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(54) **Title**: A METHOD AND SYSTEM FOR PROVIDING A TEXT MESSAGING SERVICE

Figure 1
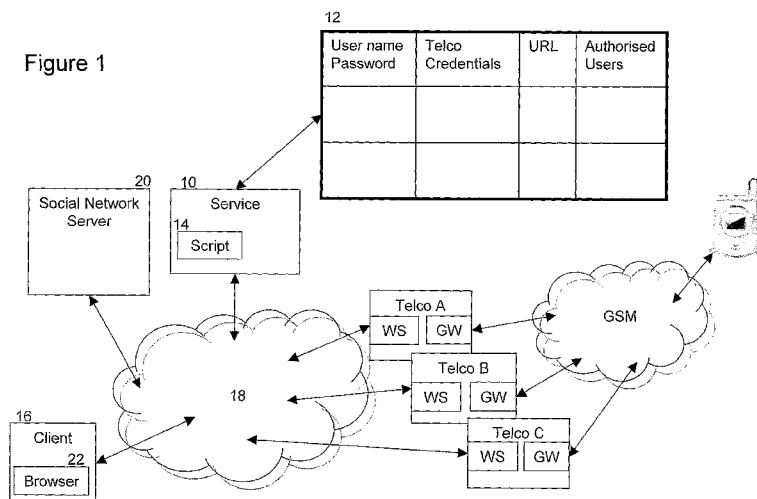
(57) **Abstract**: A method for sending text messages operates in a server in communication with a client and a messaging service server across a packet switched network. The method comprises receiving information from a user at the client across the network; and responsive to the information identifying a member of a messaging service who has authorised the user to avail of the member's messaging service, the messaging service enabling the member to send text messages addressed to a destination phone number, retrieving credentials associated with the member's phone account. The server accesses the member's account at a messaging service server using the credentials; and sends a text message to a destination from the message service server using the member's account.

A Method and System For Providing A Text Messaging Service

This invention relates to a method and system for providing a text messaging service.

5   Most network providers, or telephone companies (telcos) such as O2 and Vodafone, provide
a service whereby a registered account holder can send SMS text messages to third parties
by logging onto the network provider's website. Typically, the account holder's phone
number or user name, and a password are required for authorisation purposes. The account
holder is then presented with a form in which to compose the message and a destination
10   phone number is requested. In some cases, network providers allocate a number of free text
messages per month to each account holder.

http://sourceforge.net/projects/jsmsirl provide an open source application, which enables
telco registered account holders to send SMS text messages to third parties using their
15   registered telco account. It should be noted that the application requires the account holder's
credentials including their phone number or user name and a password to be stored on the
application computer.

Alternative text messaging services include http://www.veronicasmoco.com which provides
20   a text service for 2.50 euros a week and allows users to send SMS messages.

Separately, social networking sites such as Bebo enable users to receive other user
comments to their mobile as text messages.

25   The present invention provides a method for sending text messages as claimed in claim 1.

In the context of the present specification, a text message includes a brief written message
sent to a mobile phone over a cellular network. The term includes both messages sent using
the Short Message Service (SMS) and messages containing image, video, and sound content,
30   such as Multimedia Messaging Service (MMS) messages.

Preferably, the method comprises the step of: responsive to said information failing to identify a member of said messaging service, sending an error message to said user at said client.

5   Preferably, said credentials comprise a username and network provider associated with said member's account. Further preferably, the credentials include a password associated with the username.

Preferably, said username either comprises or is associated with a phone number.

10

Preferably, said information and said credentials are stored in a database.

Preferably, said messages comprise one or both of SMS or MMS messages.

15 Advantageously, authorised users may avail of free text messages allocated by a network provider to a registered account holder, to send text messages to the registered account holder without necessarily compromising the account holder's credentials. Furthermore, specially authorised users may avail of the free text messages allocated by the registered user's network provider to send text messages to third parties.

20

Various embodiments of the invention will now be described, by way of example, with reference to the accompanying drawing, in which:

Fig. 1 is a schematic diagram illustrating a system for providing a text messaging service
25 according to a preferred embodiment of the present invention.

According to a preferred embodiment of the present invention, a SMS text messaging service is provided from an Internet server 10. The server includes a set of web pages enabling mobile phone account holders i.e. prospective members of the service, to register
30 with the SMS text messaging service, by providing their credential information including that required to access their Internet mobile phone account provided by their telco, in this case Telco A...C. In the preferred embodiment, all communication with the registering member's client is encrypted and communicated via an SSL connection.

In one implementation, the credential information comprises the identity of the member's telco e.g. Vodafone, O_2, the member's phone number or username and password associated with their registered mobile phone account. In this implementation, the member also provides at least one user name or phone number and password, associated with a third party
5   user, whom the member wishes to authorise to avail of the benefits associated with his mobile phone account. All of this information is stored in a database 12 accessible from the registration server and later from an application 14 providing the messaging service. Nonetheless, as described later, it will be seen that in addition or in alternative implementations, access could be determined according to access rights granted by the
10 member in their social networking account profile.

In one implementation, during the registration process, the server 10 can attempt to log into the member's mobile phone account using their credential information to determine whether the information is valid and if not, the member can be advised accordingly.
15

In the preferred embodiment, the messaging service application comprises a script 14, for example a Perl script, instantiable by a client 16 from across the Internet 18. So for example, where the client 16 includes a web browser 22, a web page on the browser can include a link directed towards the domain and directory where the script is located and when the link is
20 selected, an instance of the script executes on the server 10 for the client.

According to the first embodiment, once a member has successfully registered with the SMS text messaging service, they will be provided with a personalised URL web link, for example, www.textparty.com/texting?q=my+happy+friend,id=8AE87515. The personalised
25 URL comprises URL information, i.e., www.textparty.com/texting identifying the location of the server 10 i.e. www.textparty.com and the name of the script i.e. texting. The link further includes information enabling the server script to identify the member, i.e., q=my+happy+friend,id=8AE87515. The member can then provide the URL to any 3rd party user they wish to authorise to use of the benefits associated with their mobile phone account.
30 So this could be as simple as including the URL in an e-mail sent to various contacts. Alternatively, the applicant can include the URL on for example, their social networking page so that social network users accessing the member's page on a server 20 can click on the link and operate the system as described in more detail below to send a message. Of

course, the link need not appear as plain text and can be provided with any suitable user interface widget including a button.

When the 3rd party user invokes the URL link, the resulting HTTP request when received at
5   the server 10 enables the script 14 to utilise the information passed with the URL link to identify the member associated with the URL. If the member is a valid member, i.e., the information enables the application to locate the member in the database 12, a message page is provided to the client 16 for display in their browser and to enable the user to compose a message.
10

The user can compose a message and indicate a destination mobile number, if necessary. When the user has indicated that the message is complete, they press a submit button on the form/box causing a 'send' CGI request comprising the message, destination number, if necessary, and valid URL information to be returned to the server 10. Alternative
15   implementations are mentioned below, however, it is also worth noting that alternatives to CGI such as qDecoder, SCGI and FastCGI could also be used.

The server 10 in turn responds, for example, by providing a "message sent" page to be displayed in the user's web browser 22. Preferably, the "message sent" page is sent once the
20   server 10 receives a message from the telco server (explained below) to indicate the message has been sent. Thus, in the event of failure, a "message failed" page could be sent to the user's browser 22 instead.

On receipt of the 'send' CGI request comprising the message and valid URL information,
25   the server script 14 retrieves the member's credential information from the database.

The credential information retrieved enables the server 10 to access the member's mobile phone account with their designated service provider through the telco website (WS) to send the text message to its destination across the mobile telephony network in this case a GSM
30   network. In the first embodiment, this involves a server application mimicing a manual user, by accessing the network provider's webpage, logging into the member's account using the credential information, selecting a webtext section of the webpage, utilising the network provider's online text message service to send the user's message to its destination, and logging out from the webpage.

In a particularly preferred embodiment of the invention, the credential information provided
by the applicant during the registration process comprises the applicant's network provider,
phone number or username and password associated with their registered mobile phone

5   account, as well as, and preferably a user name and password, associated with each third
party, whom the member wishes to authorise use of the benefits associated with his mobile
phone account. As before, this information is stored in the database 12 associated with the
server.

10 The member provides each 3rd party with his or her associated username and password,
along with the personalised URL link.

In this preferred embodiment, when a third party user invokes the URL link, a 'log in' form
is displayed on their web page. The user is required to enter their associated username and

15 password. On receipt of this information, the server application utilises the information
passed with the URL link to identify the member associated with the user. If the member is a
valid member, i.e., the information enables the application to locate the member in the
database, the application determines whether the username and password received
correspond with a listed authorised user entitled to avail of the benefits of the member's

20 mobile phone account.

If the username and/or password are not listed in the database associated with the member,
an error webpage is provided to the user's browser.

25 If, however, the user is authorised, a User ID token for the current session is generated and
the application will proceed as described in relation to the basic implementation described
above. In the preferred embodiment, the user is required to log out once their text
message(s) have been sent and the application removes the User ID token from the database,
and preferably provide a logged out webpage to the user's browser.

30
The benefits associated with a member's mobile phone account may be categorised and each
authorised user authenticated for one or more of the categories. In such an implementation,
during the registration process, the member can define the categories of benefits associated
with each party they have authorised to utilise the messaging service.

6

The categories for which a user is authorised are stored in the database along with the user's username and password. For example, the categories may comprise authorisation to send a pre-defined message to the member only; any one of a pre-defined group of destinations; or

5   to anyone; authorisation to send a user composed message to the member only; to any one of a pre-defined group of destinations; or to anyone.

In the case where the user is only authorised to send a pre-defined message, for example, a 'call me' message, by invoking the URL link and in the preferred embodiment, providing

10 valid username and password criteria, the server will send the pre-defined message to a destination, for example, the member, via the member's Telco, without any further interaction from the user.

Alternatively, once the URL has been invoked and the username and password criteria

15 validated, the message webpage provided to the browser 22 will display a selection of pre-defined messages, any of which the user may select for sending to a destination.

Furthermore, a member may authorise a user to avail of the benefits of the mobile phone account for a specific period of time only or for a particular number of texts or location for

20 sending the texts.

It will be seen that the member may access his or her messaging service account and alter its settings, such as the authorised users, or the benefits each user is entitled to, at any time.

25 In order to access the messaging service account, the member invokes the URL link, and logs on using the 'log in' displayed on their web page. In one embodiment, the member's username and password correspond with the username and password associated with their registered mobile phone account. However, it will be appreciated that the member may have a username and password different to the username and password associated with their

30 registered mobile phone account. In any case, the server application utilises this information, which is passed with the URL link, to identify the member in the database. If verified, a UID token is generated for the session.

The member's username and password identify the category of benefits to which he or she is entitled. In the preferred embodiment, the member is categorised as a super user and is entitled to alter all setting of the messaging service account, such as the categorisation, removal or addition of authorised users, as well as send any kind of messages to any party.

5

When the member requests to log out, the application will remove the UID token from the database, and preferably display a logged out indication on the member's webpage.

As mentioned above, in alternative implementations of the invention, the access rights

10   available to 3rd party users need not necessarily be stored in the database 12. Instead for example, free access could be granted to anyone who receives the link or has access to the members social network pages.

There are many possible alternative implementations of the present invention. For example,

15   in one alternative embodiment, a widget or message text box may be displayed on a member's webpage, such as one associated with a social networking site, for example, Bebo, Facebook or MySpace, to enable comments posted therein by third parties to be sent to a destination via the member's mobile phone account in the manner described in either of the above two embodiments.

20

Where the client side of the invention is implemented as an application, it enables settings to be changed to determine how a member's messaging quota can be distributed in various manners. For example, if such settings are made available for a user to change, the user could decide where a text sent using the application may go, other than directly to the

25   member. Also, using an application, the phone credentials of more than 1 member could be entered to make their messaging available to a given user, for example, to facilitate a child using the free minutes of both their parents.

In alternative implementations, the URL could be distributed to user's instant messenger

30   clients or indeed such clients could be specially adapted to include a widget for implementing communication with the server 10.

Further categories may be permitted so that for example, some members may permit certain 3rd party users to send messages at a cost to the member, for example, if the member had

exceeded their quota of free messages. Alternatively, members may authorise users to employ paid/free minutes from a 3rd party other than a telco, this 3rd party requiring login details in the same way the telcos do.

5   Instead of implementing the invention with a single server based script, the invention could be implemented using separate functionality or even a separate server for member registration and maintenance and for handling messaging.

Equally the invention need not be implemented with a server script and any server to client
10   interface methodology can be employed. For example, the invention could be implemented with Javascript pages and/or with servlet/applet based pages or even by deploying native code objects for execution on a user's client.

Equally, steps can be taken to prevent abuse of the system, for example, by requesting the
15   input of a password, a response to a predefined question, a response to a scrambled text prompt, and/or perform a task, to distinguish between a "real" user and a computer program (or bot).

Equally while SSL has been mentioned as one security provision, any number of such
20   provisions can be employed including for example, implementing more complex user authentication protocols and/or secure access to the database 12 and/or secure communication between the server 10 and Telco.

Also, while the server can be implemented by mimicing manual user interaction with a
25   Telco website, the implementation of message delivery can of course be more direct where there is suitable communication between the server 10 and Telco and/or GSM. In such cases, further facilities can be made available to members and users of the service. For example, if the Telco allows the sender phone number to be chosen for messages being sent through a member's account, then a user of the present service could be permitted to select
30   that a message appear as if it has been sent from their phone number rather than the member's phone number.

One way of implementing such a system is for a client side application when it is executed first to request the user to provide their phone number. The client side application then

provides this to the messaging service server 10 which then generates a corresponding code and sends a message including the code to the user's phone number. If the user in fact owns the phone number, they will receive the message including the code and they can then enter the code into the client side application. If the user now selects/sets the option within the

5   client side application of having messages sent using the service as if they were sent from the user's phone, the server 10 can communicate accordingly with the Telco so that instead of the message appearing as if it were sent from the member's phone, it appears to have been sent from the user's phone. Where the client side application runs within a social networking page, the user's social network login can be used to connect with their details

10   and preferences if these are stored on the messaging service server 10.

It will be appreciated that many revenue models can be employed to enable a service provider to run the server 10. Of course, participating members could be required to pay a fee on registration with the service or according to the number of authorised users they

15   register or the number of messages transmitted via their account(s) using the service.

However, the service could additionally and/or alternatively be advertising driven with advertisements being delivered either:

- to a sender after they send a message;

20   - to a sender via their mobile phone if their phone number is available to the service provider;

- to a receiver as part of or otherwise appended to the received message; or

- having an operator specific "Text Me" button on a social network site.

25   The invention is not limited to the embodiment(s) described herein but can be amended or modified without departing from the scope of the present invention.

Claims:

1.   A method for sending text messages, said method operable in a server in communication with a client across a packet switched network, and comprising the steps of:
5   receiving information from a user at said client across said network;
               responsive to said information identifying a member of a messaging service who has authorised said user to avail of said member's messaging service, said messaging service enabling said member to send text messages addressed to a destination phone number, retrieving credentials associated with said member's phone account;
10   accessing the member's account at a messaging service server using said credentials; and
               sending a text message to a destination from said message service server using said member's account.

15 2.   A method according to claim 1 comprising the step of:
               responsive to said information failing to identify a member of said messaging service, sending an error message to said user at said client.

3.   A method according to claim 1 wherein said credentials comprise a username and
20 network provider associated with said member's account.

4.   A method according to claim 3 wherein the credentials include a password associated with the username.

25 5.   A method according to claim 3, said username either comprises or is associated with a phone number.

6.   A method according to claim 1 wherein said information and said credentials are stored in a database.
30

7.   A method according to claim 1 wherein said messages comprise one or both of SMS or MMS messages.

8.   A method according to claim 1 further comprising the step of a registering a member

at said server with the steps of:

receiving at said messaging service credentials for said member;

providing said member with a link to said server, said link including an identifier for said

5   member; and

receiving from said member an identity of one or more users authorised by said member to

use said member's messaging service.

9.   A method according to claim 8 wherein said user authorisation comprises authorising

10   said user to do one or more of the following:

select from one of a pre-defined set of messages to be transmitted by said member's

messaging service to said member's phone number;

select from one of a pre-defined set of messages to be transmitted by said member's

messaging service to a user specified phone number;

15   define a message to be transmitted by said member's messaging service to a specified phone

number;

send messages to be transmitted by said member's messaging service within a limited time

period;

send a limited number of messages to be transmitted by said member's messaging service;

20   and

send messages to be transmitted by said member's messaging service at a cost to said

member.

10.   A method according to claim 1 wherein said information comprises a HTTP request

25   including a link identifying said member.

11.   A method according to claim 1 wherein said HTTP request is received from one of

an Instant Messenger client, a social networking web page, or from a user interface

component running within a network client application.

30

12.   A server operably connected to one or more client devices and one or more

messaging service servers across a packet switched network, said server being arranged to
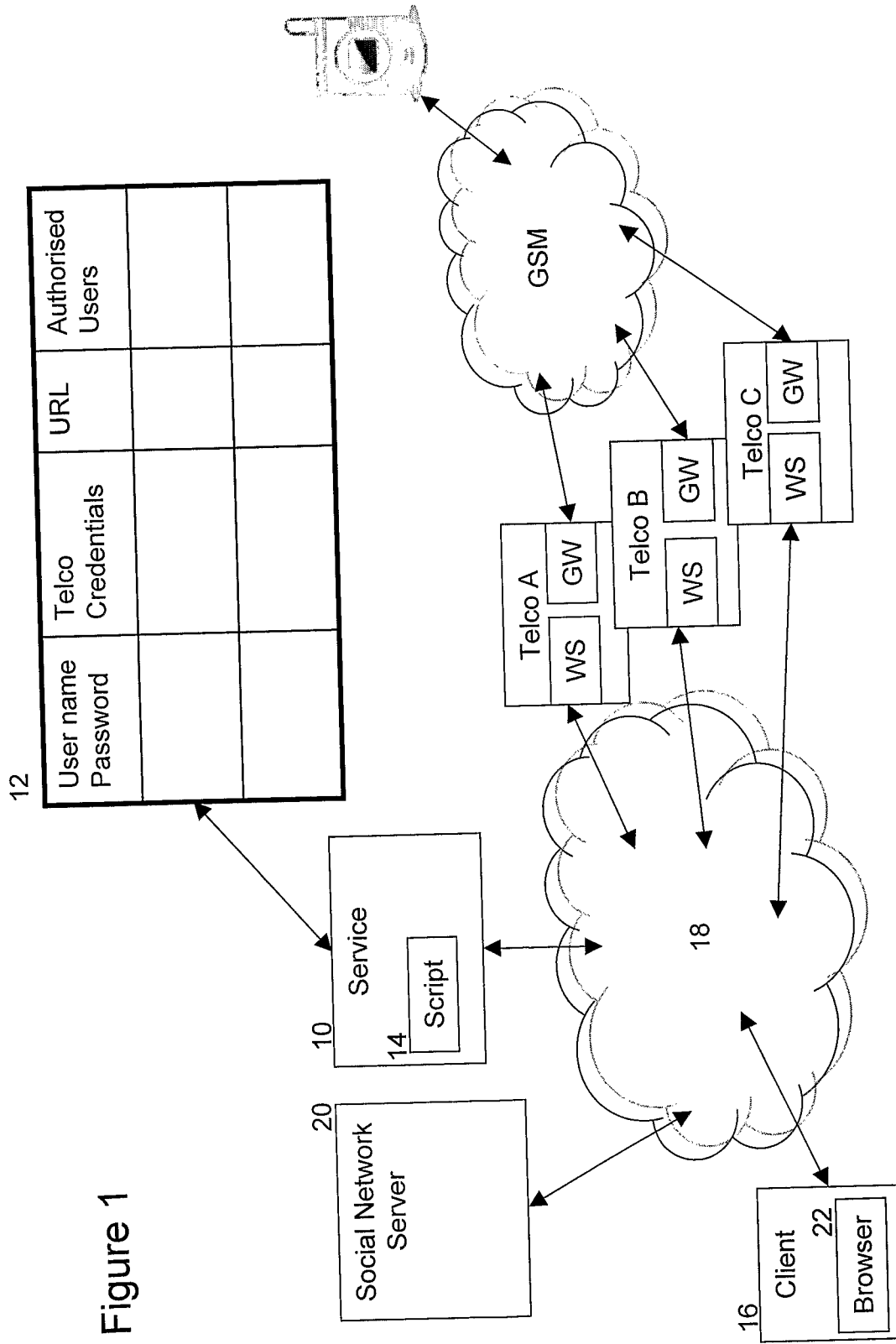
perform the steps of claim 1.

Figure 1

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G01R 31/08 (2010.01)
USPC - 370/253
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8): G01R 31/08 (2010.01)
USPC: 370/253

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 370/254, 352, 401; 705/42; 709/218, 220, 245, 250 (view search terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB, USPT, USOCR, EPAB, JPAB); Google Patents; Google Scholar
text, messaging, internet, packet, phone, telephone, cellular, user, password, identification, subscription, authorization, permission, database, SMS, MMS, link, server, error, HTTP, chat, instant, social

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2007/0130267 A1 (KHAN) 07 June 2007 (07.06.2007) entire document, especially Abstract; para [0025], [0032], [0033], [0034], [0037], [0041], [0043]	1, 3-9, 12 ---------- 2, 10, 11
Y	US 2002/0112014 A1 (BENNETT et al.) 15 August 2002 (15.08.2002) entire document, especially Abstract; para [0071], [0081]	2, 10, 11

☐ Further documents are listed in the continuation of Box C.   ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
28 May 2010 (28.05.2010)	**1 4 JUN 2010**

Name and mailing address of the ISA/US	Authorized officer:
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450	Lee W. Young
Facsimile No. 571-273-3201	PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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