150**, the other components as described above also being further detailed in the associated text.

[0042] **FIG. 2B** shows a high level view of the MMSGW according to an embodiment of the present invention. Content is sent from the originating handset to the carrier for that mobile subscriber. A message is submitted, either directly by said carrier, or through a third party, or network of third party service providers, to the MMSGW, using any of a number of possible protocols, including but not limited to HTTP, SMPP, MM4, MM7. This message does not contain the actual multimedia content, but is instead a descriptive file, often in XML, or JSON format, describing the content, or providing an identifier allowing the MMSGW to retrieve said description from the carrier or service provider. This descriptive is, where necessary, retrieved as above, then parsed by the parse Initial Parser (IP). This parsing procedure involves examining the description of the message content, determining what processing of the content, if any, is required, and identifying remote file locations and local storage parameters.

[0043] The IP then passes an object (also referred to as an IP object) describing the content, its location, and post-retrieval information to the Content Retrieval (CR) process. The CR downloads the content specified by IP from the remote server, usually that of the carrier or upstream service provider. This retrieval process is most often done using HTTP, but is not limited to this protocol and can use protocols such as FTP, as dictated by the upstream service provider or carrier..

[0044] Once the content has been retrieved and stored locally, any post-retrieval processing of said content is carried out by the Content Processing (CP) process, as dictated by the IP. Such processing may, for example, require files (images, videos etc) to be rendered in varying sizes or formats, depending on the consumer platform for which the content is intended. The output from CP is a number of files, stored on the Content Store (CS), and definitions for each component of the message, written to the local Meta Store (MS).

[0045] An API component (API) is provided to allow remote parties to retrieve the metadata pertinent to their own messages, so they in turn can download the content from the Content Store (CS). This API queries the MS, and builds an object, typically but not exclusively in JSON format, returning it to the querying party. This object contains information such as the number of parts in the message, the MIME type, size and file name for each component part. The precise content of the object generated will vary depending on the API call used, and the authorisation level of the querying party.

[0046] **FIG. 3** shows a more detailed view of the IP **120**, for each new notification of an inbound MMS message, the IP examines the content of the notification. This is done by the content parser **120A**. Depending on the source of the notification (which carrier or upstream provider has sent it into MMSGW) the notification itself may contain the full metadata required to successfully process the MMS content, or it may contain just an identifier, indicating where said metadata can be retrieved from, or indeed a combination or hybrid of the two above scenarios.

[0047] In **FIG. 3**, the IP **120** is shown as further comprising modules and processes : content parser **120A**, metadata retrieval **120B**, metadata localisation **120C**.

[0048] Where only an identifier, or partial metadata, is contained in the notification, the next process Metadata Retrieval (MR) **120B**, using unique content such as an identifier from within the initial notification, will query, using a protocol such as HTTP, the upstream service provider for the totality of the metadata required to successfully download and relay the MMS message. Said data will typically be retrieved in a data format such as JSON or XML, but may use other representative formats.

[0049] Having retrieved the full metadata, Metadata Localisation (ML) **120C** is used to determine what content needs to be downloaded, where said content is to be stored, and what post-download processing, if any, is required on this content. Each sub-component of the final message is detailed in the MS **40**, and the CR/P **130 150** now starts to download and process, where required, said component parts.

[0050] **FIG. 4** shows the content handling modules, namely Content Retrieval (CR) **130** and Content Processing (CP) **150**. CR **130** queries the MS **40** for any outstanding download requirements. Any messages, or message components requiring download, are then requested at the address, most typically a HTTP URL,

downloaded, and stored at the location, either local or remote, designated by the retrieved metadata. Once all content has been retrieved, the message is queued for processing by the Content Processor (CP) **150**.

[0051] CP **150** retrieves the localised metadata from MS **40** for this particular message, specifying what, if any, processing is required for each component of the message. This may involve the use of external libraries, including but not limited to the Python Imaging Library (PIL) allowing the processor to alter the size, resolution or format of an image or video, or other functions to truncate or translate text content.

[0052] The metadata retrieved from MS **40** by CP **150** resembles a list of jobs, specifying the source item and criteria required in the processed item.

[0053] Once the CP **150** has finished processing all components, the message is ready for consumption, either by API **100** request (not shown), or by passing the object (a CP object) to the Egress Queue **140** for handling by an external component such as MIG **20** (not shown).

[0054] **FIG. 5** shows an overview of the API **100** in use. A client presents a request to the API interface, typically but not necessarily a HTTP(S) request. The request specifies certain mandatory parameters such as authentication tokens/credentials, and the identifier for the message for which metadata is required. The client request can also specify the required format for any output generated by this API request. The default output format is JSON, although XML, HTTP and other formats are supported. Once authentication is complete, the API **100** retrieves the relevant metadata from MS **40**, formats the information as required, and outputs the information to the client in response to the request.

[0055] **FIG. 6** shows, in greater detail, the methods employed by the Metadata Localisation (ML) **120C** process. For the message as a whole, a unique random string (URID) is generated for use in naming the retrieved items when stored locally. To maintain the integrity of the message, the original base filename for each message component is retained throughout the system, however the items are retrieved using a url path built using this URID in combination with the original filename. Each sub-component in a single MMS message is accessed via this same path. Based on attributes of the original MMS notification, such as caller id (ANI)

Dialled number (DNIS), and other identifiers as may be contained therein, ML determines what processing steps are required on the retrieved content, formulating effectively a 'job-list' for the CP later in the process. Using one or more of the identifiers mentioned, ML determines the ultimate target platform for this message, and what specific content requirements this platform has. For example, one platform may require an image size of X pixels wide, whereas another requires images to be presented as Y pixels wide. Rather than inefficiently rendering every possible content size and format, the solution optimises the workload, and only prepares content as will be required by the final consumer.

[0056] The decisions on what type of target platform is required, and the criteria for said platform, are retrieved from a data store, either an RDBMS or noSQL structure such as Redis.

[0057] Output from the ML can be of 2 forms: metadata intended for the Content Retrieval process, and metadata for the Contact Processing process.

[0058] Referring to Figure 7, in at least one exemplary aspect, each of the MMSGW 10, MIG 20, remote platforms 70A, 70B, handsets, mobile devices, user devices, servers and other disclosed devices and systems may be implemented using an instance or replica of the computing apparatus 160 or may be combined or distributed among any number of instances or replicas of computing apparatus 160. The user devices can comprise computing devices, mobile communication devices, wireless communication devices, smart phones, navigation equipped or enabled devices, tablets and any other such similar or compatible devices.

[0059] The computing apparatus 160 may include computer readable program code 170 stored on at least one non-transitory computer readable medium 180 for carrying out and executing the processes and methods described herein. The computer readable medium 180 may be a memory of the computing apparatus 160. In alternate aspects, the computer readable program code 170 may be stored in a memory external to, or remote from, the apparatus 160. The memory may include magnetic media, semiconductor media, optical media, or any media which is readable and executable by a computer. Computing apparatus 160 may also include a processor 190 for executing the computer readable program code 170 stored on the at least one computer readable medium 180. In at least one aspect,

computing apparatus may include one or more input or output devices, generally referred to as a user interface 200, similar to the user interface described above, which may operate to allow input to the computing apparatus 160 or to provide output from the computing apparatus 160, respectively. The user interface 200 may include one or more of a display, touch screen, buttons, audio input device and audio output device. The embodiments of the present invention have been elucidated above in terms of MMS messaging, in cooperation with a mobile device. The use of MMS messaging should not be considered as limiting, as embodiments of the present invention are further susceptible for use in association with other applications, examples of which comprise but are not limited to ; Facebook, WhatsApp, WeChat, Twitter, RightNow, Liveperson, Viber.

List of Reference numerals

1	messaging system
10	MMSGW
20	MIG
30	content store
40	meta store
50	mobile subscribers
51	handset
60A 60B	online agent
70A 70B	remote platform
80	offline (roaming) agent
90	store
100	API
110	ingress
120	initial parser
120A	content parser
120B	metadata retrieval
120C	metadata localisation
130	content retrieval
140	egress
150	content processing
160	computing apparatus
170	computer readable program code
180	computer readable medium
190	processor
200	user interface

CLAIMS

1. A Multimedia Messaging Service Gateway (MMSGW) system (10), for the reception of a content associated with a MMS message, the MMS message originating from a mobile device (51) arranged in co-operation with a carrier comprising a server (52), the MMSGW (10) comprising :-

- an ingress (110), for reception of a notification to the MMSGW (10) of sending of the MMS message and for forwarding of the notification to,
- an initial parser (120), arranged in co-operation with the server and arranged to obtain metadata associated with the content, for production of an IP object based on the notification,
- a content retrieval (130) for download of the content from the server according to the IP object,
- a store (90) for storage of the retrieved content and/or metadata associated with the retrieved content,
- an egress (140) arranged to transmit a MMSGW process completion indicator,
- an API (100), arranged to facilitate retrieval of the retrieved content and/or metadata by at least one remote party.

2. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in claim 1, wherein the mobile device comprises one of : a handset (51) ; a mobile phone ; a computer terminal.

3. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in claim 1 or 2, wherein the notification :-

- originates from one of : the carrier, a third party or network, a third party service provider; and/or,
- comprises a protocol, said protocol optionally comprising HTTP, SMPP, MM4 or MM7; and/or,
- comprises a descriptive file describing the content, optionally in XML or JSON format; and/or,

- comprises an identifier, optionally arranged to facilitate obtaining a description of the content; and/or,
 - comprises metadata associated with the content.
4. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in any preceding claim, wherein the content comprises at least one file, optionally an image, a video, or a sound file.
5. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in any preceding claim, wherein the initial parser (120) further comprises a metadata retrieval and/or a metadata localization.
6. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in any preceding claim, wherein the store (90) comprises a content store (30) and/or a meta store (40), arranged internal or external to the MMSGW (10), and optionally implemented as a memory or a database or a plurality of memories or databases.
7. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in any preceding claim, wherein the ingress (110) comprises a pre-fetch queue and/or the egress (140) comprises a post-fetch queue.
8. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in any preceding claim, wherein the server (52) comprises a plurality of servers.
9. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in any preceding claim, wherein the MMSGW further comprises a content processing (150), for post-retrieval processing of the content to produce a CP output, and arranged in co-operation with the content retrieval (130) and the egress (140).
10. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in claim 9, the content processing (150) being further arranged in co-operation with the store (90) for storage of the CP output from the content processing (150).

11. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in claim 9 or 10, wherein the CP output from the content processing (150) is arranged to comprise at least one file associated with the content, said at least one file being optionally arranged in a desired format, and/or metadata associated with the at least one file.

12. A Multimedia Messaging Service Gateway (MMSGW) system, as claimed in any preceding claim, wherein the API (100) is arranged to provide the at least one remote party with an API output, said API output optionally comprising JSON format, and/or optionally comprising at least one of : a number of parts of the message, a MIME type, a size and/or a file name of a message component.

13. A method of operating a Multimedia Messaging Service Gateway (MMSGW) system, the MMSGW arranged for the reception of a content associated with a MMS message, the MMS message originating from a mobile device arranged in co-operation with a carrier comprising a server, the MMSGW comprising :-

- providing an ingress (110), for reception of a notification to the MMSGW (10) of sending of the MMS message and for forwarding of the notification to an initial parser (120),
- providing the initial parser (120), arranged in co-operation with the server and arranged to obtain metadata associated with the content, for production of an IP object based on the notification,
- providing a content retrieval (130) for download of the content from the server according to the IP object,
- providing a store (90) for storage of the retrieved content and/or metadata associated with the retrieved content,
- providing an egress (140) arranged to transmit a MMSGW process completion indicator,
- providing an API (100), arranged to facilitate retrieval of the retrieved content and/or metadata by at least one remote party.

14. A method of operating a MMSGW system, as claimed in claim 13, comprising at least one of the further steps of :-

- arranging the mobile device (51) to comprise one of : a handset ; a mobile phone ;
- a computer terminal;
- arranging the notification to,
 - originate from one of : the carrier, a third party or network, a third party service provider; and/or,
 - comprise a protocol, said protocol optionally comprising HTTP, SMPP, MM4 or MM7; and/or,
 - comprise a descriptive file describing the content, optionally in XML or JSON format; and/or,
 - comprise an identifier, optionally arranged to facilitate obtaining a description of the content; and/or,
 - comprise metadata associated with the content;
- arranging the content to comprise at least one file, optionally an image, a video, or a sound file.
- arranging the initial parser (120) to further comprise a metadata retrieval and/or a metadata localization;
- arranging the store (90) to comprise a content store (30) and/or a meta store (40), arranged internal or external to the MMSGW (10), and optionally implemented as a memory or a database or a plurality of memories or databases;
- arranging the ingress (110) to comprise a pre-fetch queue and/or the egress (140) comprises a post-fetch queue;
- arranging the server (52) to comprise a plurality of servers.

15. A method of operating a MMSGW system, as claimed in claims 13 or 14, comprising the further step of :-

- arranging the MMSGW (10) to further comprise a content processing (150), for post-retrieval processing of the content to produce a CP output, and arranged in co-operation with the content retrieval (130) and the egress (140);

and, optionally, further comprising the step of:-

- arranging the content processing (150) in co-operation with the store (90) for storage of the CP output from the content processing (150);

and/or further comprising the step of,

- arranging the CP output from the content processing (150) to comprise at least one file associated with the content, said at least one file being optionally arranged in a desired format, and/or metadata associated with the at least one file.

16. A method of operating a MMSGW system, as claimed in claims 13 or 14, comprising the further step of :-

- arranging the API (100) to provide the at least one remote party with an API output, said API output optionally comprising JSON format, and/or optionally comprising at least one of : a number of parts of the message, a MIME type, a size and/or a file name of a message component.

17. A software product recorded on machine readable data storage media, characterized in that said software product is executable upon computing hardware for implementing a method as claimed in any one of claims 13 to 16.

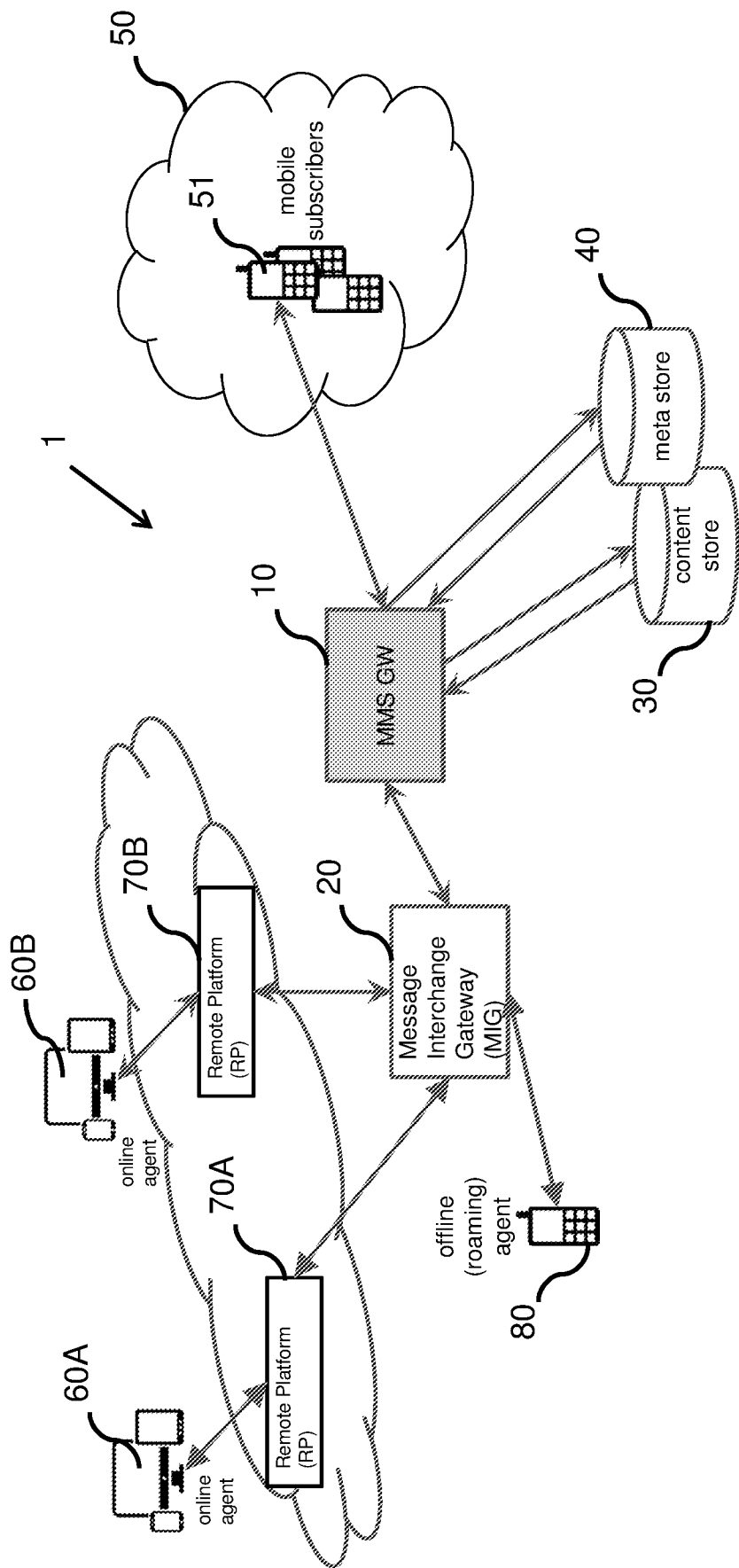


FIG. 1

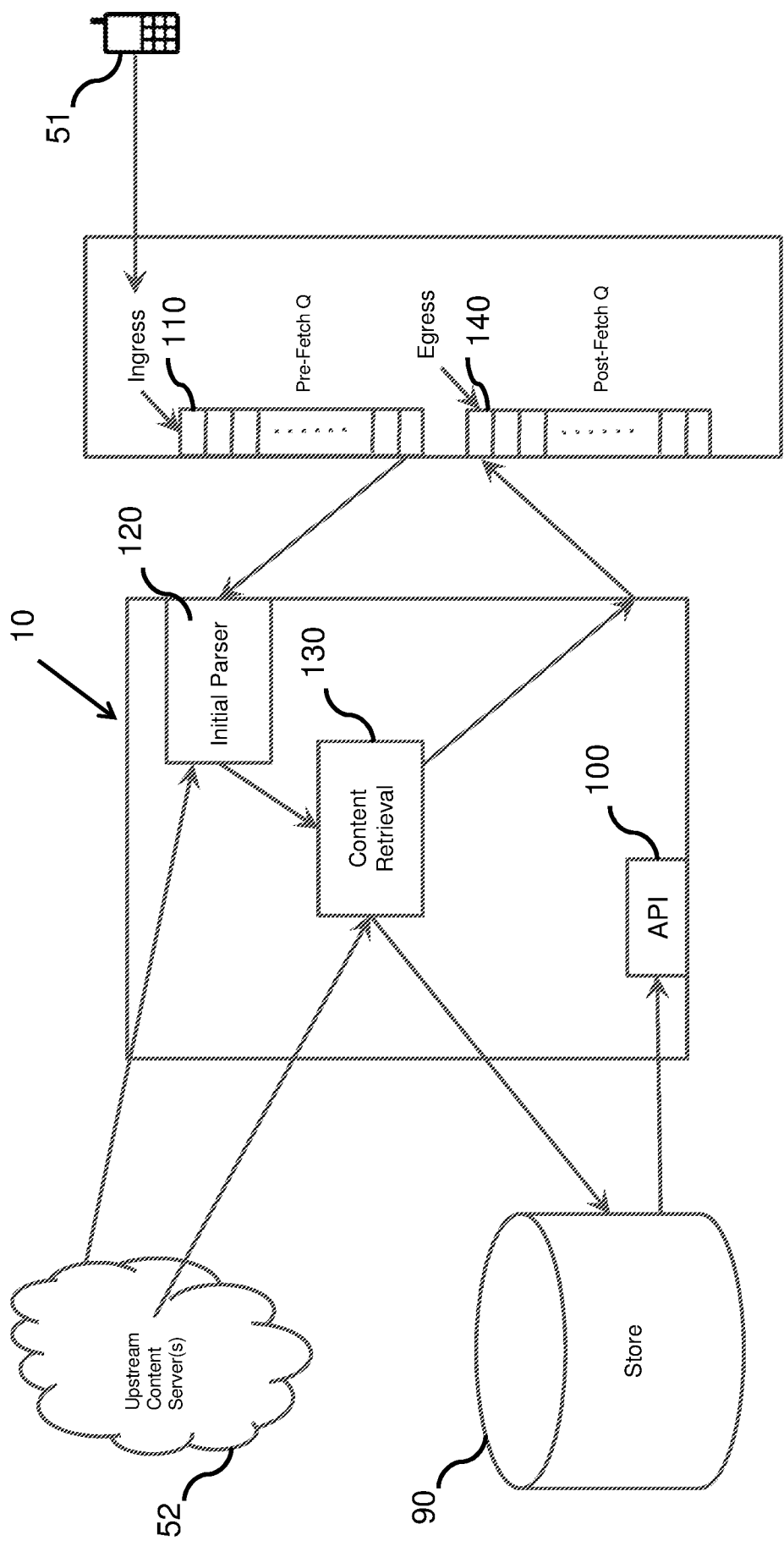


FIG. 2A

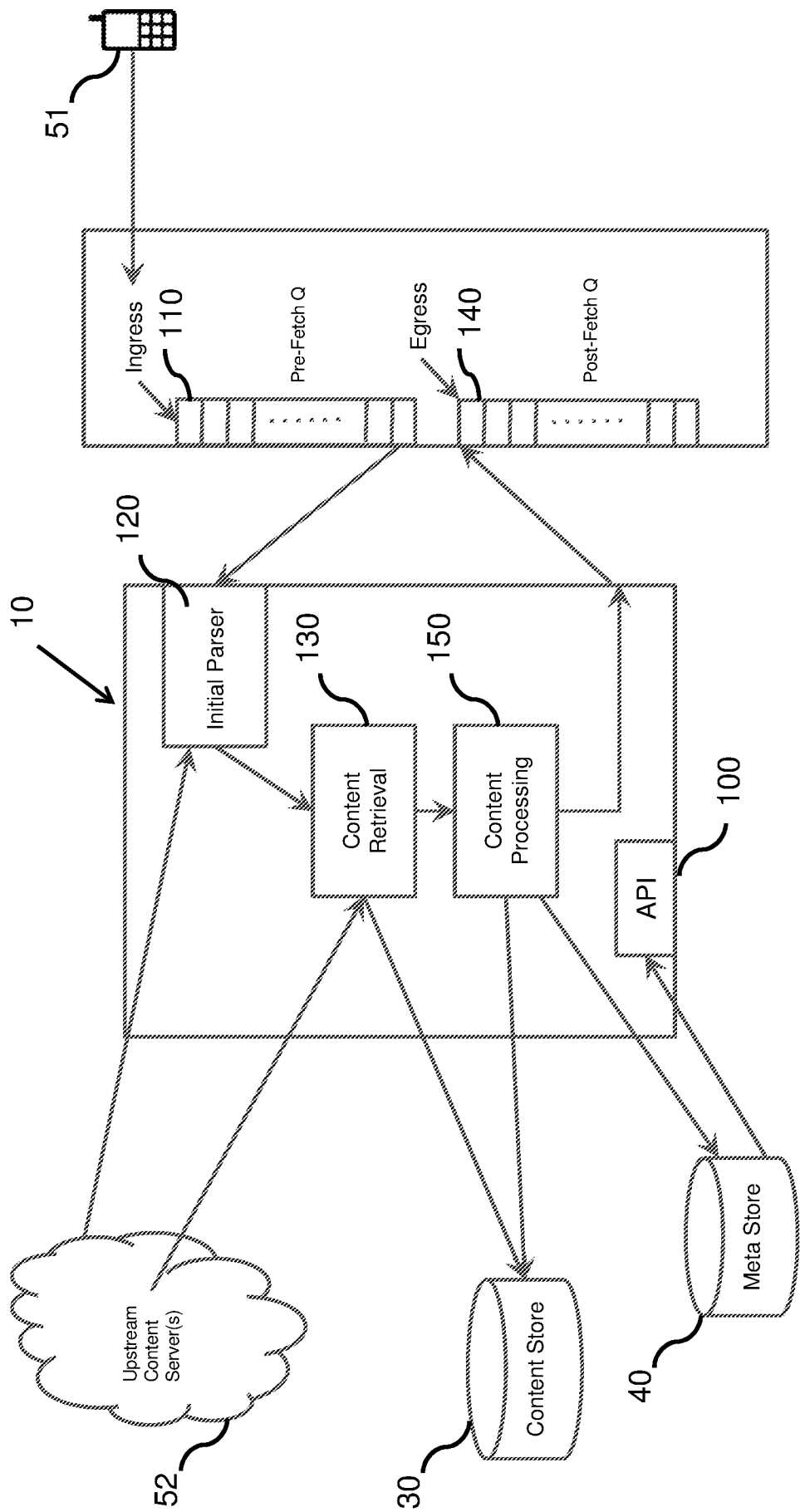


FIG. 2B

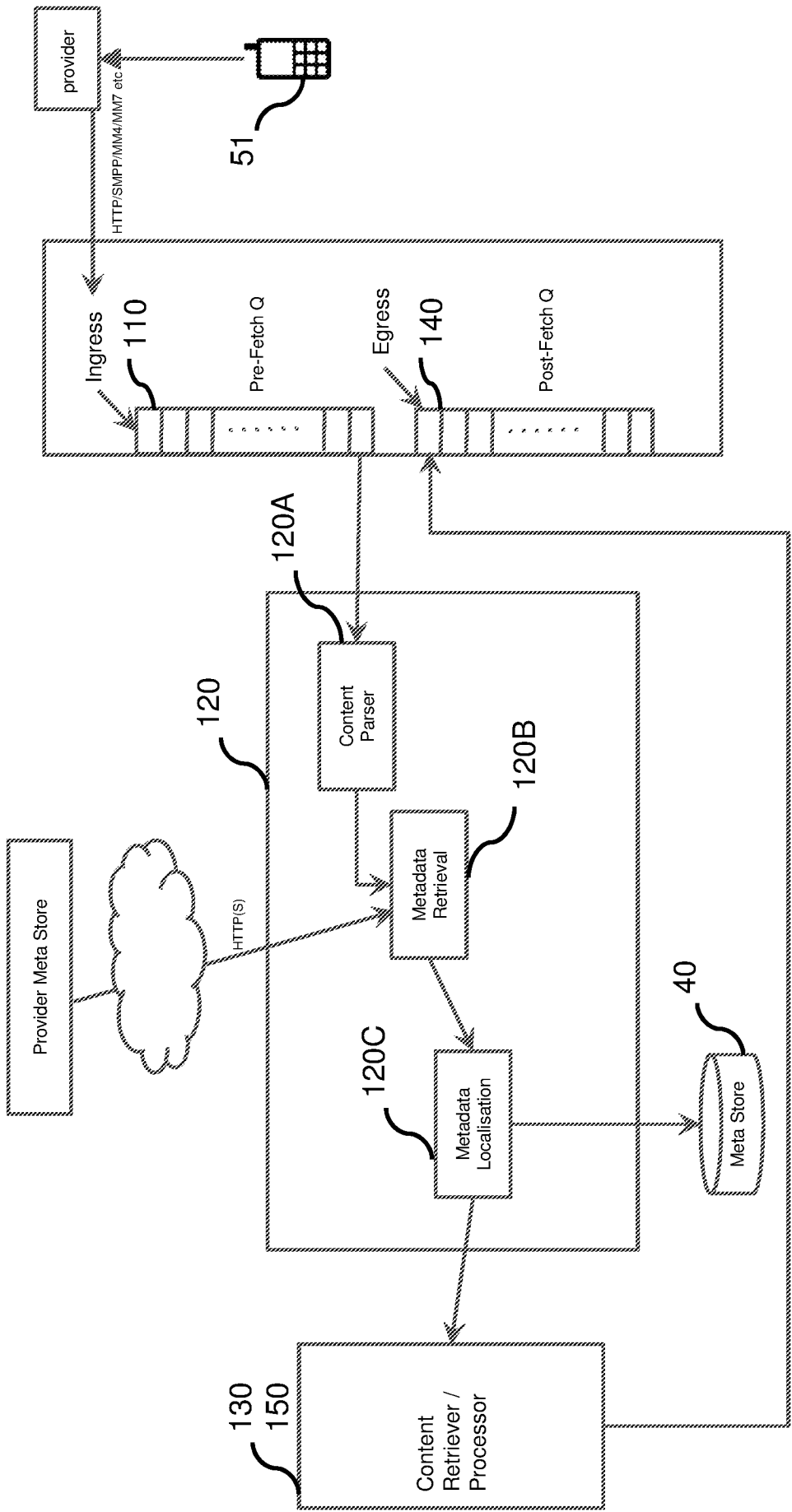


FIG. 3

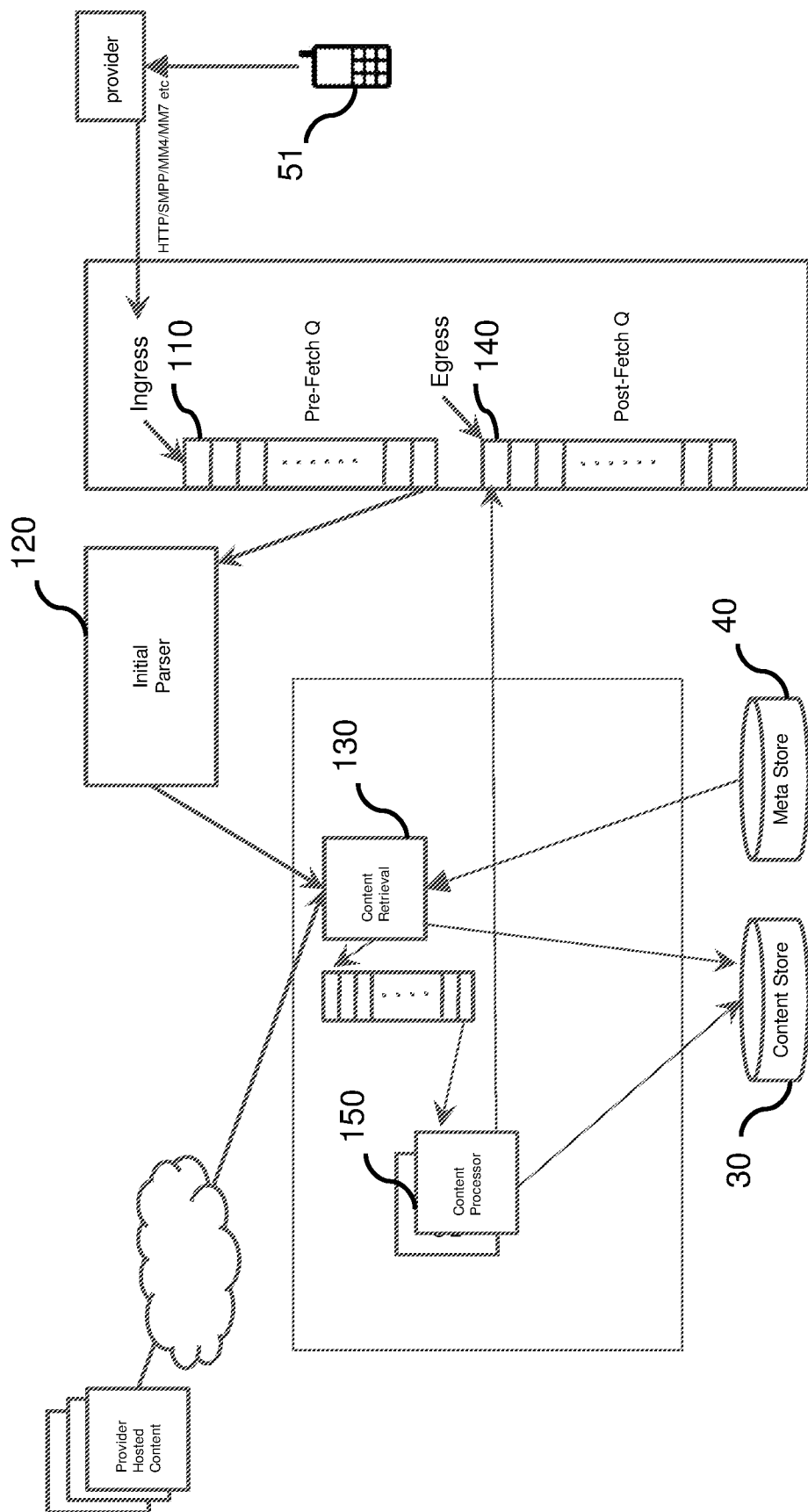


FIG. 4

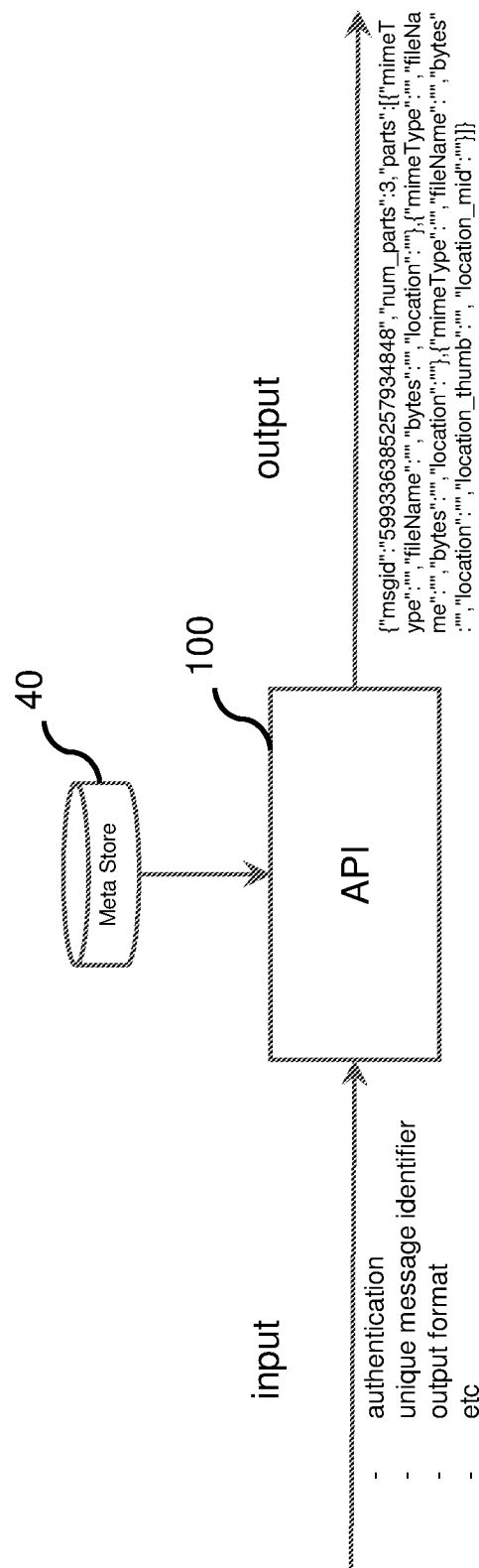


FIG. 5

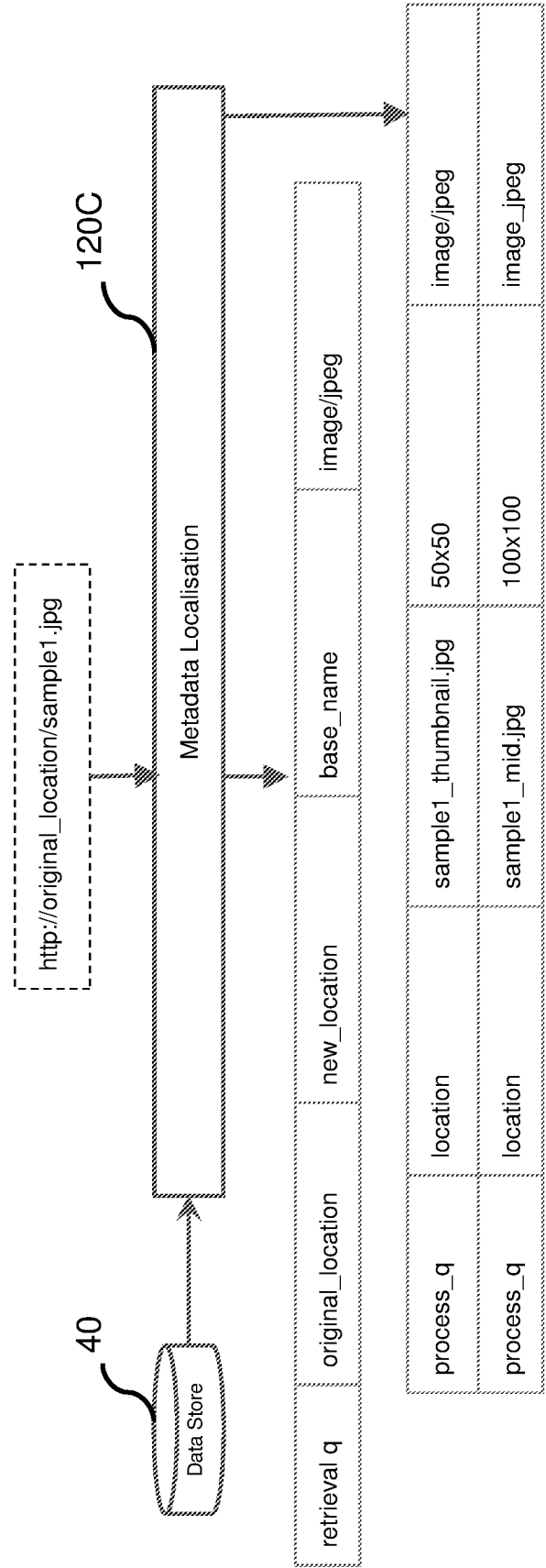


FIG. 6

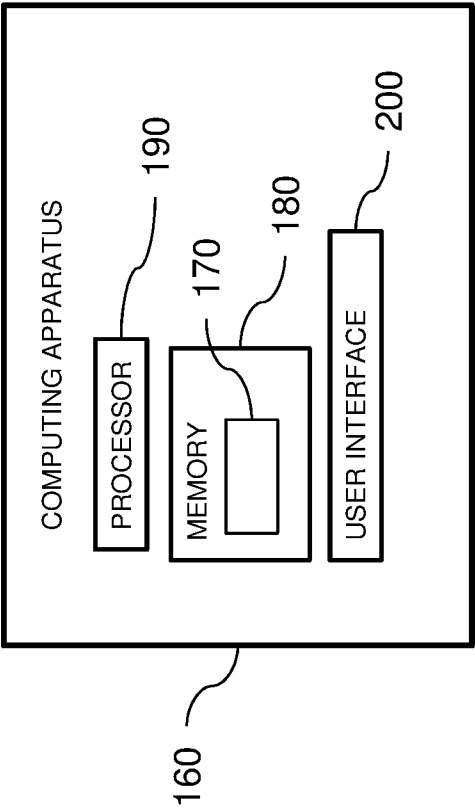


FIG. 7