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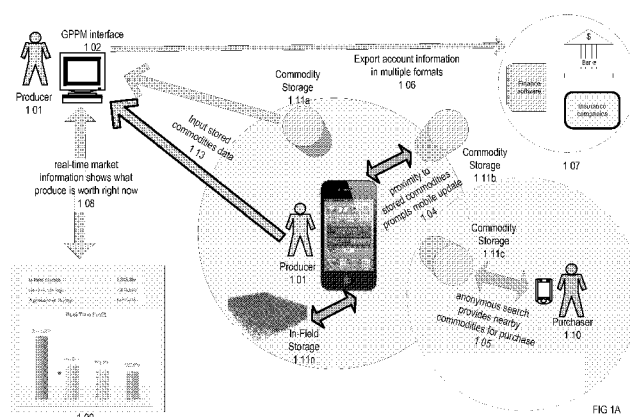
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(54) Title: GRAIN POSITION PLATFORM MANAGER APPARATUSES, METHODS AND SYSTEMS



(57) Abstract: The GPPM transforms producer crop asset information via GPPM components into dynamic, automated, real-time, and/or near real-time inventory updates, comprehensive agricultural portfolio information, offers, sales and/or purchase agreements, and/or dynamic, automated, real-time and/or near real-time market updates and feeds. The GPPM also provides online producer inventory integration with internal and external sources, geo-spatial commodity sensory location and updates, and dynamic, automated, real-time, and/or near real-time market and benchmark analyses. The GPPM receives crop asset storage resource information, such as location data for crop storage resource(s). The received information is associated with a producer crop asset management account. Mobile devices may be associated with the account. The GPPM determines when an associated mobile device is within a specified distance of a storage resource location and notifies the mobile device. The GPPM receives dynamic crop volume data for the crop storage resource and associates it with the producer crop asset management account.





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GRAIN POSITION PLATFORM MANAGER APPARATUSES, METHODS AND SYSTEMS

[0001] This application for letters patent disclosure document describes inventive aspects that include various novel innovations (hereinafter “disclosure”) and contains material that is subject to copyright, mask work, and/or other intellectual property protection. The respective owners of such intellectual property have no objection to the facsimile reproduction of the disclosure by anyone as it appears in published Patent Office file/records, but otherwise reserve all rights.

PRIORITY CLAIM

[0002] This application is a non-provisional of and claims priority under 35 USC §119 to: United States provisional patent application serial no. 61/617,598 filed March 29, 2012, entitled “GRAIN POSITION INVENTORY TRACKING AND MOBILE UPDATE MANAGER APPARATUSES, METHODS AND SYSTEMS,” attorney docket no. SCHN-001/00US|318573-2001; United States provisional patent application serial no. 61/617,599 filed March 29, 2012, entitled “GRAIN POSITION PORTFOLIO TRACKING MANAGER APPARATUSES, METHODS AND SYSTEMS,” attorney docket no. SCHN-002/00US|318573-2002; United States provisional patent application serial no. 61/617,603 filed March 29, 2012, entitled “GRAIN POSITION SEARCH AND TRANSACTION MANAGER APPARATUSES, METHODS AND SYSTEMS,” attorney docket no. SCHN-003/00US|318573-2003; United States provisional patent application serial no. 61/617,606 filed March 29, 2012, entitled “REGIONAL REAL-TIME GRAIN MARKET POSITION MANAGER APPARATUSES, METHODS AND SYSTEMS,” attorney docket no. SCHN-004/00US|318573-2004; the entire contents of the aforementioned applications are expressly incorporated by reference herein.

FIELD

[0003] The present innovations generally address apparatuses, methods, and systems for commodity inventory tracking, updating, and management, and more particularly, include GRAIN POSITION PLATFORM MANAGER APPARATUSES, METHODS AND SYSTEMS (“GPPM”).

BACKGROUND

[0004] Various commercial crops may be grown on farms. Farmers typically plant seeds, and subsequently provide maintenance to the planted crop as it grows. The crop is grown until it is ready to harvest.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The accompanying appendices and/or drawings illustrate various non-limiting, example, inventive aspects in accordance with the present disclosure:

[0006] FIGURES 1A-1B show provide overview diagrams illustrating example aspects of commodity search, data updating, storage, and exports in some embodiments of the GPPM;

[0007] FIGURES 2A-B provide diagrams illustrating examples of resource record creation and updating, including storage sensory devices communication and other aspects of the GPPM to update commodity storage data in some embodiments of the GPPM.

[0008] FIGURE 3 shows a logic flow diagram illustrating an example of a GPPM resource record creation and updating for some embodiments of the GPPM;

[0009] FIGURES 4A-B provide logic flow diagrams illustrating exemplary GPPM integration and profile generation/creation components, data conversion components,

1 and external data export components and procedures in some embodiments of the
2 GPPM;

3 **[0010]** FIGURES 4C-E demonstrate exemplary user interfaces illustrating
4 example features for integrating commodity storage from internal and external
5 producer sources, visualizing commodity storage from internal and external producer
6 sources, receiving market data, and providing commodity storage market and volume
7 statistics from internal and external producer sources in some embodiments of the
8 GPPM;

9 **[0011]** FIGURE 5A shows an overview diagram illustrating an example of a
10 GPPM producer prompt component and mobile application facilitating proximity
11 commodity storage creation and update in some embodiments of the GPPM;

12 **[0012]** FIGURES 5B-D show mobile user interface diagrams illustrating example
13 features for alerting, updating, and informing a GPPM user/producer of their account
14 data and aggregated storage for some embodiments of the GPPM;

15 **[0013]** FIGURE 6A shows an overview diagram illustrating an example of a
16 GPPM commodity geo-search inventory component and application providing a
17 proximity commodity search for purchasers within a specified geographical region in
18 some embodiments of the GPPM;

19 **[0014]** FIGURE 6B shows a mobile user interface diagrams illustrating example
20 features for informing a GPPM purchaser user of commodities for purchase within a
21 geographical area in some embodiments of the GPPM;

22 **[0015]** FIGURES 7A-7E show exemplary logic and data flow diagrams illustrating
23 a GPPM Inventory Matching Component and facilitation of commodity transactions
24 between GPPM accounts in some embodiments of the GPPM;

25 **[0016]** FIGURE 8A shows an exemplary Livestock Feed Matching data flow
26 diagram for some embodiments of the GPPM;

1 **[0017]** FIGURE 9 shows a block diagram illustrating embodiments of a GPPM
2 controller.

3 **[0018]** The leading number of each reference number within the drawings
4 indicates the figure in which that reference number is introduced and/or detailed. As
5 such, a detailed discussion of reference number 101 would be found and/or introduced
6 in Figure 1. Reference number 201 is introduced in Figure 2, etc.

7

DETAILED DESCRIPTION

GRAIN POSITION PLATFORM MANAGER (GPPM)

[0019] The GRAIN POSITION PLATFORM MANAGER APPARATUSES, METHODS AND SYSTEMS (hereinafter “GPPM”) transforms producer crop asset information, via GPPM components, into dynamic, automated, real-time, and/or near real-time inventory updates; comprehensive agricultural portfolio information; agricultural commodity offers, sales and/or purchase agreements; and/or dynamic, automated, real-time and/or near real-time market updates and feeds. The GPPM also provides online producer inventory integration with internal and external sources, geo-spatial commodity sensory location and update, and dynamic, automated, real-time, and/or near real-time market and benchmark analysis for both supply and demand-side agents.

[0020] In some implementations, the GPPM creates a producer crop asset management account and receives crop asset storage resource information including storage resource location data for an at least one crop storage resource. The received crop asset storage resource information is associated with the producer crop asset management account. One or more mobile devices (e.g., smartphones, tablet computers, etc.) may then be associated with the producer crop asset management account. The GPPM determines when one of the mobile devices is within a specified distance of the at least one crop storage resource location and generates a notification on the mobile device that the mobile device is within the specified distance of a crop storage resource location. The GPPM may then receive dynamic, automated, real-time and/or near-real-time crop volume data for the crop storage resource and associate it with the producer crop asset management account.

[0021] In one implementation, the GPPM creates, generates, receives and/or enables an agricultural commodity asset management account for a farmer or other agricultural asset producer and receives harvested agricultural asset storage resource information and actual agricultural asset storage data for agricultural assets stored in

1 the harvested agricultural asset storage resource, including location, volume, and crop
2 type. The GPPM may also receive in-field agricultural asset information, along with
3 agricultural financial instrument data. The GPPM may also receive agricultural asset
4 market data and determine an agricultural asset portfolio value for the agricultural
5 commodity asset management account. The GPPM may then receive real-time updates
6 of actual agricultural asset storage data and in-field agricultural asset information and
7 update and output the determined agricultural asset portfolio value.

8 **[0022]** In some implementations, the GPPM maintains an agricultural asset
9 tracking account for each of a plurality of agricultural asset producers, such as farmers,
10 including asset type data, asset location data, and asset availability data. The GPPM
11 may then receive one or more real-time updates to asset account information from
12 agricultural asset producers. The GPPM may then determine aggregate market data for
13 a geographic region from a set of the plurality of agricultural asset producers based on
14 asset type data, asset location data, asset availability data and the real-time updates to
15 asset account information and generate real-time geographic market data feeds.

16 **[0023]** Figure 1A illustrates exemplary aspects for some embodiments of the
17 GPPM in which a producer may use the GPPM to integrate commodity storage/in-field
18 storage, update commodity storage/in-field volumes both centrally and locally, view
19 dynamic, automated, real-time and/or near real-time market and benchmark analyses,
20 and export data into computer file formats for both personal and external end-user
21 applications. In one embodiment, a producer 101 may use a GPPM interface 102 to
22 input information about commodity storage/in-field storage 111a-n from a location that
23 is not in immediate proximity to the commodity storage/in-field storage. In another
24 embodiment, a producer may use a GPPM interface to input stored commodities
25 data/information 113 about commodity storage/in-field storage from a location that is
26 in proximity to the commodity storage/in-field storage facility. In another
27 embodiment, the GPPM interface may prompt 104 the producer that a commodity
28 storage facility 111b already contained in the GPPM is nearby and ask the producer if an
29 update to the commodity storage contents is desired. In one embodiment, a demand
30 agent and/or purchaser (“purchaser”) 110 may use a GPPM interface to search for

1 nearby commodity for purchase 105 and receive anonymous results that a commodity
2 is stored nearby that is available. In a non-limiting example, the GPPM anonymous
3 search results exemplified in 105 may contain reference to commodities 111c belonging
4 to a producer using the GPPM for commodity storage integration. In one embodiment,
5 the producer may use dynamic, automated, real-time and/or near real-time market
6 information 108 provided by the GPPM to determine integrated commodity worth. In
7 another implementation, commodity information may not be integrated within the
8 interface, with the GPPM illustrating aggregate, but separate commodity amounts and
9 value 109 to the producer. In another embodiment, the GPPM may allow the producer
10 to export information 106 contained in various GPPM components, data structures,
11 and devices to formats that may be compatible with various external sources/entities
12 107, with non-limiting examples being personal and commercial software packages,
13 institutions such as banks or other financial service providers, insurance companies,
14 and the like.

15 **[0024]** In one embodiment, a purchaser or other demand agent may use a GPPM
16 interface to request nearby commodities for sale. For example, in Figure 1B, a
17 purchaser 110 may make a request, using a GPPM mobile device interface 102, to know
18 how many bushels of corn are available in a radial search of ten miles. In this
19 embodiment, the GPPM 120 may facilitate contact with supply agents (“producers”)
20 101a-c who also maintain GPPM accounts and are local to the radial search area,
21 concerning the amount of corn contained in various commodity storage units 103a-c
22 and relay the amount as well as the sale price to the purchaser (“1,212,000 bushels at
23 \$10 per bushel”) and ask if the purchaser wishes to see further information regarding
24 the available commodities 104.

25 **[0025]** Figure 2A illustrates some examples of resource record creation/updating
26 features/components, such as storage facility entry generation in a GPPM Inventory
27 Component and provides further examples of updating storage facility volumes through
28 a GPPM mobile application. A producer may elect to add a commodity storage facility
29 to his or her producer profile. In one embodiment, the producer may generate the
30 commodity storage facility entry through a web portal interface to the GPPM 211a from

1 any location providing internet access. In one embodiment, the producer may generate
2 the commodity storage facility data entry through a mobile interface 211b. This mobile
3 interface (e.g., a mobile device implementing the interface) may be near a commodity
4 storage facility which, in one embodiment, may signal the GPPM mobile application to
5 add the storage facility. The storage facility may have been previously entered, or may
6 be identified as a potential storage facility (e.g., via a identification component of the
7 GPPM that analyzes satellite images of a location to identify building or locations that
8 could be resources, such as silos or storage facilities). In one embodiment, the producer
9 may manually enter a facility's location. In some embodiments, a producer may enter
10 any commodity storage facility through a GPPM mobile interface and/or other
11 interfaces, even if the producer is not immediately located near the commodity storage
12 facility being entered. For example, in one implementation, a producer may be
13 presented with an image (e.g., a satellite image from an online map service) of his or
14 her property, and may select or point to locations on the map to identify resource
15 locations, and provide additional details (e.g., via a window with text prompts).

16 **[0026]** In some embodiments, the commodity storage facility entry may generate
17 a request to add the storage facility to the GPPM 211c. The request may include, by way
18 of non-limiting example, information such as a facility identifier, the facility's
19 latitudinal and longitudinal coordinates, the time of the entry, the date of the entry, the
20 initial volume of the facility, stored commodity, and/or the like. In some embodiments,
21 the add storage request 211c may be generated as an xml document to be parsed by the
22 GPPM, as shown in the following example:

```
23
24 Content-Type: Application/XML
25 <?XML version = "1.0" encoding = "UTF-8"?>
26 <add_storage_facility producer_id="3581T">
27     <id>52RF9</id>
28     <location>
29         <latitude>42.44</latitude>
30         <longitude>-98.38</longitude>
31     </location>
```

```

1      <time_stamp format="astronomical">
2          <hour>18</hour>
3          <minute>41</minute>
4      </time_stamp>
5      <date format="small endian" year_length="2"> 12-05-50 </date>
6      <volume unit="bushels"> 10000 <\volume>
7  </add_storage_facility>
8

```

9 **[0027]** In some embodiments, the add storage request 211c may be generated as a
 10 database insert command through a browser scripting language such as php. Fields
 11 entered into a web form may be retrieved as post variables, as shown below:

```

12  <?PHP
13  header('Content-Type: text/plain');
14  // access database server
15  $connex = mysql_connect($DBserver, $user, $password);
16  // select database table to insert
17  mysql_select_db("GPPM_DB.SQL", $connex);
18  //create query
19  $query = "INSERT INTO  Facilities(Producer_id, Storage_id,
20      Latitude, Longitude, TimeStamp,  Date, Volume)
21      VALUES ('$_POST[producer_id]', $_POST[storage_id]',
22      $_POST[latitude], $_POST[longitude], $_POST[timestamp]',
23      $_POST[date]', $_POST[volume]')";
24  $result = mysql_query($query, $connex); // perform the insert
25  mysql_close($connex); // close the connection
26  ?>
27

```

28 **[0028]** The GPPM may parse and error-check the values provided by the storage
 29 request after which it may generate a storage record 212 in the Integrated Data
 30 structure 280 (e.g., database) which may contain all information generated during the
 31 producer profile creation.

1 **[0029]** In some embodiments, once a storage facility has been added to the
2 Integrated Data structure, the GPPM may allow the producer to update the data record
3 of the storage facility. In one embodiment, the producer may manually update the
4 storage facility data record through a GPPM web or mobile interface. In some
5 embodiments, the GPPM may update the storage facility data record through the
6 GPPM mobile interface as the producer approaches a storage facility.

7 **[0030]** In some embodiments, various agricultural facilities, machinery and/or
8 equipment may include precision agriculture equipment that can
9 communicate/interface with various GPPM components to provide and/or receive
10 data. For example, in one implementation, a storage facility may be equipped with a
11 precision ag equipment device (PAE), and the PAE may be integrate/communicate with
12 a GPPM component (e.g., via a GPPM mobile interface) to update the record for
13 contents of the storage facility. Although “storage facility” is discussed herein in the
14 context of having a fixed location, it is to be understood that, in some embodiments, the
15 GPPM may track and interact with equipment and machines, such as combines, grain
16 carts, in-field storage, semi-trailers, etc., having storage attributes. As discussed herein,
17 PAE equipment may include, but is not limited to, on machine/equipment
18 monitors/components (e.g., installed/configured/equipped on tractors, variable rate
19 spreaders, etc.), bin monitoring/sensing equipment, grain cart scales, sensors for
20 monitoring atmospheric data, weather information, location/position data, commodity
21 security data, and/or the like. In one embodiment, the GPPM mobile application (or
22 like GPPM component) wirelessly requests a volume update 214 from the PAE. The
23 PAE reports the current commodity volume of the storage facility and wirelessly
24 updates this data to the GPPM mobile application 215, using a wireless connection such
25 as, by way of non-limiting example, Wi-Fi, Bluetooth, RFID, Near Field
26 communication, other shortwave wireless connection, and/or the like. In some
27 embodiments, the PAE may integrate with the GPPM mobile interface through a
28 hardware connection, such as, by way of non-limiting example, USB cable, Firewire,
29 USB drive exchange, and/or the like. In one example, a mobile device installed with the
30 GPPM mobile application is connected by a USB cable to the PAE, engaging a volume

1 update request 216. The PAE exchanges its volume data with the GPPM mobile
2 application 217.

3 **[0031]** In some embodiments, the producer may use the GPPM mobile
4 application to determine the volume without the use of a PAE. In one such
5 implementation, a producer may use a visual representation of the storage facility of
6 the GPPM mobile application to make a visual representation of the storage facility
7 volume 213 which is then passed to a GPPM Volume Calculator Component. In one
8 example, the camera and/or other components on the mobile device may determine the
9 approximate measurements and geometry of the storage facility (e.g., a silo could be
10 modeled after a cylinder, with volume = $\pi r^2 h$) to determine a total volume and/or
11 actual volume. In some implementations, features of certain storage facilities and/or
12 packing of certain commodities may also be used in determining the volume of a
13 particular storage facility (e.g., the bottom of a silo may be cone shaped and/or the
14 grain in the silo may have a conical top due to loading from above). In another
15 implementation, the storage facility may include visual or other volume markers that
16 can be input into the mobile device. For example, the interior of the storage facility may
17 contain QR codes, the first visible of which the GPPM mobile application may scan and
18 communicate to the Volume Calculator Component, which process the QR code. The
19 Volume Calculator Component then returns an approximate volume of the storage
20 facility to the GPPM mobile application 213a. In another embodiment, satellite and/or
21 ground imagery may be used to determine the current volume of a storage silo. For
22 example, in one embodiment an image or images of a particular silo may be analyzed
23 after a predetermined event (which may be a triggering event), such as change
24 (increase/decrease) in temperature that could change the external appearance of the
25 silo, i.e., could create a frost or condensation line corresponding to the level of
26 commodity in the silo, the frost line visible to a satellite image and/or an image
27 captured via mobile device, for example, as determined by relative reflectance values of
28 the surface of the silo and/or changes in the value(s) over time.

29 **[0032]** Once a storage facility volume has been updated to the local GPPM
30 application, it may be submitted 218 to the GPPM Inventory Component for update

1 and reintegration with existing producer inventory. The update request may contain, by
2 way of non-limiting example, the identifier of the storage facility, the time and date the
3 volume update was taken, the new volume amount, and/or the like.

4 **[0033]** In some embodiments, the storage volume update request 218 may be
5 generated as an XML document to be parsed by the GPPM, as shown in the following
6 example:

```
7
8 Content-Type: Application/XML
9 <?XML version = "1.0" encoding = "UTF-8"?>
10 <update_storage_facility producer_id="3581T">
11     <id>13T8X</id>
12     <time_stamp format="astronomical">
13         <hour>14</hour>
14         <minute>02</minute>
15     </time_stamp>
16     <date format="small endian" year_length="2"> 18-07-50 </date>
17     <volume unit="bushels"> 22500 <\volume>
18 </update_storage_facility>
19
```

20 **[0034]** In some embodiments, the storage volume update request 218 may be
21 generated as a database update command through a browser scripting language such as
22 php. Fields entered into a web form may be retrieved as post variables, as shown below:

```
23
24 <?PHP
25 header('Content-Type: text/plain');
26 // access database server
27 $connex = mysql_connect($DBserver, $user, $password);
28 // select database table to update
29
30 mysql_select_db("GPPM_DB.SQL", $connex);
31 //create query
```

```
1  $query = "UPDATE  Facilities SET TimeStamp=$_POST[timestamp],
2      Date=$_POST[date], Volume=$_POST[volume] WHERE storage_id =
3      $_POST[storageID]";
4  $result = mysql_query($query, $connex); // perform the insert
5  mysql_close($connex); // close the connection
6  ?>
7
```

8 **[0035]** The GPPM Inventory Component 290 may then update the Integrated
9 Data structure storage facility data record with the revised information 219, which may
10 include volume, time, date, and/or the like.

11 **[0036]** Figure 2B illustrates additional examples of generating storage facility
12 and/or field entries in the GPPM Inventory Component and provides further examples
13 of updating storage facility and/or field volumes through remote or wired
14 communication with the GPPM or a GPPM mobile application. In some embodiments,
15 a precision ag equipment (PAE) may be integrated with cultivation and/or harvest
16 implements 211e to calculate commodity volume during field cultivation and/or harvest
17 activities. At this time, a producer may choose to generate a storage facility entry for the
18 field. In some embodiments, harvest data may be determined from combines, grain
19 cart/weigh wagon, semi-trailers, etc.

20 **[0037]** The request may include, by way of non-limiting example, information
21 such as a facility identifier, the type of facility, the facility's latitudinal and longitudinal
22 coordinates, the time of the entry, the date of the entry, the initial volume of the facility,
23 and/or the like. In some embodiments, the add storage request 211c may be generated
24 as an xml document to be parsed by the GPPM, as shown in the following example:

```
25
26 Content-Type: Application/XML
27 <?XML version = "1.0" encoding = "UTF-8"?>
28 <add_storage_facility producer_id="3581T">
29     <id>43RT1</id>
30     <facility_type>field</facility_type>
31     <location>
```

```

1         <latitude>46.13</latitude>
2         <longitude>-101.85</longitude>
3     </location>
4     <time_stamp format="astronomical">
5         <hour>8</hour>
6         <minute>22</minute>
7     </time_stamp>
8     <date format="small endian" year_length="2"> 12-05-50 </date>
9     <volume unit="bushels"> 12000 <\volume>
10 </add_storage_facility>
11

```

12 **[0038]** In some embodiments, the add storage request 211c may be generated as a
 13 database insert command through a browser scripting language such as php. Fields
 14 entered into a web form may be retrieved as post variables, as shown below:

```

15 <?PHP
16 header('Content-Type: text/plain');
17 $connex = mysql_connect($DBserver, $user, $password);
18 // access database server
19 mysql_select_db("GPPM_DB.SQL", $connex);
20 // select database table to insert
21 //create query
22 $query = "INSERT INTO Facilities(Producer_id, Storage_id,
23     Facility_Type, Latitude, Longitude, TimeStamp, Date, Volume)
24     VALUES ('$_POST[producer_id]', '$_POST[storage_id]',
25     '$_POST[facility_type]', '$_POST[latitude]', $_POST[longitude],
26     '$_POST[timestamp]', '$_POST[date]', $_POST[volume]')";
27 $result = mysql_query($query, $connex); // perform the insert
28 mysql_close($connex); // close the connection
29 ?>
30

```

31 **[0039]** In some embodiments, the storage id may contain a code identifying the
 32 storage type. In some embodiments, the facility type may be a separate field. In some
 33 embodiments, the facility type may not be stored.

1 **[0040]** The GPPM may parse and error-check the values provided by the storage
2 request after which it may generate a storage record 212 in the Integrated Data
3 structure 280 which may contain all information generated during the producer profile
4 creation.

5 **[0041]** In some embodiments, a storage facility may contain a PAE with a wired
6 or remote connection to the GPPM. A producer may authorize the PAE to automatically
7 generate a storage facility entry. In one such example, a commodity storage facility
8 communicates 211d with the GPPM Inventory Component to generate the storage
9 facility entry, as previously described in 211a-c. In such an embodiment, the producer
10 may only need to provide authorization, through a GPPM mobile or web interface, for
11 the PAE to communicate directly with the GPPM in the generation of a storage facility
12 entry. In some embodiments, the producer may disable or otherwise limit the ability of
13 a PAE to generate storage facility entries. In some embodiments, the GPPM may
14 provide the producer with notification through a GPPM mobile or online interface that
15 the PAE of a storage facility has generated an automatic storage facility entry. In such
16 an embodiment, the producer may have the ability to override and/or modify the PAE
17 storage facility entry.

18 **[0042]** In some embodiments, once a storage facility has been added the
19 Integrated Data structure, the GPPM may allow the PAE to update the data record of
20 the storage facility and/or field. In one embodiment, a PAE may be authorized, as
21 described in 211d, to generate the initial storage facility entry in the GPPM Inventory
22 component. In such an embodiment, the producer may further authorize the PAE to
23 produce and/or accept update requests 218 to/from the GPPM Inventory component.
24 In one embodiment, the GPPM Inventory Component may request that the PAE
25 determine/calculate/provide the volume of the storage facility and send 219 the
26 updated volume through remote and/or wired connection to the GPPM. In some
27 embodiments, the PAE may automatically generate storage updates to the GPPM
28 whenever the volume of the storage facility has been modified. In some embodiments,
29 the PAE may automatically generate storage updates to the GPPM at scheduled time
30 intervals. In some embodiments, the producer may determine the time intervals at

1 which the PAE will generate the storage updates. In some embodiments, the PAE may
2 have preset time intervals at which it generates storage volume updates to the GPPM.
3 Similarly, in some embodiments, the GPPM may have preset time intervals at which it
4 generates storage volume update requests to one or more PAE devices. In some
5 embodiments, the PAE may have preset time intervals which the producer may
6 override through a GPPM web or mobile interface. In some embodiments, the GPPM
7 may provide the producer with notification through a GPPM mobile or online interface
8 that the PAE of a storage facility has generated an automatic storage update. In such an
9 embodiment, the producer may have the ability to override and/or modify the PAE
10 storage update.

11 **[0043]** In some embodiments, a cultivation/harvest implement, such as tractor,
12 planter, combine, etc., may contain a PAE to measure field volume during field
13 cultivation and/or harvest, as described in 211c. In such an embodiment, the PAE may
14 be able to generate a field volume update to the GPPM. In some implementations, the
15 data may be calculated and/or transmitted “on the go” while harvesting. In some
16 embodiments, the PAE may communicate with a GPPM mobile interface, as described
17 in 213-217. In some embodiments, the PAE may communicate directly with the GPPM
18 Inventory Component as described in 218-219. Such embodiments may track in-field
19 storage, for example, by tracking the amount of acreage that has been planted, the
20 expected and/or historical growth time and/or yields, as well as, in some
21 implementations, the amount of grain or other commodity already harvested. In some
22 implementations, images (e.g., images from satellites and/or fly-overs) may be used to
23 determine in-field storage, that is, identify harvested and unharvested areas of a
24 particular field or plot of land associated with a particular producer.

25 **[0044]** Commodities that are cultivated/harvested from field storage may be
26 transferred to a storage facility, in which case an Integrated Data structure entry for the
27 field storage may need to be converted/transferred to a storage facility entry and/or be
28 added to an existing storage facility entry in order that commodities that began in-field
29 are not double-counted to a producer once moved to a storage facility. In some
30 embodiments, the cultivation/harvest implement PAE may send a volume transfer

1 request 222 to the PAE of a storage facility, indicating that the field volume is to
2 become part of the storage facility volume. In some embodiments, the GPPM Inventory
3 Component receives data from various PAEs to effectuate the conversion of in-field
4 storage volume to storage facility volume. In some embodiments, the storage facility
5 PAE may generate a volume update request to the GPPM Inventory Component as
6 described in 218. In such embodiments, the storage volume update 224 to the GPPM
7 may include additional data, such as, by way of non-limited example, an external
8 source for the update, such as a storage identifier and the amount being added from the
9 external source.

10 **[0045]** In some embodiments, the storage volume update request 224 may be
11 generated as an XML document to be parsed by the GPPM, as shown in the following
12 example:

```
13  
14 Content-Type: Application/XML  
15 <?XML version = "1.0" encoding = "UTF-8"?>  
16 <update_storage_facility producer_id="3581T">  
17     <id>13T8X</id>  
18     <time_stamp format="astronomical">  
19         <hour>14</hour>  
20         <minute>02</minute>  
21     </time_stamp>  
22     <date format="small endian" year_length="2"> 18-07-50 </date>  
23     <volume unit="bushels"> 22500 <\volume>  
24     <external_source amount="9000">43RT1</external_source>  
25 </update_storage_facility>
```

26
27 **[0046]** In such an embodiment, the GPPM Inventory Component in updating the
28 storage record with revised volume information 225 may make updates to both the
29 entry of the storage facility generating the request and to the storage facility entry from
30 which the volume transfer occurred. Below is exemplary pseudocode in which the
31 GPPM Inventory Component parses a storage volume update in which the source for
32 the update is external and belonging to an existing storage facility entry:

```
1
2 void UpdateStorageRecord(String xmlFile, Database db)
3 {
4     XMLreader parser = new XMLParser(); //create XML parser
5     parser.Parse(xmlFile); //open the file for parsing
6     while (!parser.EOF) //while not end-of-file
7     {
8         //advance through elements of type storage facility
9         parser.Advance("storage_facility");
10        String producer = parser.GetAttribute("producer_id");
11        String storageID =
12        parser.ReadElementString("storage_facility");
13        Time timeObj = parser.ReadTimeElement("time_stamp");
14        Date dateObj = parser.ReadDateElement("date");
15        float volume = parser.ReadElementNumeric("volume");
16        String externalID =
17        parser.ReadElementString("external_source");
18        float externalVolume = parser.GetAttribute("amount");
19
20        //Create a command string with which to update the
21        //database for this storage facility entry.
22        //Error checking for database entry may be
23        //handled at the database level
24        DBString command = CreateDBUpdateCommand(producer, storageID,
25        timeObj, dateObj, volume);
26        db.Update(command);
27
28        //if an external volume source existed and
29        //is in the database
30        if (externalID != NULL && db.EntryExists(externalID))
31        {
32            //compare the amount going from the external
33            //source to the updated storage entry.
34            //If all of the external source volume
35            //is moved to the updated storage entry,
```

```
1          //delete the external storage entry. Otherwise
2          // update it with the new volume.
3          float currentVolume = db.GetField(externalID,
4          "volume")
5          if (currentVolume == externalVolume)
6              db.DeleteEntry(externalID);
7          else
8              {
9              float newVolume = currentVolume -
10          externalVolume;
11              db.UpdateField(externalID, newVolume);
12          }
13      }
14  }
15  }
```

17 **[0047]** In the proceeding example, the GPPM may be responsible for resolving an
18 update command in which the storage facility entry being updated has an external
19 source, which may also have a storage facility entry. In this example, the GPPM
20 resolves the update command by parsing to the storage facility update, then checking
21 the integrated data structure for a storage facility entry which matches the external
22 source identifier provided by the update request. If the external source storage facility
23 entry exists, the GPPM determines if its entire volume has been transferred to the
24 storage facility being updated. If so, the GPPM may delete the record for the external
25 source. In some embodiments, the GPPM may not delete the record, but may update its
26 recorded volume as "0". In some embodiments, the GPPM may flag the external source
27 record to request an update from the PAE of the external source, and/or from the
28 producer. In some embodiments, the GPPM may not update any records unless a
29 specific update request has been issued from a PAE and/or producer. In some
30 embodiments, all such examples may be settings available for the producer in updating
31 storage entries through the GPPM.

1 **[0048]** Figure 3 describes one example of a logic flow diagram in which a
2 producer adds commodity storage facilities to the GPPM when the producer is detected
3 in proximity to the facility, examples of which are described in Figures 2A-B and 5A.
4 The GPPM may populate 301 its storage facility data structure 320 prior to, during,
5 and/or after the creation of a producer account. In some embodiments, a producer may
6 input the location of storage facilities into the GPPM Integration Manager 321 at any
7 time during or after initial producer account creation. In some embodiments, devices
8 or sensors, such as PAEs described in Figures 2A-B and 5A may provide their location
9 322 to the GPPM and be reflected in the storage data structure. In some embodiments,
10 the GPPM may use geospatial data to determine storage locations by satellite data 323,
11 in one implementation using reflectance values as determined by satellite imagery.
12 There may be other methods by which the GPPM populates its storage facility data
13 structure and the GPPM may populate the data structure both dependent to and
14 independent of a producer account. In one example, the GPPM mobile application
15 monitors a producer's position using one or more of the methods previously described
16 or by similar methods 302. Once the producer nears a storage facility appearing in the
17 GPPM storage data structure 303, the GPPM mobile application may determine if the
18 storage facility is associated with the producer's account 304. If not, the GPPM may
19 prompt the producer to add the facility to the producer's account 306. If the producer
20 chooses not to add the facility to the producer's account, the GPPM may prompt the
21 producer to flag the facility 310. Once flagged, the facility would not result in an
22 additional notification when the GPPM mobile application was once again in proximity
23 to the facility 312, otherwise the GPPM mobile application may again alert the producer
24 to the facility at a future time 311. If the facility is already associated with the producer's
25 account, the GPPM may display inventory levels and commodity values 305, an
26 interface example of which is shown in figure 5C. The GPPM may then prompt the
27 producer to update the storage facility inventory 308, such as by using methods
28 previously described in Figures 2A-B and 5A. If the facility has been newly added to the
29 producer's account, the GPPM may also prompt for inventory update. In some
30 implementations, whether or not update occurs at this time, the GPPM may then return
31 to its idle location monitoring state. In some embodiments, the GPPM mobile
32 application may monitor the producer location whether or not the GPPM mobile

1 application is currently active/in use and may provide notifications and/or alerts to the
2 producer about storage facility proximity independent of the GPPM mobile application
3 being active. Allowing the GPPM to monitor and report the producer's location during
4 inactivity of the GPPM mobile application may be modifiable from the producer
5 account settings in either/both of the GPPM online or mobile applications.

6 **[0049]** In one embodiment, a producer may first interact with the GPPM by
7 creating an account or profile. As shown in Figure 4A, a producer account or profile
8 may be created through a GPPM web portal or mobile device interface 402. The profile
9 may contain such information as an identifier for the producer, under which more than
10 one business may be integrated, a central location from which the producer wishes to
11 operate the account and/or have the account associated, the location of commodity
12 storage facilities and/or fields belonging to the producer (and other assets associated
13 with the producer), other commodity inventory not contained the previously
14 mentioned commodity storage facilities, acreage, value of known inventory, and/or the
15 like. After initial account information is obtained, the GPPM may request 403 that the
16 producer provide access information for external accounts with which the producer is
17 associated. In this embodiment, the GPPM may serve as an aggregator of producer
18 accounts with, by non-limiting example, farm service agencies 430 which provide the
19 producer with field and acreage information, co-ops and/or agribusinesses 440 with
20 which the producer has contracted commodity storage, futures and cash bid services
21 450 which provide the producer with market data and analysis of commodities,
22 financial services 460 such as banks, credit unions, or brokerages with which the
23 producer may have personal or business accounts, insurance companies 470 which
24 provide the producer coverage, such as for appraised value of commodity inventory,
25 and/or the like. If the producer agrees to provide the GPPM with access to these
26 external accounts 404, the GPPM Integration Component may request data from these
27 external accounts through account authentication protocols 405 using producer
28 provided account security information. Also, and/or alternatively, the GPPM may store
29 access credentials (e.g. usernames, passwords, digital certificates, etc.), allowing it
30 access to external data sources.

[0050] For example, the GPPM Integration Component may use various authenticator modules with an authenticator token which may provide the necessary security information without the GPPM Integration manager maintaining or storing sensitive external account security information. The following example pseudocode adds an external account with the requisite security information, compiled in a “user data” binary data type which the GPPM does not interpret, requests an authenticator token from the account, and maintains the authenticator token for reauthentication when the producer exits and re-enters the GPPM interface.

```
class cAuthenticatedAccount
{ Account mAccount;
  AuthToken mAuthToken;
};

varBinary userData = compileAccountInformation(textfield);
cAuthenticatedAccount mAccountArray = new cAuthenticatedAccount
[];

for (cAuthenticatedAccount acct; mAccountArray){
  acct.mAccount = addAccount("Farm Service X", acct.mAuthToken,
  userData);}
```

[0051] In one embodiment, the producer may opt not to access external accounts, but may decide to provide data locally available 406 on the producer's device, which may be, by non-limiting example, a database 420, or in some embodiments, local inventory files, local financial software files, data entry provided by the producer, in-field crop, field and storage facilities as described in figures 2A-B and/or the like. The GPPM may then integrate all sources, internal and external, provided by the producer into an Integrated Data structure 480, such as a local or cloud-based database and/or the like. The GPPM may provide data security controls to keep the collected information private/secure, allowing access only to the associated producer and/or designated agents. The GPPM may then provide all integrated data, or subsets thereof,

1 for display 408 to the producer on the producer's device, whether through a web portal
2 or mobile interface 409.

3 **[0052]** Once a producer has created an account or profile with the GPPM, the
4 producer may elect to update the data contained in the profile. While the producer may
5 provide initial commodity storage facility information to the GPPM at the creation of
6 the producer profile, the producer may also decide to add commodity storage facilities
7 subsequent to the profile creation as described in Figures 2A-B.

8 **[0053]** In some embodiments, data integrated through the GPPM Integration
9 Component and stored in the Integration Data structure may be exported to an at least
10 one file type for use in external applications and/or by external entities. Figure 4B
11 shows one example of the GPPM Integration Component displaying the integrated data
12 in a GPPM online or mobile interface. In this example, when a producer chooses to
13 export 422 the integrated GPPM data, it is passed to the GPPM Data Conversion
14 Component 410a. In this example the GPPM Data Conversion Component may
15 reformat the data 423 into an at least one file type 424 which may include, by way of
16 non-limiting example, financial software formats such as .qdf, .iif, .mny, .bin, and/or
17 web browser readable formats such as .htm, .html, .pdf, .xml, .docx, .ps and/or the like
18 and/or shapefile formats such as .shp, .shx, .dbf, .prj, .sbn, .sbx, .fbn, .fbx, .ain, .aih,
19 .ixs, .mxs, .atx, .shp.xml, .cpg, etc. In some embodiments, the Data Conversion
20 Component may prepare the data for transfer to an external entity. In some
21 embodiments, the Data Conversion Component may prepare the data for an insurance
22 company which provides asset coverage for the producer. In some embodiments, the
23 Data Conversion Component may prepare the data for a financial institution with
24 which the producer has personal and/or business accounts. The GPPM DCC may, in
25 some embodiments, auto-populate a form or forms for submission, for example, the
26 GPPM may auto-populate a US Department of Agriculture Farm Service Agency FSA-
27 578 form and submit or post it for processing. Various forms and templates may be
28 provided and/or imported/exported, for example, to comply with reporting
29 requirements. In the following example pseudocode, the GPPM Data Conversion

1 Component converts data stored in one format, such as a proprietary GPPM format, to
 2 a .pdf document:

```

3
4  PDFDocument* ConvertGPPMtoPDF(String pdfName, GPPMfile &gFile)
5  {
6      PDFDocument* pdfFile = NULL;
7      PDFDocument::Openfile(pdfName, pdfFile);
8      gFile.Open(GPPMfile::READ_ONLY);
9      if (pdfFile != NULL)
10     {
11         pdfFile->SetTitle("OutputDATA", ANSI);
12         pdfFile->Compression(FLATE);
13         PDFDocument::WriteText(gFile, pdfFile);
14         pdfFile->CloseFile(pdfFile);
15         return pdfFile;
16     }
17

```

18 **[0054]** Figure 4C shows an example embodiment of an online portal interface for
 19 the GPPM, generally following producer account creation and integration as described
 20 in Figure 4A. In this example, the interface comprises a “My Dashboard” tab 451 which
 21 may offer both integrated and discrete displays of a producer’s commodity storage and
 22 value. An identifier of the producer may be displayed prominently 454, which in some
 23 embodiments may reflect the internal identifier used by the GPPM to distinguish the
 24 producer throughout GPPM components and data structures. In some embodiments,
 25 the displayed identifier may be separate from the internal identifier used by the GPPM.
 26 In some embodiments, the interface user may be able to log out of their account or
 27 change the settings of their account below the producer identifier 454. In some
 28 embodiments, the settings may include display preferences, which data is visible to
 29 external sources, how often data from external sources is updated, and/or the like. In
 30 some embodiments, “logging out” of the GPPM by the interface user would result in
 31 access to the account being restricted until such time as the user “logged in”, but might
 32 allow data of the producer’s account to continue to be visible to external sources - for

example, commodity amounts available for sale. In some embodiments, logging out may restrict both access to the producer account and cause data from the producer's account to become invisible to external sources. In some embodiments, how the visibility of data is handled during the time in which a user is "logged out" may be modifiable in the settings. In some embodiments, the GPPM may control this access.

[0055] The interface may show the integrated value of the producer's commodity assets 455 and may split the asset value into "contracted" and "remaining", indicating, for example, which of the producer's commodity assets have been contracted for sale by a purchaser and which assets are not yet be under contract. In some embodiments, the uncontracted assets may be made visible in some format to external sources, that is, shown as available for sale and/or trading. The asset value split discussed above is illustrative and non-limiting. In some implementations, additional categories may be utilized, such as: offered (transaction initiated by making an offer but the transaction has not been completed); spot sale (e.g., grain was sold on the current cash price with no special contracts but does turn into a contract between the producer & agribusiness); un-priced sale (the final price of the sale/transaction has not been determined, for example, seasonal average price contracts, etc., but the offer/intent to sale was made); contracted (may include spot sale, forward contract, seasonal average price, minimum price contract, futures only (HTA), and basis contract); delivered (e.g., the grain for the contract/transaction has been delivered); unsettled (the payment for the grain has not been finalized); remaining (e.g., do nothing – no activity/action around transactions have been made on the physical grain); and/or the like. Commodities may be further broken up into multiple categories 456-458 in the interface, providing the interface user an integrated and discrete picture of where commodities are stored, for example "in field", "on farm", with external agribusinesses, and/or the like, as well as what commodities the producer may have, for example corn, soybeans, hard red winter (HRW) wheat, and/or the like. According to some embodiments, in an instance where a producer may have commodities stored with external agribusiness sources, the interface may display the discrete storage facilities in which commodities are contained 458, for example in grain elevators, co-ops, and/or the like.

1 **[0056]** The interface may also display a financial summary of the producer's
2 commodity assets 459, with both current asset values and comparative asset values for
3 previous years 461. This display may be graphic or text or some combination thereof.
4 The interface may provide a “click through”, or an interactive mouse button element, of
5 the display 456-461 to more detailed financial information including but not limited to
6 forecasting, benchmarks, contracts, offers, and/or the like. This “click through” may be
7 associated with the “Daily Positions” tab 452 as described in Figure 4E, or may be a
8 distinct interface. The “click through” may also allow the online portal interface user to
9 send updated financial information to the GPPM mobile interface, an email address, a
10 social network, asset export options, and/or the like.

11 **[0057]** The example of a producer GPPM online interface shown in Figure 4D
12 integrates both graphical and text elements to provide integrated and discrete
13 information about where a producer's commodities are stored. In this embodiment, the
14 producer selects the “Map Overview” tab 462 to view commodity storage by geography.
15 On the left hand side, the GPPM online interface lists commodities by type, giving
16 volume and value 463 per commodity, as well as in total. In some embodiments, the
17 producer may choose to place certain commodities on a “Watch List” 464 which may,
18 depending on the implementation, provide futures information, cash bid prices,
19 commodity basis data, and/or the like. In some embodiments, a scheduler may be used
20 to update this information at regular intervals. In some embodiments, the producer
21 may refresh the interface to see updated information. In some embodiments, the
22 producer may set the refresh intervals in the application settings. In some
23 embodiments any or all of these refresh options may be available to a producer user.

24 **[0058]** Continuing the example interface of Figure 4D, both “corn” and
25 “soybeans” appear on the producers watch list, reflecting the type of commodities the
26 producer has in storage. In some embodiments, the GPPM may populate this watch list
27 automatically based on the type of commodities the producer has stored. In some
28 embodiments, the producer may choose the type of commodities to add to the list. In
29 some embodiments, the GPPM may initially populate the list and then allow the
30 producer to modify the list in the application settings.

1 **[0059]** In this example of the producer GPPM online interface, cash grain bids
2 465 are also displayed, here sorted by storage facility.

3 **[0060]** The GPPM online interface may also provide a maps display 469
4 illustrating storage facility locations and statistical information, as well as a legend
5 listing the markers and the storage facility to which they correspond. In some
6 embodiments, the GPPM may use an external maps widget and populate it with
7 markers and identifying information from the GPPM Inventory and Storage
8 Components. In some embodiments, the GPPM may create its own maps widget. In
9 some embodiments, the GPPM may include detailed statistical analysis of each visible
10 storage facility, including by way of non-limiting example, the storage facility identifier,
11 its capacity, its current inventory, the inventory current value, how much of the
12 inventory is contracted, the type(s) of inventory stored, when the storage facility was
13 last updated, and/or the like.

14 **[0061]** In some embodiments, storage facilities may be associated with the
15 producer but may be owned by an external entity, such as an agribusiness, coop, and/or
16 the like. In this example, the ABC Elevator 466 is owned by an external agribusiness. In
17 such an instance, the GPPM online interface maps widget may include a “contact”
18 button, facilitating an exchange between the producer and the agribusiness which may
19 own the storage facility. In some embodiments, this “contact” button may link to a
20 contact page, open an external messaging, video, or VOIP application and/or the like.
21 In some embodiments, the GPPM may maintain its own messaging system between
22 account holders.

23 **[0062]** For storage facilities that are owned by the producer user, the maps widget
24 may include an “update” button, in which the producer may update the inventory of the
25 storage facility remotely. In this example, “Storage Bin #5” 467 is owned by the produce
26 user. In some embodiments, the GPPM online interface may allow the producer to
27 update the interface by manual entry. In some embodiments, the storage facility may
28 contain a PAE which may be accessed through wired or wireless communication and
29 provide the update information automatically, as described in Figures 2A-B and 5A.

1 **[0063]** For in field storage, the maps widget may display an identifier, the type of
2 commodity, acreage, bushels, current value of the commodity and/or the like 468. In
3 some embodiments, the GPPM online interface may provide “update” and “yield”
4 buttons for in field storage. In this example, an “update” button may allow the producer
5 to update statistical information about the field storage. The update for a field may be
6 based on manual entry and/or on data the utilizes current measurements modeled on
7 expected or historical models for growth. A “yield” button may provide the expected
8 long-term yield of the field acreage, in some embodiments based on previous and/or
9 current data, and modeled to determine anticipated yield.

10 **[0064]** One example of a producer GPPM online interface in Figure 4E allows
11 producer users to select the “Daily Positions” tab to see integrated and discrete
12 financial and market analysis information for each of the producer’s commodities. In
13 this example, commodities are organized by location and contain dynamic, automated,
14 real-time and/or near real-time value data 470. In some embodiments, data displayed
15 may include by way of non-limiting example, the bushels sold, total bushels, bushels
16 remaining to be sold, the current cash price, current bid, total value, contracted
17 amounts, remaining contracted amounts unsold, and/or the like. The GPPM online
18 interface may also provide aggregated totals of the aforementioned data fields 471. In
19 some embodiments, a scheduler component internal to the GPPM may provide up to
20 date market information at regular intervals. In some embodiments, the producer user
21 may refresh the data manually. In some embodiments any or all of these refresh
22 options may be available to the producer user.

23 **[0065]** Figure 5 demonstrates how the PAE 507 also described in Figure 2A-B
24 may interact with a GPPM mobile application in proximity to a commodity storage unit
25 belonging to a producer. In this example, a producer 501 is associated with a mobile
26 device 502 which may be enabled to receive Global Positioning Satellite (GPS) 506
27 communication and/or a wireless tower transmissions for the purpose of determining
28 the location of the mobile device. In one embodiment, the GPPM mobile application
29 may use the location information available to the mobile device in conjunction with the
30 GPPM Inventory Component 590 and Integrated Data structure 580 to determine the

1 proximity of a producer to a commodity storage facility. In some embodiments,
2 proximity to a PAE 507 associated with a storage facility may be detected by the GPPM
3 mobile application. In these instances where the GPPM mobile application determines
4 that the mobile device is in proximity to a storage facility, it may notify the producer of
5 facility proximity and prompt for facility update, which may include volume, value,
6 and/or the like. In this example, the producer may then decide to update the
7 commodity storage facility information using one of the methods, or some such similar
8 method, as described in Figure 2A, such as hardware connection, wireless connection,
9 visual representation, and/or the like. In some instances, the storage facility may not
10 yet have been identified by the producer as a commodity storage to be managed by the
11 GPPM Inventory component and may have been recognized by the GPPM mobile
12 application or by the GPPM Inventory component, as described in more detail in Figure
13 3. In this example, the GPPM mobile application may prompt the producer to add the
14 storage facility to the GPPM Inventory component. In some embodiments, the PAE
15 may be able to communicate with the GPPM 520 through a wireless or wired
16 connection 530 and do storage facility updates independent of a producer being in
17 proximity to the storage facility. In these embodiments, updating independent of
18 producer location may be scheduled through a GPPM online or mobile application. In
19 some embodiments, this ability may be done through the settings options as described
20 in Figure 4C. The updated inventory information may then be displayed automatically
21 in the GPPM online or mobile interface 508.

22 **[0066]** Figures 5B-D provide several non-limiting mobile interface examples of
23 the GPPM application. In one example, a non-active GPPM application for producers
24 with enabled proximity alerts 501 displays an update dialog. In this embodiment, the
25 producer has approached a storage facility that is already associated with the account
26 and which has the identifier "Storage Bin #5", which may or may not be how the GPPM
27 internally identifies the storage facility. The producer is notified of the previous update
28 and what volume was recorded then. In this example the producer may opt to update
29 the storage bin again by pressing the "Update" button or may "snooze" the alert, or
30 cause it to temporarily disappear, by pressing the "Not Now" button. In some
31 embodiments, the GPPM may schedule how often alerts will reappear when "snoozed".

1 In some embodiments, the alert may not reappear until the producer has left a specific
2 geographic proximity to the storage facility and then reentered the geographic
3 proximity. In some embodiments, the alert may not reappear until the producer
4 explicitly selects the bin in the active GPPM online or mobile interface for updating. In
5 some embodiments, the producer may set schedule or eliminate the alerts manually
6 through the GPPM application settings.

7 **[0067]** One example of an active producer GPPM mobile application shows how
8 the GPPM may graphically display the contents of a storage facility associated with a
9 producer account. In this embodiment, the storage facility is shown as an orange
10 cylinder 502 with a darker orange section alongside text indicating commodity levels
11 503. An approximate percentage may be displayed alongside the storage facility
12 graphical representation along with a slider 504 that may allow a producer to manually
13 update commodity levels. In this embodiment, below the graphical facility
14 representation, the mobile application may provide text featuring detailed statistics of
15 the stored commodity 505, such as by way of non-limiting example, the type of
16 commodity stored “Corn”, the current bid value of the commodity “\$126,060”, and
17 dynamic, automated, real-time and/or near real-time market data of the commodity. In
18 this example, icons tab the application into separate functionalities 506, allowing the
19 producer user to switch between interfaces.

20 **[0068]** An active producer GPPM mobile application may also inform the
21 producer of integrated and aggregated commodity storage, in a similar manner to the
22 GPPM online “Dashboard” interface described in Figure 4C. The producer is identified
23 and the current integrated value of all the producer’s stored commodities is displayed
24 506. The producer may then scroll through discrete stored commodities defined by
25 location, type, internal inventory, external sources, and/or the like 507. In some
26 embodiments, selecting one of the discrete commodities may provides a “click through”
27 where detailed statistics on listed commodities may be available. In one example, this
28 information interface of the GPPM mobile application may be available through one of
29 the tab icons at the bottom of the application.

[0069] In some embodiments of the GPPM, online and mobile applications may be created for demand agents (“purchasers”) for use in determining nearby commodities available for sale. In some embodiments, producers may make information about available saleable commodities visible to external sources, as described in Figure 2A and Figure 4C. In some embodiments, an external source may be the GPPM itself, which may provide the information to account holders which are purchasers. In Figure 6A, a GPPM online or mobile interface may allow a purchaser 601 to search for nearby commodities for sale. In this example, the GPPM application may communicate with GPPM components to determine commodities in the purchaser’s proximity. In some embodiments, the purchaser’s proximity may be determined via GPS 608 or through wireless provider towers 609 if the purchaser’s GPPM application is mobile. In some embodiments, through either an online or mobile GPPM application, the purchaser may be able to specify the search parameters. By way of non-limiting example, the purchaser may opt for a radial or postal code search 606 out of the location of the GPPM application, or from some other location. In some embodiments, the purchaser may specify a geographic region to search which may use city, county, state, or other specified boundaries with which to define the searchable region. In this example, once a search region has been specified by the GPPM application, the GPPM Inventory Component 620 may use its integrated data structure 630 to determine storage facilities 604a2, 604b, and 604e have commodities available for purchase by producer account holders. In one example, the GPPM may issue a database query to determine commodities marked for sale and within a specific geographic region. In the exemplary pseudocode example below, a procedure uses point/circle intersection to simulate the location of a storage facility within a radial search 606. In some embodiments, by way of non-limiting example, searches may be done as point in polygon intersections, the GPPM may pre-order storage facilities by location to allow for faster querying, the GPPM may store postal and/or geographic region information in addition to location coordinates with storage facilities in the integrated data structure, and/or the like.

```
CREATE PROCEDURE radial_intersect(IN rad DECIMAL)
```

```
1  BEGIN
2  DECLARE location_x DECIMAL;
3  DECLARE location_y DECIMAL;
4  DECLARE radius DECIMAL;
5  Radius = rad;
6  SELECT Latitude, Longitude
7  INTO location_x, location_y FROM Purchasers
8  WHERE Purchaser_id = "5643TSA";
9  SELECT Storage_id
10 FROM Facilities
11 WHERE External_Visibility="true" and EXISTS (power(Latitude -
12     location_x, 2) + power(Longitude - location_y, 2) <
13     power(radius, 2);
14 END
15
```

16 **[0070]** In this example, however, the purchaser may not be notified directly of
17 nearby facilities. In some embodiments, the GPPM may preserve the anonymity of local
18 saleable commodities by committing to a minimum number of search results before
19 displaying any available amounts, as described in Figures 7B-7D. In this example, the
20 proximity search 606 may return insufficient results to relay those results to the
21 purchaser. In this embodiment, an expanded search 607 would add storage facilities
22 604a1, 604d, 605c, and 605f1. In some embodiments, the GPPM may determine that a
23 sufficient number of search results to preserve anonymity of producers has been
24 provided and may return the anonymous results to the purchaser. In some
25 embodiments, the GPPM may support advanced search criteria, for example, allowing
26 searches to include limitations or relative weightings for different criteria. Such
27 identifiers or criteria include hard surface roads - relevant for various truck resources
28 (i.e., can the roads support a heavy truck) particularly during certain times of the year,
29 auger capacity, previous (positive/negative) business history, "favorited", etc., in some
30 embodiments while still maintaining relative anonymity.

31 **[0071]** Figure 6B provides one example of a mobile interface displaying the
32 results of a purchaser-initiated search, as just described in Figure 6A. In this example,

1 the interface is visually similar to the purchaser commodity information interface
2 described in Figure 5D. The purchaser has specified a commodity search for “corn” and
3 indicated the GPPM query its inventory in a radius of 25 miles from the purchaser’s
4 location 651. In this example, nine results have been returned. In some embodiments,
5 the results may be ordered according to shortest path enhancements as described in
6 Figure 7C. In this example, the results are shown in a scrollable list 652 with
7 approximate commodity amounts available for purchase and a text providing the
8 purchaser with the ability to “contact this grower” by selecting a list item. In some
9 embodiments, selecting a list item would immediately generate a purchase order
10 through the GPPM which may appear as a blind offer to a producer. In some
11 embodiments, selecting a list item may lead to a dialog asking the purchaser if they
12 would like to make an offer to the producer of this commodity. In some embodiments,
13 selecting the a list item may lead a secondary interface in which additional information
14 about the commodity might be displayed and/or the like.

15 **[0072]** In some embodiments, the GPPM facilitated transaction between supply
16 (“producer”) and demand-side (“purchaser”) parties may be expressed in a data flow
17 diagram, such as Figure 7A wherein both the producers and purchasers may request
18 commodity volumes and prices: the purchasers within a specified region 722 as
19 described in Figures 7B-7D, and the producers with GPPM profile account data 721.
20 These requests 723 are filtered through the GPPM which may use GPPM inventory data
21 to return dynamic, automated, real-time and/or near real-time volume and price data
22 to both producers and purchasers 724a-b. The below example HTTP(S) GET message
23 includes an XML-formatted storage facility data record response 724a from a GPPM
24 server:

25

```
26 GET /facilities+id=3581T.php HTTP/1.1
27 Host: GPPMserver1
28 Content-Type: Application/XML
29 Content-Length: 1200
30 <?XML version = "1.0" encoding = "UTF-8"?>
31 < storage_facility producer_id="3581T">
```

```

1      <id>43RT1</id>
2      <facility_type>field</facility_type>
3      <location>
4          <latitude>46.13</latitude>
5          <longitude>-101.85</longitude>
6      </location>
7      <time_stamp format="astronomical">
8          <hour>8</hour>
9          <minute>22</minute>
10     </time_stamp>
11     <date format="small endian" year_length="2"> 12-05-45 </date>
12     <volume unit="bushels"> 12000 <\volume>
13 </storage_facility>
14 < storage_facility producer_id="3581T">
15     <id>43RT2</id>
16     <facility_type>silo</facility_type>
17     <location>
18         <latitude>46.14</latitude>
19         <longitude>-101.88</longitude>
20     </location>
21     <time_stamp format="astronomical">
22         <hour>14</hour>
23         <minute>35</minute>
24     </time_stamp>
25     <date format="small endian" year_length="2"> 12-07-45 </date>
26     <volume unit="bushels"> 11000 <\volume>
27 </storage_facility>
28 ...
29

```

30 **[0073]** The below example volume purchase HTTP(S) POST request 723 to the
 31 GPPM Inventory Component may also return an XML-formatted storage facility data
 32 record response 724b from a GPPM server, an example of which is above. A GPPM
 33 online or mobile interface may then present the data records in an anonymous format
 34 that may require further interaction from a purchaser to result in an order request:

```
1
2  POST /facilities/locations.php HTTP/1.1
3  User-Agent: GPPMClient
4  Content-Type: application/x-www-form-urlencoded
5  Content-Length: 70
6
7  latitude=45.12&longitude=-
8      96.54&radius=25&unit=miles&min_bushels=20000
9
```

[0074] Purchasers may then make a purchase requests through the GPPM online or mobile interface 725, and may specify necessary components of the purchase such as by way of non-limiting example, volume, price, delivery date, and/or the like. The GPPM application may pass the request 726 to the GPPM components which may notify the producer of purchase request through a GPPM online or mobile interface 728. In some embodiments, the GPPM facilitates competition/negotiation, for example, allowing a producer to negotiate with multiple offers.

[0075] The following pseudocode demonstrates how a purchaser may select from a list of immediate purchase options generated in 724b which may have been anonymized in a GPPM interface. A mobile interface listview may call a function when an item in the list has been selected. The selected item returns a specific facility from the database:

```
22
23  CFacilityRecord  onItemSelected(ListView view, int pos, long id)
24      {
25          //an item in the generated anonymous list has been selected.
26          //It corresponds to storage in the GPPM facilities db. Respond
27          // with additional information
28          int facilityID= mFacilitiesArray[pos];
29          CFacilityRecord newRec = new CFacilityRecord();
30          SQLiteDatabase db= this.getReadableDatabase("Facilities");
31          Cursor c = db.select(facilityID);
32          //The cursor is now at the row in the db where the correct
```

```
1      // facility is located. If it is not null, extract the
2      // data and return it.
3      if (c != NULL) {
4          CFacilityRecord newRec = CFacilityRecord::Convert(c);
5      }
6      else{
7          GenerateError();
8      }
9      return newRec;
10
11      }
```

13 **[0076]** The purchaser may request further information from the GPPM interface
14 and then may issue a purchase order 726, based on the further information provided.
15 The following example POST request shows a pending purchase order generated:

```
16
17 POST /inventory/produce/inventorymatch.asp HTTP/1.1
18 User-Agent: GPPMClient
19 Content-Type: application/x-www-form-urlencoded
20 Content-Length: 73
21
22 id=45FT6&facility=23RQ8&volume=24500&
23 price=13.21&deliverydate=2&unit=days
24
```

25 **[0077]** The GPPM application may or may not be currently active to allow
26 notifications or alerts to be generated for the producer in case of a pending GPPM
27 purchase transaction. Allowing the GPPM to alert the producer of a pending
28 transaction during inactivity of the GPPM online or mobile application may be
29 modifiable from the producer account settings in either/both of the GPPM online or
30 mobile applications. A producer may then approve or deny the commodity sale 729
31 through a GPPM application interface which communicates the order response to the
32 GPPM components 730. In this example if the producer has agreed to the transaction,
33 the GPPM may further facilitate the transaction 731 as described above. In this

1 example, the GPPM may act as a purchase order service with delivery details 732. In
2 some embodiments, the GPPM may facilitate the purchase order through a third party,
3 through a separate transactional service, and/or the like. In some embodiments, the
4 GPPM may, based on transaction data (e.g., transaction acceptance/execution) execute,
5 prompt and/or provide one or more actions, such as triggering a sale, updating a
6 producer's and/or purchaser's inventory, generating a purchase
7 agreement/ticket/contract, prompt pickup/delivery, etc. Parallel to transaction
8 facilitation, an automated scheduling service such as Cron, or some other such service,
9 may be requesting and receiving market data updates 733. Market data may include
10 information such as, but not limited to: market data/market feed source/ID (e.g.,
11 AMEX, CBOT, KCBOT, MGE, CME, NASDAQ, NYMEX, NYSE, Bloomberg, ddf, etc.);
12 agricultural asset type (corn, soybean, wheat, etc.) and/or corresponding symbol(s);
13 spot price; bid price; ask price; and/or the like.

14 **[0078]** The GPPM may determine how often market data updates are received or
15 GPPM account holders may modify scheduling in their account settings. In this
16 example, if the GPPM becomes a transactional center for a significant portion of supply
17 and demand-side agents, the GPPM may have a significant data set of transactional and
18 market information due to its account base and may be able to provide a feed of market
19 data updates 734 to account holders and/or external sources.

20 **[0079]** Figures 7B -7C describe examples of a flowchart wherein a purchaser 720
21 begins a new search for saleable produce available through the GPPM from producer
22 accounts that have made such produce visible. In Figure 7B, the search may be
23 considered radial, by postal code, or by geographic region 706, which is then filtered by
24 producer commodity visibility settings. In Figure 7C, the GPPM may further improve
25 proximity searches by introducing a shortest path ordering to the results 708. In this
26 example, the GPPM would determine not just nearby saleable commodities, but take
27 into account access to these commodities along common travel paths. As demonstrated
28 in Figure 7C, some commodity facilities may be equidistant from the purchaser, but
29 one may be more accessible to the purchaser than another by common travel paths,
30 including but not limited to roads, railway lines, access paths, and/or the like. In this

1 example, the GPPM may rank commodities 708b-c first by absolute distance and then
2 by shortest path access. In both examples, search results may be subject to a minimum
3 quantity in order to preserve the anonymity of producers 709. If the purchaser elects to
4 expand the search parameters, the search repeated with a larger region, in which the
5 GPPM may or may not include shortest path enhancements. Shortest path
6 enhancements may be available as a setting in the GPPM application or may be
7 automatic to the GPPM search system. If the purchaser elects not to expand the search
8 results, the GPPM may display in either its online or mobile interface that there is no
9 inventory within the specified parameters for sale or that there is insufficient inventory
10 within the specified parameters 712. If there are sufficient search results to preserve
11 anonymity, the GPPM may display the search results in either its online or mobile
12 application interface 711.

13 **[0080]** Continuing the examples of Figures 7B-C, Figure 7D expands the example
14 to demonstrate how multiple purchasers 720 may be using the GPPM search system
15 through their accounts either serially or in parallel. In this example, many purchasers
16 are simultaneously performing searches for saleable commodities through the GPPM
17 712. Purchasers with sufficient search results may select a commodity for purchase 713.
18 Because of the anonymous nature of the search results, purchasers may not be able to
19 determine the location or producer of the commodity in advance of selecting a
20 commodity for purchase. The purchaser submits a purchase request to the GPPM
21 Inventory Matching Component 740 which may then tie the anonymous search result
22 to data within its inventory data structure. In this example, the GPPM notifies the
23 producer of a “blind” offer or offers for the producer’s commodities 714, “blind”
24 indicating that the purchaser may be, at this time, also anonymous to the producer.
25 Although exemplary blind offers are discussed herein, it is to be understood that the
26 GPPM facilitates blind offers and/or blind bids, depending on the implementation. In
27 some embodiments, the GPPM may allow producers to solicit bids. Because searches
28 may be parallel, more than one purchaser may submit offers for the same commodity.
29 The producer, through the GPPM Integration Component 740, may be receiving
30 automatic updates 715 about the producer’s assets, current market values, previous
31 benchmarks, sale targets and/or the like. The GPPM Integration Component may

1 continue to access external sources and accounts of the producer to provide dynamic,
2 automated, real-time and/or near real-time asset value to the producer, sources and
3 accounts including, by way of non-limiting example, producer inventory sales data 780,
4 agribusiness producer sales data 790, university benchmarks 770, outside vendor
5 market strategies 760, and/or the like. The producer may then accept a contract offer
6 716 through the GPPM Inventory Matching Component. In some embodiments, the
7 GPPM may then offer other services to the purchaser and producer account holders to
8 further facilitate the sale, such as electronic funds transfer, shipping resources,
9 insurance resources, the ability to attach ratings to the transaction, and/or the like. In
10 some embodiments, the GPPM may provide purchase/agribusiness components with
11 additional analysis functionality. These tools may allow a user to integrate user- and
12 GPPM-supplied data in net price/break-even calculators, customer and prospect
13 database(s), producer behaviors, public records, producer and agribusiness ratings. In
14 some embodiments, tools may be provided to allow forecasting (e.g., forecasting profit
15 based on different scenarios and choices), and such tools may allow for inputting or
16 selection of different thresholds and goals, such as risk tolerance, balance sheet items,
17 etc.

18 **[0081]** Figure 7E shows one example of how a producer 701 may make saleable
19 commodities visible to external sources through the GPPM. In this example, using
20 either an online or mobile GPPM interface, the producer enters inventory values
21 through GPPM systems 702, in which GPPM systems refers to the methods and
22 apparatuses and systems by which inventory can be associated with a producer's
23 account through the GPPM. The GPPM Inventory Component 730 may then store the
24 inventory in an inventory data structure 710, which may or may not be associated with
25 other GPPM data structures previously described. In this example, subsequent to the
26 association of inventory with the producer, the producer may choose to allow external
27 sources—in this example, a purchaser—to view saleable inventory 703. If the producer
28 agrees, the producer's saleable inventory will appear in purchaser searches 704,
29 otherwise it will not 705. In some embodiments, the GPPM may add information to
30 inventory stored in the inventory data structure that indicates it is saleable and visible.

1 In some embodiments, the GPPM may place saleable/visible inventory into a separate
2 data structure from nonsaleable/invisible inventory.

3 **[0082]** In some embodiments, a position tracker (PT) component may provide
4 additional management and oversight options within the GPPM. In some
5 implementations, a PT component is configured to receive data regarding futures,
6 options, and/or other related financial instrument positions associated with one or
7 more producers. The GPPM may utilize such positions in providing account overviews
8 to users, such as producers, for example, incorporating a producer's futures and
9 options positions and aggregating them with a producer's cash grain inventory. In
10 some embodiments of the GPPM, a PT or other component may use option delta
11 factors to deliver a bushel equivalent in position equations. As discussed above, market
12 data, including dynamic, automated, real-time and/or near real-time market data, may
13 be received by the GPPM, and in some implementations, instruments may be weighted
14 and valued based on the received data. For example, in one embodiment, options may
15 not all be treated as equal, as deep in the money options price behavior may be very
16 close to that of grain futures contracts, but deep out of the money options may be
17 insulated from futures price movement. In some implementations of the GPPM, the PT
18 or like component may provide an notification or other alerting mechanism when
19 aggregated futures, options, and/or cash positions are outside of a single hedge
20 quantity. In a corresponding example interface, a red light/green light display may be
21 provided to alert users when they are out of position. In one such embodiment, bushel
22 equivalents may be dynamically updated in real-time or near real-time according to
23 which positions are held in a producer (or other customer) account.

24 **[0083]** As discussed above, some implementations of the GPPM may provide an
25 integrated online and mobile facility that allows a user, such as producer/farmer to
26 understand his or her current agricultural asset (e.g., grain) inventory and positions
27 across his or her planted fields, his or her on-farm storage, and his or her agribusiness
28 storage and positions. In some embodiments, a producer may additionally or
29 alternatively refer to a producer representative, such as a farm manager, and/or a
30 producer management entity, such as a farm management company. Position data may

1 be updated, periodically or on the fly, with market pricing to provide an accurate
2 understanding of current values. In some embodiments, historical information,
3 portfolio plans/strategies, and/or benchmark data may also be integrated into the
4 provided information. For example, in some implementations the GPPM facilitates a
5 producer comparing his or her sales on old crop and new crop commodities as a
6 percentage against outside market strategies promoting better grain sales/marketing
7 decisions. The GPPM may provide feedback and tracking for particular sales strategies,
8 and/or may provide suggested pricing or marketing. For example, if a producer has
9 sold 20% of an old crop or other agricultural asset, and a particular business strategy
10 (e.g., as previously selected by the producer) indicates the producer's sales should be
11 approximately 40%, a variance report or other notification may be generated.

12 **[0084]** As discussed above, in some embodiments, the GPPM provides integration
13 of producer (e.g., farmer) accounts, production and inventory data, which may include
14 data available from one or more agribusinesses, thus providing comprehensive
15 information on which producers may make marketing and business decisions with
16 consolidated account data. In one implementation, a producer may view consolidated
17 agribusiness account data combined with yields, inventory levels and commodity
18 futures and local cash bid price data to track total inventory values. The GPPM may
19 allow a producer to share selected data with necessary stakeholders to simplify
20 recordkeeping and allow better management of his or her businesses with consolidated
21 near real time data. For example, in one embodiment, a producer signs up with a
22 GPPM account via a website application and provides necessary credentials for all third
23 party accounts they wish to pull data from, with some manual data entry. GPPM
24 components aggregate all data into one location and ties in commodity futures and
25 localized cash bid data nearest the producer's geographic location(s). The producer may
26 then view reports of near real time inventory values with combined data to better
27 understand sales and marketing decisions. The producer may, in some
28 implementations, share various reports from the GPPM with key stakeholders, such as
29 banker and insurance companies.

1 **[0085]** As discussed above, some embodiments of the GPPM provide users (e.g.,
2 agribusiness users) to conduct area (e.g., radius) searches of on-farm commodity (e.g.,
3 grain) inventory. For example, in one implementation, GPPM features allow an
4 agribusiness to view local (e.g., in concentric circles in a radius from their facilities) the
5 aggregate amount of on-farm commodities that are available for purchase. In some
6 such implementations, the GPPM data provides for increasing accuracy with respect to
7 price determination to originate grain. In some implementations, producer data may
8 only be shown in aggregate form with minimum number of producers listing to ensure
9 anonymity. In some implementations, a producer may have the ability to choose to
10 share inventory through a GPPM matching engine or like component (e.g.,
11 SCHNEIDER ELECTRIC/TELVENT DTN matching engine and/or the like), thus
12 increasing the chance for a better bid. In some implementations, the GPPM provides
13 agribusinesses and/or end-users purchasing grain a view of available inventory in
14 aggregate form within a geographical radius from their grain receiving location. In one
15 implementation, producers may have the ability voluntarily to share actual inventory
16 levels (e.g., via a matching engine component) and potentially receive a better price,
17 depending upon immediate grain inventory needs of the agribusiness.

18 **[0086]** For example, in one implementation, if an agribusiness, such as a grain
19 company, is loading a unit train at a particular location and comes up short of grain,
20 the GPPM can provide the closest location(s) of available inventory. Distance of
21 available grain inventory may determine what the agribusiness has to pay (bid) for such
22 grain. Producer on-farm grain may be shown in aggregate form (providing producer
23 anonymity) to the agribusiness and the agribusiness can request from the GPPM, e.g.,
24 via an inventory application/component, to match up producers who wish to share
25 inventory for sale. The GPPM may then compile producer grain inventory levels with a
26 specified minimum of producers per geographic area (e.g., a minimum of 6 producers
27 per zip code, thus providing anonymity), in aggregate form with no producer names
28 shared. The agribusiness may then access grain inventory data with zip code or
29 latitude/longitude search in concentric circles from their location. The agribusiness
30 may, if specified, be matched up with producers who previously selected option to be
31 made inventory visible to purchasers for potential sale. In such embodiments, an

1 agribusiness or other purchaser is provided with visibility to grain inventory levels
2 located on farms to fulfill grain merchandising and sales needs while allowing
3 producers, to share said inventory levels to potentially obtain a better price bid.

4 **[0087]** As discussed above, in some embodiments, the GPPM notifies users, such
5 as farm producers, when they are near storage, such as a grain bin or field, containing
6 stored or growing inventory, allowing them to update inventory and yield levels for
7 total crop portfolio valuation. By providing this information, the GPPM facilitates
8 improved business decisions, and may provide improved grain sales techniques,
9 accurate insurance coverage and achievement of agricultural lending requirements.

10 **[0088]** In some such implementations, the GPPM provides remote update with a
11 mobile smartphone to track stored and growing commodity grain inventory data. The
12 GPPM may also remind a producer to update inventory/yield levels when near or at the
13 exact location of commodities stored or growing. This implementation facilitates
14 tracking and updating inventory and yield values remotely, and maintains accurate up-
15 to-date inventory levels by making adjustments when a producer is at a bin/field site.

16 **[0089]** In some embodiments, the GPPM may be configured for livestock. In such
17 an embodiment, a purchaser may be a livestock raiser and/or a feedlot, and a seller
18 may be an agribusiness, feed processor, and/or elevator. A livestock raiser may input
19 standing orders (and offers) for feed to purchase to keep their inputs steady and not
20 disrupt their feeding schedule (e.g., 1000 bushels of corn or 2 tons of soybean meal
21 needs to be delivered every week). A seller (e.g., feed processor) can search for nearby
22 orders/offers submitted by a livestock raiser of feed to purchase, providing visibility
23 regarding who needs feed and when. Such embodiments of the GPPM improve
24 scheduling and delivery efficiencies. Additionally, in some embodiments, bin storage is
25 used for feed also (e.g., bulk bins, feed/commodity sheds, etc). Some implementations
26 may utilize PAEs or other devices to provide updates (e.g., “running low - need feed
27 now”). Efficiencies may be provided by competitive pricing, scheduling and delivery.

28 **[0090]** In some embodiments, the transaction between one or more livestock
29 raisers and/or feedlots (“purchasers”) and agribusinesses, feed processors, and/or

1 elevators (producers) is facilitated by a GPPM Livestock Feed Matching ("LFM")
2 Component, for example as shown in the data flow diagram of Figure 8A, wherein both
3 the livestock raisers and/or feedlots and agribusinesses, feed processors, and/or
4 elevators may request commodity volumes and prices: the purchasers within a specified
5 region 822, and the producers with GPPM profile account data 821. These requests
6 relating to feed 823 are filtered through the GPPM which may use GPPM inventory
7 data to return dynamic, automated, real-time and/or near real-time volume and price
8 data to both producers and purchasers 824a-b. The below example HTTP(S) GET
9 message includes an XML-formatted storage facility data record response 824a from a
10 GPPM server:

```
11  
12 GET /facilities+id=3581T.php HTTP/1.1  
13 Host: GPPMserver1  
14 Content-Type: Application/XML  
15 Content-Length: 1200  
16 <?XML version = "1.0" encoding = "UTF-8"?>  
17 < feed_storage_facility producer_id="3581T">  
18     <id>42RT1</id>  
19     <facility_type>field</facility_type>  
20     <location>  
21         <latitude>46.16</latitude>  
22         <longitude>-101.9</longitude>  
23     </location>  
24     <time_stamp format="astronomical">  
25         <hour>7</hour>  
26         <minute>12</minute>  
27     </time_stamp>  
28     <date format="small endian" year_length="2"> 12-06-45 </date>  
29     <volume unit="bushels"> 1500 <\volume>  
30 </feed_storage_facility>  
31 < feed_storage_facility producer_id="3581T">  
32     <id>42RT2</id>  
33     <facility_type>silo</facility_type>
```

```

1      <location>
2          <latitude>46.14</latitude>
3          <longitude>-101.88</longitude>
4      </location>
5      <time_stamp format="astronomical">
6          <hour>14</hour>
7          <minute>35</minute>
8      </time_stamp>
9      <date format="small endian" year_length="2"> 12-05-15 </date>
10     <volume unit="bushels"> 1000 <\volume>
11 </feed_storage_facility>
12 ...
13

```

14 **[0091]** The below example volume purchase HTTP(S) POST request 823 to the
 15 GPPM Inventory Component may also return an XML-formatted storage facility data
 16 record response 824b from a GPPM server, an example of which is above. A GPPM
 17 online or mobile interface may then present the data records in an anonymous format
 18 that may require further interaction from a purchaser to result in an order request:

```

19
20 POST /facilities/locations.php HTTP/1.1
21 User-Agent: GPPMClient
22 Content-Type: application/x-www-form-urlencoded
23 Content-Length: 70
24
25 latitude=45.12&longitude=-
26 96.54&radius=25&unit=miles&min_bushels=2000
27

```

28 **[0092]** Purchasers may then make a purchase requests through the GPPM online
 29 or mobile interface 825, and may specify necessary components of the purchase such as
 30 by way of non-limiting example, volume, price, delivery date, and/or the like. The
 31 GPPM application may pass the request 826 to the GPPM components which may
 32 notify the producer of purchase request through a GPPM online or mobile interface
 33 828.

1 **[0093]** The following pseudocode demonstrates how a purchaser may select from
2 a list of immediate purchase options generated in 824b which may have been
3 anonymized in a GPPM interface. A mobile interface listview may call a function when
4 an item in the list has been selected. The selected item returns a specific facility from
5 the database:

```
6
7  CFacilityRecord  onItemSelected(ListView view, int pos, long id)
8      {
9          //an item in the generated anonymous list has been selected.
10         //It corresponds to storage in the GPPM facilities db. Respond
11         // with additional information
12         int facilityID= mFacilitiesArray[pos];
13         CFacilityRecord newRec = new CFacilityRecord();
14         SQLiteDatabase db= this.getReadableDatabase("Facilities");
15         Cursor c = db.select(facilityID);
16         //The cursor is now at the row in the db where the correct
17         // facility is located. If it is not null, extract the
18         // data and return it.
19         if (c != NULL) {
20             CFacilityRecord newRec = CFacilityRecord::Convert(c);
21         }
22         else{
23             GenerateError();
24         }
25         return newRec;
26
27     }
28
```

29 **[0094]** The purchaser may request further information from the GPPM interface
30 and then may issue a purchase order 826, based on the further information provided.
31 The following example POST request shows a pending purchase order generated:

32

```
1  POST /inventory/produce/inventorymatch.asp HTTP/1.1
2  User-Agent: GPPMClient
3  Content-Type: application/x-www-form-urlencoded
4  Content-Length: 73
5
6  id=45FT6&facility=23RQ8&volume=24500&
7  price=13.54&deliverydate=2&unit=days
8
```

9 **[0095]** The GPPM application may or may not be currently active to allow
10 notifications or alerts to be generated for the producer in case of a pending GPPM
11 purchase transaction. Allowing the GPPM to alert the producer of a pending
12 transaction during inactivity of the GPPM online or mobile application may be
13 modifiable from the producer account settings in either/both of the GPPM online or
14 mobile applications. A producer may then approve or deny the commodity sale 729
15 through a GPPM application interface which communicates the order response to the
16 GPPM components 830. In this example if the producer has agreed to the transaction,
17 the GPPM may further facilitate the transaction 831 as described above. In this
18 example, the GPPM may act as a purchase order service with delivery details 832. In
19 some embodiments, the GPPM may facilitate the purchase order through a third party,
20 through a separate transactional service, and/or the like. In some embodiments, the
21 GPPM may, based on transaction data (e.g., transaction acceptance/execution) execute,
22 prompt and/or provide one or more actions, such as triggering a sale, updating a
23 producer's and/or purchaser's inventory, generating a purchase
24 agreement/ticket/contract, prompt pickup/delivery, etc.

25 **[0096]** In some embodiments, the GPPM may provide various crop purchase
26 management/agribusiness tools. For example, the GPPM may provide net price/break-
27 even tools, where a user (e.g., agribusiness/purchaser) of the GPPM receives tools and
28 information including an agribusiness' own pricing data (e.g., margin and destination
29 bids), net price calculators (including but not limited to standard and customized
30 freight tables/schedules), break even calculators with margin, storage and carry costs
31 (which may be customizable by the user), competitive pricing tools (e.g., bid and basis
32 analysis) providing visibility of the competitive landscape of the competing prices. The

1 GPPM may also allow the user to utilize their current customer and prospect
2 database(s) within the systems/tools, an allowing a purchaser/agribusiness to create a
3 business relationship with the producers before finalizing the transaction (e.g.,
4 validating the operator is credible, for example via credit check, background check, etc.)
5 to address counter-party risk. In some embodiments, the GPPM may provide a risk
6 management component (e.g., Risk component 952) to address counter-party risk, for
7 example, to deal with the threat of “phantom farms” selling physical grain or selling
8 physical grain more than once.

9 **[0097]** Users may also leverage the GPPM tools, such as geo-search and
10 transaction tools, with their own customers and prospects databases. In some
11 implementations, customer databases may be integrated manually (e.g., spreadsheets
12 uploaded), updated, provided via web service(s)/APIs. The tools may provide actual
13 coordinates of customers’ bins, allowing automated inventor identification via address
14 entry as discussed above. The tools may also assign an average overall grain sales range
15 to forecast the amount of grain (and storage location) for a producer.

16 **[0098]** The GPPM may also provide tools for producer behavior
17 monitoring/analysis and buyer/seller ratings on experiences. Once enough integration
18 has been established, anonymous behaviors may be analyzed, e.g., Producer A counters
19 50% of the time, Producer B sells 100% of grain each year, Producer C has 20% of his or
20 her grain left to sell, etc. Some tools may also allow buyers and sellers to rate their
21 experience with the other party, and those rating may be made available, including, but
22 not limited to, ratings on overall experience, customer service, prices, and/or the like.
23 FIGURES 8B-8F provide example interfaces of a web portals in which the GPPM may
24 be implemented.

25 **[0099]** In some embodiments, the GPPM transforms producer crop asset
26 information via GPPM components into dynamic, automated, real-time, and/or near
27 real-time inventory updates. In one implementation, the GPPM creates a producer
28 crop asset management account and receives crop asset storage resource information
29 including storage resource location data for an at least one crop storage resource. The
30 received crop asset storage resource information is associated with the producer crop

1 asset management account. One or more mobile devices may then be associated with
2 the producer crop asset management account. The GPPM determines when one of the
3 mobile devices is within a specified distance of the at least one crop storage resource
4 location and generates a notification on the mobile device that the mobile device is
5 within the specified distance of a crop storage resource location. The GPPM receives
6 dynamic, automated, real-time and/or near real-time crop volume data for the crop
7 storage resource and associates it with the producer crop asset management account.

8 **[00100]** Additional embodiments of the GPPM may include and/or comprise:

9 **[00101]** 1. A crop asset tracking processor-implemented method, comprising:
10 providing, creating and/or enabling access to a producer crop asset management
11 account for a producer; receiving crop asset storage resource information, the crop
12 asset storage resource information including storage resource location data for an at
13 least one crop storage resource; associating received crop asset storage resource
14 information with the producer crop asset management account; associating an at least
15 one mobile device with the producer crop asset management account; determining via
16 a processor when the at least one mobile device is within a specified distance of the
17 location of the at least one crop storage resource; generating a notification on the at
18 least one mobile device based on the determination that the at least one mobile device
19 is within the specified distance of the location of the at least one crop storage resource,
20 the notification including a request to provide real-time crop state data for the at least
21 one crop storage resource; receiving real-time crop state data for the at least one crop
22 storage resource; and associating the received real-time crop state data with the
23 producer crop asset management account.

24 **[00102]** 2. The method of embodiment 1, wherein the at least one crop storage
25 resource is a crop field.

26 **[00103]** 3. The method of embodiment 1, wherein the at least one crop storage
27 resource is a harvested crop storage facility.

28 **[00104]** 4. The method of embodiment 3, wherein the harvested crop storage
29 facility is a storage bin.

- 1 **[00105]** 5. The method of any of embodiments 1-4, further comprising monitoring
2 the location of the at least one mobile device.
- 3 **[00106]** 6. The method of any of embodiments 1-5, wherein receiving real-time
4 crop state data comprises receiving an at least one image captured by the mobile
5 device.
- 6 **[00107]** 7. The method of any of embodiments 1-5, wherein receiving real-time
7 crop state data comprises receiving precision agricultural equipment data.
- 8 **[00108]** 8. The method of any of embodiments 1-7, wherein the crop state data
9 comprises volume data.
- 10 **[00109]** 9. The method of any of embodiments 1-7, wherein the crop state data
11 comprises an indication that the crop is ready for harvest.
- 12 **[00110]** 10. A crop asset tracking apparatus, comprising: a processor; and a
13 memory disposed in communication with the processor and storing processor-issuable
14 instructions to: create a producer crop asset management account for a producer;
15 receive crop asset storage resource information, the crop asset storage resource
16 information including storage resource location data for an at least one crop storage
17 resource; associate received crop asset storage resource information with the producer
18 crop asset management account; associate an at least one mobile device with the
19 producer crop asset management account; determine when the at least one mobile
20 device is within a specified distance of the at least one crop storage resource location;
21 generate a notification on the at least one mobile device based on the determination
22 that the at least one mobile device is within the specified distance of the at least one
23 crop storage resource location, the notification including a request to provide real-time
24 crop volume data for the at least one crop storage resource; receive real-time crop
25 volume data for the at least one crop storage resource; and associate the received real-
26 time crop volume data with the producer crop asset management account.
- 27 **[00111]** 11. The apparatus of embodiment 10, wherein receiving real-time crop
28 volume data comprises receiving an at least one image captured by the mobile device.

1 **[00112]** 12. A processor-readable non-transitory tangible medium storing
2 processor-issuable crop asset tracking instructions to: create a producer crop asset
3 management account for a producer; receive crop asset storage resource information,
4 the crop asset storage resource information including storage resource location data for
5 an at least one crop storage resource; associate received crop asset storage resource
6 information with the producer crop asset management account; associate an at least
7 one mobile device with the producer crop asset management account; determine when
8 the at least one mobile device is within a specified distance of the at least one crop
9 storage resource location; generate a notification on the at least one mobile device
10 based on the determination that the at least one mobile device is within the specified
11 distance of the at least one crop storage resource location, the notification including a
12 request to provide real-time crop volume data for the at least one crop storage resource;
13 receive real-time crop volume data for the at least one crop storage resource; and
14 associate the received real-time crop volume data with the producer crop asset
15 management account.

16 **[00113]** 13. A crop asset tracking apparatus, comprising: a processor; and a
17 memory disposed in communication with the processor and storing processor-issuable
18 instructions to: provide, create and/or enable access to a producer crop asset
19 management account for a producer; receive crop asset storage resource information,
20 the crop asset storage resource information including storage resource location data for
21 an at least one crop storage resource; associate received crop asset storage resource
22 information with the producer crop asset management account; associate an at least
23 one mobile device with the producer crop asset management account; determine when
24 the at least one mobile device is within a specified distance of the location of the at least
25 one crop storage resource; generate a notification on the at least one mobile device
26 based on the determination that the at least one mobile device is within the specified
27 distance of the location of the at least one crop storage resource, the notification
28 including a request to provide real-time crop state data for the at least one crop storage
29 resource; receive real-time crop state data for the at least one crop storage resource;
30 and associate the received real-time crop state data with the producer crop asset
31 management account.

- 1 **[00114]** 14. The apparatus of embodiment 13, wherein the at least one crop storage
2 resource is a crop field.
- 3 **[00115]** 15. The apparatus of embodiment 13, wherein the at least one crop storage
4 resource is a harvested crop storage facility.
- 5 **[00116]** 16. The apparatus of embodiment 15, wherein the harvested crop storage
6 facility is a storage bin.
- 7 **[00117]** 17. The apparatus of any of embodiments 13-16, further comprising
8 instructions to monitor the location of the at least one mobile device.
- 9 **[00118]** 18. The apparatus of any of embodiments 13-17, wherein receiving real-
10 time crop state data comprises receiving an at least one image captured by the mobile
11 device.
- 12 **[00119]** 19. The apparatus of any of embodiments 13-17, wherein receiving real-
13 time crop state data comprises receiving precision agricultural equipment data.
- 14 **[00120]** 20. The apparatus of any of embodiments 13-17, wherein receiving real-
15 time crop state data comprises receiving satellite data.
- 16 **[00121]** 21. The apparatus of any of embodiments 13-17, wherein receiving real-
17 time crop state data comprises receiving satellite image data.
- 18 **[00122]** 22. The apparatus of any of embodiments 13-21, wherein the crop state
19 data comprises volume data.
- 20 **[00123]** 23. The apparatus of any of embodiments 13-21, wherein the crop state
21 data comprises an indication that the crop is ready for harvest.
- 22 **[00124]** 24. A processor-readable non-transitory tangible medium storing
23 processor-issuable crop asset tracking instructions to: provide, create and/or enable
24 access to a producer crop asset management account for a producer; receive crop asset
25 storage resource information, the crop asset storage resource information including
26 storage resource location data for an at least one crop storage resource; associate

1 received crop asset storage resource information with the producer crop asset
2 management account; associate an at least one mobile device with the producer crop
3 asset management account; determine when the at least one mobile device is within a
4 specified distance of the location of the at least one crop storage resource; generate a
5 notification on the at least one mobile device based on the determination that the at
6 least one mobile device is within the specified distance of the location of the at least one
7 crop storage resource, the notification including a request to provide real-time crop
8 state data for the at least one crop storage resource; receive real-time crop state data
9 for the at least one crop storage resource; and associate the received real-time crop
10 state data with the producer crop asset management account.

11 **[00125]** 25. The medium of embodiment 24, wherein the at least one crop storage
12 resource is a crop field.

13 **[00126]** 26. The medium of embodiment 24, wherein the at least one crop storage
14 resource is a harvested crop storage facility.

15 **[00127]** 27. The medium of embodiment 26, wherein the harvested crop storage
16 facility is a storage bin.

17 **[00128]** 28. The medium of any of embodiments 24-27, further comprising
18 instructions to monitor the location of the at least one mobile device.

19 **[00129]** 29. The medium of any of embodiments 24-28, wherein receiving real-
20 time crop state data comprises receiving an at least one image captured by the mobile
21 device.

22 **[00130]** 30. The medium of any of embodiments 24-28, wherein receiving real-
23 time crop state data comprises receiving precision agricultural equipment data.

24 **[00131]** 31. The medium of any of embodiments 24-28, wherein receiving real-time
25 crop state data comprises receiving satellite data.

26 **[00132]** 32. The medium of any of embodiments 24-28, wherein receiving real-
27 time crop state data comprises receiving satellite image data.

1 **[00133]** 33. The medium of any of embodiments 24-32, wherein the crop state data
2 comprises volume data.

3 **[00134]** 34. The medium of any of embodiments 24-32, wherein the crop state data
4 comprises an indication that the crop is ready for harvest.

5 **[00135]** 35. A crop asset tracking system, comprising: means to provide, create
6 and/or enable access to a producer crop asset management account for a producer;
7 means to receive crop asset storage resource information, the crop asset storage
8 resource information including storage resource location data for an at least one crop
9 storage resource; means to associate received crop asset storage resource information
10 with the producer crop asset management account; means to associate an at least one
11 mobile device with the producer crop asset management account; means to determine
12 when the at least one mobile device is within a specified distance of the location of the
13 at least one crop storage resource; means to generate a notification on the at least one
14 mobile device based on the determination that the at least one mobile device is within
15 the specified distance of the location of the at least one crop storage resource, the
16 notification including a request to provide real-time crop state data for the at least one
17 crop storage resource; means to receive real-time crop state data for the at least one
18 crop storage resource; and means to associate the received real-time crop state data
19 with the producer crop asset management account.

20 **[00136]** 36. The system of embodiment 35, wherein the at least one crop storage
21 resource is a crop field.

22 **[00137]** 37. The system of embodiment 35, wherein the at least one crop storage
23 resource is a harvested crop storage facility.

24 **[00138]** 38. The system of embodiment 37, wherein the harvested crop storage
25 facility is a storage bin.

26 **[00139]** 39. The system of any of embodiments 35-38, further comprising means to
27 monitor the location of the at least one mobile device.

- 1 **[00140]** 40. The system of any of embodiments 35-39, wherein receiving real-time
2 crop state data comprises receiving an at least one image captured by the mobile
3 device.
- 4 **[00141]** 41. The system of any of embodiments 35-39, wherein receiving real-time
5 crop state data comprises receiving precision agricultural equipment data.
- 6 **[00142]** 42. The system of any of embodiments 35-39, wherein receiving real-time
7 crop state data comprises receiving satellite data.
- 8 **[00143]** 43. The system of any of embodiments 35-39, wherein receiving real-time
9 crop state data comprises receiving satellite image data.
- 10 **[00144]** 44. The system of any of embodiments 35-43, wherein the crop state data
11 comprises volume data.
- 12 **[00145]** 45. The system of any of embodiments 35-43, wherein the crop state data
13 comprises an indication that the crop is ready for harvest.
- 14 **[00146]** 46. An agricultural commodity asset management processor-implemented
15 method, comprising: providing, creating, maintaining, and/or enabling access to an
16 agricultural commodity asset management account for an agricultural asset producer;
17 receiving harvested agricultural asset storage resource information for an at least one
18 harvested agricultural asset storage resource associated with the agricultural asset
19 producer, the harvested agricultural asset storage resource information including
20 location data; receiving actual agricultural asset storage data for an at least one
21 agricultural asset stored in the at least one harvested agricultural asset storage
22 resource, the actual agricultural asset storage data including agricultural asset crop
23 type and agricultural asset volume; receiving in-field agricultural asset information for
24 an at least one agricultural asset associated with the agricultural asset producer, the in-
25 field agricultural asset information including agricultural asset crop type and
26 agricultural asset location data; receiving agricultural financial instrument data for an
27 at least one agricultural financial instrument associated with the agricultural
28 commodity asset management account; receiving agricultural asset market data;

determining via a processor an agricultural asset portfolio value for the agricultural commodity asset management account based on the actual agricultural asset storage data, the in-field agricultural asset information, the agricultural financial instrument data and the agricultural asset market data; receiving real-time update information for at least one of the actual agricultural asset storage data and the in-field agricultural asset information; updating the determined agricultural asset portfolio value based on the received real-time update information; and outputting the updated agricultural asset portfolio value for the agricultural commodity asset management account.

[00147] 47. The method of embodiment 46, wherein the real-time update information is provided via a mobile device associated with the agricultural asset producer.

[00148] 48. The method of embodiment 46 or 47, wherein the at least one harvested agricultural asset storage resource is on-farm storage.

[00149] 49. The method of any of embodiments 46-48, wherein the at least one harvested agricultural asset storage resource is shared with an at least one other asset agricultural producer.

[00150] 50. An agricultural commodity asset management apparatus, comprising: a processor; and a memory disposed in communication with the processor and storing processor-issuable instructions to: provide, create, maintain and/or enable access to an agricultural commodity asset management account for an agricultural asset producer; receive harvested agricultural asset storage resource information for an at least one harvested agricultural asset storage resource associated with the agricultural asset producer, the harvested agricultural asset storage resource information including location data; receive actual agricultural asset storage data for an at least one agricultural asset stored in the at least one harvested agricultural asset storage resource, the actual agricultural asset storage data including agricultural asset crop type and agricultural asset volume; receive in-field agricultural asset information for an at least one agricultural asset associated with agricultural asset producer, in-field agricultural asset information including agricultural asset crop type and location data;

1 receive agricultural financial instrument data for an at least one agricultural financial
2 instrument associated with the agricultural commodity asset management account;
3 receive agricultural asset market data; determine an agricultural asset portfolio value
4 for the agricultural commodity asset management account based on the actual
5 agricultural asset storage data, the in-field agricultural asset information, the
6 agricultural financial instrument data and the agricultural asset market data; receive
7 real-time update information for at least one of the actual agricultural asset storage
8 data and the in-field agricultural asset information; update the determined agricultural
9 asset portfolio value based on the received real-time update information; and output
10 the updated agricultural asset portfolio value for the agricultural commodity asset
11 management account.

12 **[00151]** 51. The apparatus of embodiment 50, wherein the real-time update
13 information is provided via a mobile device associated with the agricultural asset
14 producer.

15 **[00152]** 52. The apparatus of embodiment 50 or 51, wherein the at least one
16 harvested agricultural asset storage resource is on-farm storage.

17 **[00153]** 53. The apparatus of embodiment 50, 51 or 52, wherein the at least one
18 harvested agricultural asset storage resource is shared with an at least one other asset
19 agricultural producer.

20 **[00154]** 54. A processor-readable tangible medium storing processor-issuable
21 agricultural commodity asset management instructions to: provide, create, maintain
22 and/or enable access to an agricultural commodity asset management account for an
23 agricultural asset producer; receive harvested agricultural asset storage resource
24 information for an at least one harvested agricultural asset storage resource associated
25 with the agricultural asset producer, the harvested agricultural asset storage resource
26 information including location data; receive actual agricultural asset storage data for an
27 at least one agricultural asset stored in the at least one harvested agricultural asset
28 storage resource, the actual agricultural asset storage data including agricultural asset
29 crop type and agricultural asset volume; receive in-field agricultural asset information

1 for an at least one agricultural asset associated with agricultural asset producer, in-field
2 agricultural asset information including agricultural asset crop type and location data;
3 receive/request agricultural financial instrument data for an at least one agricultural
4 financial instrument associated with the agricultural commodity asset management
5 account; receive/request agricultural asset market data; determine an agricultural asset
6 portfolio value for the agricultural commodity asset management account based on the
7 actual agricultural asset storage data, the in-field agricultural asset information, the
8 agricultural financial instrument data and the agricultural asset market data;
9 receive/request real-time update information for at least one of the actual agricultural
10 asset storage data and the in-field agricultural asset information; update the
11 determined agricultural asset portfolio value based on the received real-time update
12 information; and output the updated agricultural asset portfolio value for the
13 agricultural commodity asset management account.

14 **[00155]** 55. The medium of embodiment 54, wherein the real-time update
15 information is provided via a mobile device associated with the agricultural asset
16 producer.

17 **[00156]** 56. The medium of embodiment 54 or 55, wherein the at least one
18 harvested agricultural asset storage resource is on-farm storage.

19 **[00157]** 57. The medium of embodiment 54, 55, or 56, wherein the at least one
20 harvested agricultural asset storage resource is shared with an at least one other asset
21 agricultural producer.

22 **[00158]** 58. An agricultural commodity asset management system, comprising:
23 means to provide, create, maintain and/or enable access to an agricultural commodity
24 asset management account for an agricultural asset producer; means to receive
25 harvested agricultural asset storage resource information for an at least one harvested
26 agricultural asset storage resource associated with the agricultural asset producer, the
27 harvested agricultural asset storage resource information including location data;
28 means to receive actual agricultural asset storage data for an at least one agricultural
29 asset stored in the at least one harvested agricultural asset storage resource, the actual

1 agricultural asset storage data including agricultural asset crop type and agricultural
2 asset volume; means to receive in-field agricultural asset information for an at least one
3 agricultural asset associated with agricultural asset producer, in-field agricultural asset
4 information including agricultural asset crop type and location data; means to receive
5 agricultural financial instrument data for an at least one agricultural financial
6 instrument associated with the agricultural commodity asset management account;
7 means to receive agricultural asset market data; means to determine an agricultural
8 asset portfolio value for the agricultural commodity asset management account based
9 on the actual agricultural asset storage data, the in-field agricultural asset information,
10 the agricultural financial instrument data and the agricultural asset market data;
11 means to receive real-time update information for at least one of the actual agricultural
12 asset storage data and the in-field agricultural asset information; means to update the
13 determined agricultural asset portfolio value based on the received real-time update
14 information; and means to output the updated agricultural asset portfolio value for the
15 agricultural commodity asset management account.

16 **[00159]** 59. The system of embodiment 58, wherein the real-time update
17 information is provided via a mobile device associated with the agricultural asset
18 producer.

19 **[00160]** 60a. The system of embodiment 58 or 59, wherein the at least one
20 harvested agricultural asset storage resource is on-farm storage.

21 **[00161]** 60b. The system of embodiment 58, 59 or 60a, wherein the at least one
22 harvested agricultural asset storage resource is shared with an at least one other asset
23 agricultural producer.

24 **[00162]** 61. A crop purchase management processor-implemented method,
25 comprising: receiving crop storage resource information for each of a plurality of crop
26 producers, the crop storage resource information including crop storage resource
27 location data, stored crop type data, and stored crop volume data; receiving a location-
28 based, crop-specific purchase inquiry from an at least one purchaser; determining via a
29 processor an aggregate crop volume available for purchase from the received crop

1 storage resource information based on the location-based, crop-specific purchase
2 inquiry and the crop storage resource location data, stored crop type data, and stored
3 crop volume data, the determination comprising accessing and/or utilizing data from at
4 least a threshold number of crop producers; providing the determined aggregate crop
5 volume available for purchase to the at least one purchaser in response to the received
6 location-based, crop-specific purchase inquiry; receiving a purchase request from the
7 purchaser based on the provided aggregate crop volume available for purchase, the
8 purchase request specifying at least one of a crop type, a crop purchase volume and
9 crop purchase price; and facilitating a transaction for the specified crop type between
10 the purchaser and at least one of the plurality of crop producers based on the received
11 purchase request.

12 **[00163]** 62. The method of embodiment 61, wherein the received location-based,
13 crop-specific purchase inquiry includes initial boundary parameters defining a
14 geographic search area.

15 **[00164]** 63. The method of embodiment 62, wherein the initial geographic
16 boundary parameters include a geographic search radius.

17 **[00165]** 64. The method of embodiment 62 or 63, further comprising: modifying
18 the initial boundary parameters to provide data from at least the threshold number of
19 crop producers.

20 **[00166]** 65. A crop purchase management apparatus, comprising: a processor; and
21 a memory disposed in communication with the processor and storing processor-
22 issuable instructions to: receive crop storage resource information for each of a
23 plurality of crop producers, the crop storage resource information including crop
24 storage resource location data, stored crop type data, and stored crop volume data;
25 receive an at least one location-based, crop-specific purchase inquiry from an at least
26 one purchaser; determine an aggregate crop volume available for purchase from
27 received crop storage resource information based on the location-based, crop-specific
28 purchase inquiry and the crop storage resource location data, stored crop type data,
29 and stored crop volume data, the determination comprising accessing and utilizing data

1 from at least a threshold number of crop producers; provide the determined aggregate
2 crop volume available for purchase to the at least one purchaser in response to the
3 received location-based, crop-specific purchase inquiry; receive a purchase request
4 from the purchaser based on the provided aggregate crop volume available for
5 purchase, the purchase request specifying at least two of a crop type, a crop purchase
6 volume, and crop purchase price; and execute a transaction for the specified crop type
7 between the purchaser and at least one of the plurality of crop producers based on the
8 received purchase request.

9 **[00167]** 66. The apparatus of embodiment 65, wherein the received location-based,
10 crop-specific purchase inquiry includes initial boundary parameters defining a
11 geographic search area.

12 **[00168]** 67. The apparatus of embodiment 66, wherein the initial geographic
13 boundary parameters include a geographic search radius.

14 **[00169]** 68. The apparatus of embodiment 66 or 67, further comprising processor-
15 issuable instructions to: modify the initial boundary parameters to provide data from at
16 least the threshold number of crop producers.

17 **[00170]** 69. A processor-readable tangible medium storing processor-issuable crop
18 purchase management instructions to: receive crop storage resource information for
19 each of a plurality of crop producers, the crop storage resource information including
20 crop storage resource location data, stored crop type data, and stored crop volume data;
21 receive a location-based, crop-specific purchase inquiry from an at least one purchaser;
22 determine an aggregate crop volume available for purchase from received crop storage
23 resource information based on the location-based, crop-specific purchase inquiry and
24 the crop storage resource location data, stored crop type data, and stored crop volume
25 data, the determination including data from at least a threshold number of crop
26 producers; provide the determined aggregate crop volume available for purchase to the
27 at least one purchaser in response to the received location-based, crop-specific
28 purchase inquiry; receive a purchase request from the purchaser based on the provided
29 aggregate crop volume available for purchase, the purchase request specifying a crop

1 type and at least one of a crop purchase volume and crop purchase price; and execute a
2 transaction for the specified crop type between the purchaser and at least one of the
3 plurality of crop producers based on the received purchase request.

4 **[00171]** 70. The medium of embodiment 69, wherein the received location-based,
5 crop-specific purchase inquiry includes initial boundary parameters defining a
6 geographic search area.

7 **[00172]** 71. The medium of embodiment 70, wherein the initial geographic
8 boundary parameters include a geographic search radius.

9 **[00173]** 72. The medium of embodiment 70 or 71, further comprising instructions
10 to: modify the initial boundary parameters to provide data from at least the threshold
11 number of crop producers.

12 **[00174]** 73. A crop purchase management system, comprising: means to receive
13 crop storage resource information for each of a plurality of crop producers, the crop
14 storage resource information including crop storage resource location data, stored crop
15 type data, and stored crop volume data; means to receive an at least one location-based,
16 crop-specific purchase inquiry from an at least one purchaser; means to determine an
17 aggregate crop volume available for purchase from received crop storage resource
18 information based on the location-based, crop-specific purchase inquiry and the crop
19 storage resource location data, stored crop type data, and stored crop volume data, the
20 determination comprising accessing and utilizing data from at least a threshold number
21 of crop producers; means to provide the determined aggregate crop volume available
22 for purchase to the at least one purchaser in response to the received location-based,
23 crop-specific purchase inquiry; means to receive a purchase request from the purchaser
24 based on the provided aggregate crop volume available for purchase, the purchase
25 request specifying at least two of a crop type, a crop purchase volume, and crop
26 purchase price; and means to execute a transaction for the specified crop type between
27 the purchaser and at least one of the plurality of crop producers based on the received
28 purchase request.

- 1 **[00175]** 74. The system of embodiment 73, wherein the received location-based,
2 crop-specific purchase inquiry includes initial boundary parameters defining a
3 geographic search area.
- 4 **[00176]** 75. The system of embodiment 74, wherein the initial geographic boundary
5 parameters include a geographic search radius.
- 6 **[00177]** 76. The system of embodiment 75 or 76, further comprising: means to
7 modify the initial boundary parameters to provide data from at least the threshold
8 number of crop producers.
- 9 **[00178]** 77. The method of any of embodiments 61-64, wherein the purchaser is
10 livestock raiser or a feedlot.
- 11 **[00179]** 78. The apparatus of any of embodiments 65-68, wherein the purchaser is
12 livestock raiser or a feedlot.
- 13 **[00180]** 79. The medium of any of embodiments 69-72, wherein the purchaser is
14 livestock raiser or a feedlot.
- 15 **[00181]** 80. The system of any of embodiments 73-76, wherein the purchaser is
16 livestock raiser or a feedlot.
- 17 **[00182]** 81. A real-time geographic market data feed processor-implemented
18 method, comprising: maintaining an agricultural asset tracking account for each of a
19 plurality of agricultural asset producers, each agricultural asset tracking account
20 comprising agricultural asset account information including asset type data, asset
21 location data, and asset availability data; receiving an at least one real-time update to
22 the agricultural asset account information associated with at least one of the plurality of
23 agricultural asset producers; determining via a processor aggregate market data for at
24 least one geographic region from a set of the plurality of agricultural asset producers
25 based on the respective asset type data, asset location data, asset availability data and
26 the at least one real-time update to the respective agricultural asset account

1 information; and generating a real-time geographic market data feed from the
2 determined aggregate market data for the at least one geographic region.

3 **[00183]** 82. The method of embodiment 1, wherein maintaining an agricultural
4 asset tracking account for an agricultural asset producer of the plurality of agricultural
5 asset producers comprises: receiving harvested agricultural asset storage resource
6 information for an at least one harvested agricultural asset storage resource associated
7 with the agricultural asset producer, the harvested agricultural asset storage resource
8 information including location data; receiving actual agricultural asset storage data for
9 an at least one agricultural asset stored in the at least one harvested agricultural asset
10 storage resource, the actual agricultural asset storage data including agricultural asset
11 crop type and agricultural asset volume; and receiving in-field agricultural asset
12 information for an at least one agricultural asset associated with the agricultural asset
13 producer, the in-field agricultural asset information including asset crop type and asset
14 location data.

15 **[00184]** 83. The method of embodiment 81 or 82, wherein agricultural asset
16 account information includes in-field asset data.

17 **[00185]** 84. The method of embodiment 81, 82 or 83, wherein agricultural asset
18 account information includes harvested asset data.

19 **[00186]** 85. The method of any of embodiments 81-84, wherein agricultural asset
20 account information includes asset storage data.

21 **[00187]** 86. The method of any of embodiments 81-85, wherein the at least one
22 real-time update to agricultural asset account information is received from a mobile
23 device associated with an agricultural asset producer from the plurality of agricultural
24 asset producers.

25 **[00188]** 87. The method of any of embodiments 81-86, wherein the at least one
26 real-time update to asset account information is based on a transaction between an
27 asset producer and an asset purchaser.

1 **[00189]** 88. A real-time geographic market data feed apparatus, comprising: a
2 processor; and a memory disposed in communication with the processor and storing
3 processor-issuable instructions to: maintain an agricultural asset tracking account for
4 each of a plurality of agricultural asset producers, each agricultural asset tracking
5 account comprising agricultural asset account information including asset type data,
6 asset location data, and asset availability data; receive an at least one real-time update
7 to asset account information from at least one of the plurality of agricultural asset
8 producers; determine aggregate market data for a geographic region from a set of the
9 plurality of agricultural asset producers based on asset type data, asset location data,
10 asset availability data and the at least one real-time update to asset account
11 information; and generate a real-time geographic market data feed from the
12 determined aggregate market data for the geographic region.

13 **[00190]** 89. The apparatus of embodiment 88, wherein asset account information
14 includes in-field asset data.

15 **[00191]** 90. The apparatus of embodiment 88 or 89, wherein asset account
16 information includes harvested asset data.

17 **[00192]** 91. The apparatus of any of embodiments 88-90, wherein asset account
18 information includes asset storage data.

19 **[00193]** 92. The apparatus of any of embodiments 88-91, wherein the at least one
20 real-time update to asset account information is received from a mobile device
21 associated with an asset producer.

22 **[00194]** 93. The apparatus of any of embodiments 88-92, wherein the at least one
23 real-time update to asset account information is based on a transaction between an
24 asset producer and an asset purchaser.

25 **[00195]** 94. A processor-readable tangible medium storing processor-issuable real-
26 time geographic market data feed instructions to: maintain an agricultural asset
27 tracking account for each of a plurality of agricultural asset producers, each agricultural
28 asset tracking account comprising agricultural asset account information including

1 asset type data, asset location data, and asset availability data; receive an at least one
2 real-time update to asset account information from at least one of the plurality of
3 agricultural asset producers; determine aggregate market data for a geographic region
4 from a set of the plurality of agricultural asset producers based on asset type data, asset
5 location data, asset availability data and the at least one real-time update to asset
6 account information; and generate a real-time geographic market data feed from the
7 determined aggregate market data for the geographic region.

8 **[00196]** 95. The medium of embodiment 94, wherein asset account information
9 includes in-field asset data.

10 **[00197]** 96. The medium of embodiment 94 or 95, wherein asset account
11 information includes harvested asset data.

12 **[00198]** 97. The medium of any of embodiments 94-96, wherein asset account
13 information includes asset storage data.

14 **[00199]** 98. The medium of any of embodiments 94-97, wherein the at least one
15 real-time update to asset account information is received from a mobile device
16 associated with an asset producer.

17 **[00200]** 99. The medium of any of embodiments 94-98, wherein the at least one
18 real-time update to asset account information is based on a transaction between an
19 asset producer and an asset purchaser.

20 **[00201]** 100. A real-time geographic market data feed system, comprising: means
21 to maintain an agricultural asset tracking account for each of a plurality of agricultural
22 asset producers, each agricultural asset tracking account comprising agricultural asset
23 account information including asset type data, asset location data, and asset availability
24 data; means to receive an at least one real-time update to the agricultural asset account
25 information associated with at least one of the plurality of agricultural asset producers;
26 means to determine aggregate market data for at least one geographic region from a set
27 of the plurality of agricultural asset producers based on the respective asset type data,
28 asset location data, asset availability data and the at least one real-time update to the

1 respective agricultural asset account information; means to generate a real-time
2 geographic market data feed from the determined aggregate market data for the at least
3 one geographic region; wherein maintaining an agricultural asset tracking account for
4 an agricultural asset producer of the plurality of agricultural asset producers comprises:
5 means to receive harvested agricultural asset storage resource information for an at
6 least one harvested agricultural asset storage resource associated with the agricultural
7 asset producer, the harvested agricultural asset storage resource information including
8 location data; means to receive actual agricultural asset storage data for an at least one
9 agricultural asset stored in the at least one harvested agricultural asset storage
10 resource, the actual agricultural asset storage data including agricultural asset crop
11 type and agricultural asset volume; and means to receive in-field agricultural asset
12 information for an at least one agricultural asset associated with the agricultural asset
13 producer, the in-field agricultural asset information including asset crop type and asset
14 location data.

15 **[00202]** In one implementation, the GPPM creates an agricultural commodity asset
16 management account for a farmer or other agricultural asset producer and receives
17 harvested agricultural asset storage resource information and actual agricultural asset
18 storage data for agricultural assets stored in the harvested agricultural asset storage
19 resource, including location, volume, and crop type. The GPPM may also receive in-
20 field agricultural asset information, along with agricultural financial instrument data.
21 The GPPM may also receive agricultural asset market data and determine an
22 agricultural asset portfolio value for the agricultural commodity asset management
23 account. The GPPM may then receive real-time updates of actual agricultural asset
24 storage data and in-field agricultural asset information and update and output the
25 determined agricultural asset portfolio value.

26 **[00203]** In some embodiments, the GPPM transforms real-time or near real-time
27 agricultural commodity data via GPPM components into agricultural commodity offers,
28 sales and/or purchase agreements. In one implementation, the GPPM receives crop
29 information from a plurality of crop producers, including crop location data. The GPPM
30 may then receive a location-based, crop-specific purchase inquiry from an at least one

1 purchaser, and in response, determine an aggregate crop volume available for
2 purchase, including data from at least a threshold number of crop producers. The
3 determined aggregate crop volume available for purchase may then be provided to the
4 at least one purchaser. If the purchase is interested, the purchaser may submit a
5 purchase request, specifying a crop type and at least one of a crop purchase volume and
6 crop purchase price. The GPPM may then execute a transaction for the specified crop
7 type between the purchaser and at least one of the plurality of crop producers based on
8 the received purchase request.

9 **[00204]** In some embodiments, the GPPM transforms regional, automated,
10 dynamic, real-time or near real-time producer agricultural asset information via GPPM
11 components into real-time market updates and feeds. In some implementations, the
12 GPPM maintains an agricultural asset tracking account for each of a plurality of
13 agricultural asset producers, such as farmers, including asset type data, asset location
14 data, and asset availability data. The GPPM may then receive one or more real-time
15 updates to asset account information from agricultural asset producers. The GPPM
16 may then determine aggregate market data for a geographic region from a set of the
17 plurality of agricultural asset producers based on asset type data, asset location data,
18 asset availability data and the real-time updates to asset account information and
19 generate real-time geographic market data feeds.

20 **GPPM Controller**

21 **[00205]** FIGURE 9 shows a block diagram illustrating embodiments of a GPPM
22 controller 901. In this embodiment, the GPPM controller 901 may serve to aggregate,
23 process, store, search, serve, identify, instruct, generate, match, and/or facilitate
24 interactions with a computer through various technologies, and/or other related data.

25 **[00206]** Typically, users, e.g., 933a, which may be people and/or other systems,
26 may engage information technology systems (e.g., computers) to facilitate information
27 processing. In turn, computers employ processors to process information; such
28 processors 903 may be referred to as central processing units (CPU). One form of

1 processor is referred to as a microprocessor. CPUs use communicative circuits to pass
2 binary encoded signals acting as instructions to enable various operations. These
3 instructions may be operational and/or data instructions containing and/or referencing
4 other instructions and data in various processor accessible and operable areas of
5 memory 929 (e.g., registers, cache memory, random access memory, etc.). Such
6 communicative instructions may be stored and/or transmitted in batches (e.g., batches
7 of instructions) as programs and/or data components to facilitate desired operations.
8 These stored instruction codes, e.g., programs, may engage the CPU circuit components
9 and other motherboard and/or system components to perform desired operations. One
10 type of program is a computer operating system, which, may be executed by CPU on a
11 computer; the operating system enables and facilitates users to access and operate
12 computer information technology and resources. Some resources that may be
13 employed in information technology systems include: input and output mechanisms
14 through which data may pass into and out of a computer; memory storage into which
15 data may be saved; and processors by which information may be processed. These
16 information technology systems may be used to collect data for later retrieval, analysis,
17 and manipulation, which may be facilitated through a database program. These
18 information technology systems provide interfaces that allow users to access and
19 operate various system components.

20 **[00207]** In one embodiment, the GPPM controller 901 may be connected to and/or
21 communicate with entities such as, but not limited to: one or more users from user
22 input devices 911; peripheral devices 912; an optional cryptographic processor device
23 928; and/or a communications network 913. For example, the GPPM controller 901
24 may be connected to and/or communicate with users, e.g., 933a, operating client
25 device(s), e.g., 933b, including, but not limited to, personal computer(s), server(s)
26 and/or various mobile device(s) including, but not limited to, cellular telephone(s),
27 smartphone(s) (e.g., iPhone®, Blackberry®, Android OS-based phones etc.), tablet
28 computer(s) (e.g., Apple iPad™, HP Slate™, Motorola Xoom™, etc.), eBook reader(s)
29 (e.g., Amazon Kindle™, Barnes and Noble's Nook™ eReader, etc.), laptop computer(s),
30 notebook(s), netbook(s), gaming console(s) (e.g., XBOX Live™, Nintendo® DS, Sony
31 PlayStation® Portable, etc.), portable scanner(s), and/or the like.

1 **[00208]** Networks are commonly thought to comprise the interconnection and
2 interoperation of clients, servers, and intermediary nodes in a graph topology. It should
3 be noted that the term “server” as used throughout this application refers generally to a
4 computer, other device, program, or combination thereof that processes and responds
5 to the requests of remote users across a communications network. Servers serve their
6 information to requesting “clients.” The term “client” as used herein refers generally to
7 a computer, program, other device, user and/or combination thereof that is capable of
8 processing and making requests and obtaining and processing any responses from
9 servers across a communications network. A computer, other device, program, or
10 combination thereof that facilitates, processes information and requests, and/or
11 furthers the passage of information from a source user to a destination user is
12 commonly referred to as a “node.” Networks are generally thought to facilitate the
13 transfer of information from source points to destinations. A node specifically tasked
14 with furthering the passage of information from a source to a destination is commonly
15 called a “router.” There are many forms of networks such as Local Area Networks
16 (LANs), Pico networks, Wide Area Networks (WANs), Wireless Networks (WLANs),
17 etc. For example, the Internet is generally accepted as being an interconnection of a
18 multitude of networks whereby remote clients and servers may access and interoperate
19 with one another.

20 **[00209]** The GPPM controller 901 may be based on computer systems that may
21 comprise, but are not limited to, components such as: a computer systemization 902
22 connected to memory 929.

23

Computer Systemization

24 **[00210]** A computer systemization 902 may comprise a clock 930, central
25 processing unit (“CPU(s)” and/or “processor(s)” (these terms are used interchangeable
26 throughout the disclosure unless noted to the contrary)) 903, a memory 929 (e.g., a
27 read only memory (ROM) 906, a random access memory (RAM) 905, etc.), and/or an
28 interface bus 907, and most frequently, although not necessarily, are all interconnected
29 and/or communicating through a system bus 904 on one or more (mother)board(s)

1 902 having conductive and/or otherwise transportive circuit pathways through which
2 instructions (e.g., binary encoded signals) may travel to effectuate communications,
3 operations, storage, etc. The computer systemization may be connected to a power
4 source 986; e.g., optionally the power source may be internal. Optionally, a
5 cryptographic processor 926 and/or transceivers (e.g., ICs) 974 may be connected to
6 the system bus. In another embodiment, the cryptographic processor and/or
7 transceivers may be connected as either internal and/or external peripheral devices 912
8 via the interface bus I/O. In turn, the transceivers may be connected to antenna(s) 975,
9 thereby effectuating wireless transmission and reception of various communication
10 and/or sensor protocols; for example the antenna(s) may connect to: a Texas
11 Instruments WiLink WL1283 transceiver chip (e.g., providing 802.11n, Bluetooth 3.0,
12 FM, global positioning system (GPS) (thereby allowing GPPM controller to determine
13 its location)); Broadcom BCM4329FKUBG transceiver chip (e.g., providing 802.11n,
14 Bluetooth 2.1 + EDR, FM, etc.); a Broadcom BCM4750IUB8 receiver chip (e.g., GPS);
15 an Infineon Technologies X-Gold 618-PMB9800 (e.g., providing 2G/3G
16 HSDPA/HSUPA communications); and/or the like. The system clock typically has a
17 crystal oscillator and generates a base signal through the computer systemization's
18 circuit pathways. The clock is typically coupled to the system bus and various clock
19 multipliers that will increase or decrease the base operating frequency for other
20 components interconnected in the computer systemization. The clock and various
21 components in a computer systemization drive signals embodying information
22 throughout the system. Such transmission and reception of instructions embodying
23 information throughout a computer systemization may be commonly referred to as
24 communications. These communicative instructions may further be transmitted,
25 received, and the cause of return and/or reply communications beyond the instant
26 computer systemization to: communications networks, input devices, other computer
27 systemizations, peripheral devices, and/or the like. It should be understood that in
28 alternative embodiments, any of the above components may be connected directly to
29 one another, connected to the CPU, and/or organized in numerous variations employed
30 as exemplified by various computer systems.

1 **[00211]** The CPU comprises at least one high-speed data processor adequate to
2 execute program components for executing user and/or system-generated requests.
3 Often, the processors themselves will incorporate various specialized processing units,
4 such as, but not limited to: integrated system (bus) controllers, memory management
5 control units, floating point units, and even specialized processing sub-units like
6 graphics processing units, digital signal processing units, and/or the like. Additionally,
7 processors may include internal fast access addressable memory, and be capable of
8 mapping and addressing memory 929 beyond the processor itself; internal memory
9 may include, but is not limited to: fast registers, various levels of cache memory (e.g.,
10 level 1, 2, 3, etc.), RAM, etc. The processor may access this memory through the use of a
11 memory address space that is accessible via instruction address, which the processor
12 can construct and decode allowing it to access a circuit path to a specific memory
13 address space having a memory state. The CPU may be a microprocessor such as:
14 AMD's Athlon, Duron and/or Opteron; ARM's application, embedded and secure
15 processors; IBM and/or Motorola's DragonBall and PowerPC; IBM's and Sony's Cell
16 processor; Intel's Celeron, Core (2) Duo, Itanium, Pentium, Xeon, and/or XScale;
17 and/or the like processor(s). The CPU interacts with memory through instruction
18 passing through conductive and/or transportive conduits (e.g., (printed) electronic
19 and/or optic circuits) to execute stored instructions (i.e., program code) according to
20 conventional data processing techniques. Such instruction passing facilitates
21 communication within the GPPM controller and beyond through various interfaces.
22 Should processing requirements dictate a greater amount speed and/or capacity,
23 distributed processors (e.g., Distributed GPPM), mainframe, multi-core, parallel,
24 and/or super-computer architectures may similarly be employed. Alternatively, should
25 deployment requirements dictate greater portability, smaller Personal Digital
26 Assistants (PDAs) may be employed.

27 **[00212]** Depending on the particular implementation, features of the GPPM may
28 be achieved by implementing a microcontroller such as CAST's R8051XC2
29 microcontroller; Intel's MCS 51 (i.e., 8051 microcontroller); and/or the like. Also, to
30 implement certain features of the GPPM, some feature implementations may rely on
31 embedded components, such as: Application-Specific Integrated Circuit ("ASIC"),

1 Digital Signal Processing ("DSP"), Field Programmable Gate Array ("FPGA"), and/or
2 the like embedded technology. For example, any of the GPPM component collection
3 (distributed or otherwise) and/or features may be implemented via the microprocessor
4 and/or via embedded components; e.g., via ASIC, coprocessor, DSP, FPGA, and/or the
5 like. Alternately, some implementations of the GPPM may be implemented with
6 embedded components that are configured and used to achieve a variety of features or
7 signal processing.

8 **[00213]** Depending on the particular implementation, the embedded components
9 may include software solutions, hardware solutions, and/or some combination of both
10 hardware/software solutions. For example, GPPM features discussed herein may be
11 achieved through implementing FPGAs, which are a semiconductor devices containing
12 programmable logic components called "logic blocks", and programmable
13 interconnects, such as the high performance FPGA Virtex series and/or the low cost
14 Spartan series manufactured by Xilinx. Logic blocks and interconnects can be
15 programmed by the customer or designer, after the FPGA is manufactured, to
16 implement any of the GPPM features. A hierarchy of programmable interconnects
17 allow logic blocks to be interconnected as needed by the GPPM system
18 designer/administrator, somewhat like a one-chip programmable breadboard. An
19 FPGA's logic blocks can be programmed to perform the operation of basic logic gates
20 such as AND, and XOR, or more complex combinational operators such as decoders or
21 simple mathematical operations. In most FPGAs, the logic blocks also include memory
22 elements, which may be circuit flip-flops or more complete blocks of memory. In some
23 circumstances, the GPPM may be developed on regular FPGAs and then migrated into
24 a fixed version that more resembles ASIC implementations. Alternate or coordinating
25 implementations may migrate GPPM controller features to a final ASIC instead of or in
26 addition to FPGAs. Depending on the implementation all of the aforementioned
27 embedded components and microprocessors may be considered the "CPU" and/or
28 "processor" for the GPPM.

Power Source

[00214] The power source 986 may be of any standard form for powering small electronic circuit board devices such as the following power cells: alkaline, lithium hydride, lithium ion, lithium polymer, nickel cadmium, solar cells, and/or the like. Other types of AC or DC power sources may be used as well. In the case of solar cells, in one embodiment, the case provides an aperture through which the solar cell may capture photonic energy. The power cell 986 is connected to at least one of the interconnected subsequent components of the GPPM thereby providing an electric current to all subsequent components. In one example, the power source 986 is connected to the system bus component 904. In an alternative embodiment, an outside power source 986 is provided through a connection across the I/O 908 interface. For example, a USB and/or IEEE 1394 connection carries both data and power across the connection and is therefore a suitable source of power.

Interface Adapters

[00215] Interface bus(es) 907 may accept, connect, and/or communicate to a number of interface adapters, conventionally although not necessarily in the form of adapter cards, such as but not limited to: input output interfaces (I/O) 908, storage interfaces 909, network interfaces 910, and/or the like. Optionally, cryptographic processor interfaces 927 similarly may be connected to the interface bus. The interface bus provides for the communications of interface adapters with one another as well as with other components of the computer systemization. Interface adapters are adapted for a compatible interface bus. Interface adapters conventionally connect to the interface bus via a slot architecture. Conventional slot architectures may be employed, such as, but not limited to: Accelerated Graphics Port (AGP), Card Bus, (Extended) Industry Standard Architecture ((E)ISA), Micro Channel Architecture (MCA), NuBus, Peripheral Component Interconnect (Extended) (PCI(X)), PCI Express, Personal Computer Memory Card International Association (PCMCIA), and/or the like.

[00216] Storage interfaces 909 may accept, communicate, and/or connect to a number of storage devices such as, but not limited to: storage devices 914, removable

1 disc devices, and/or the like. Storage interfaces may employ connection protocols such
2 as, but not limited to: (Ultra) (Serial) Advanced Technology Attachment (Packet
3 Interface) ((Ultra) (Serial) ATA(PI)), (Enhanced) Integrated Drive Electronics
4 ((E)IDE), Institute of Electrical and Electronics Engineers (IEEE) 1394, fiber channel,
5 Small Computer Systems Interface (SCSI), Universal Serial Bus (USB), and/or the like.

6 **[00217]** Network interfaces 910 may accept, communicate, and/or connect to a
7 communications network 913. Through a communications network 913, the GPPM
8 controller is accessible through remote clients 933b (e.g., computers with web
9 browsers) by users 933a. Network interfaces may employ connection protocols such as,
10 but not limited to: direct connect, Ethernet (thick, thin, twisted pair 10/100/1000 Base
11 T, and/or the like), Token Ring, wireless connection such as IEEE 802.11a-x, and/or
12 the like. Should processing requirements dictate a greater amount speed and/or
13 capacity, distributed network controllers (e.g., Distributed GPPM), architectures may
14 similarly be employed to pool, load balance, and/or otherwise increase the
15 communicative bandwidth required by the GPPM controller. A communications
16 network may be any one and/or the combination of the following: a direct
17 interconnection; the Internet; a Local Area Network (LAN); a Metropolitan Area
18 Network (MAN); an Operating Missions as Nodes on the Internet (OMNI); a secured
19 custom connection; a Wide Area Network (WAN); a wireless network (e.g., employing
20 protocols such as, but not limited to a Wireless Application Protocol (WAP), I-mode,
21 and/or the like); and/or the like. A network interface may be regarded as a specialized
22 form of an input output interface. Further, multiple network interfaces 910 may be
23 used to engage with various communications network types 913. For example, multiple
24 network interfaces may be employed to allow for the communication over broadcast,
25 multicast, and/or unicast networks.

26 **[00218]** Input Output interfaces (I/O) 908 may accept, communicate, and/or
27 connect to user input devices 911, peripheral devices 912, cryptographic processor
28 devices 928, and/or the like. I/O may employ connection protocols such as, but not
29 limited to: audio: analog, digital, monaural, RCA, stereo, and/or the like; data: Apple
30 Desktop Bus (ADB), IEEE 1394a-b, serial, universal serial bus (USB); infrared; joystick;

1 keyboard; midi; optical; PC AT; PS/2; parallel; radio; video interface: Apple Desktop
2 Connector (ADC), BNC, coaxial, component, composite, digital, Digital Visual Interface
3 (DVI), high-definition multimedia interface (HDMI), RCA, RF antennae, S-Video, VGA,
4 and/or the like; wireless transceivers: 802.11a/b/g/n/x; Bluetooth; cellular (e.g., code
5 division multiple access (CDMA), high speed packet access (HSPA(+)), high-speed
6 downlink packet access (HSDPA), global system for mobile communications (GSM),
7 long term evolution (LTE), WiMax, etc.); and/or the like. One typical output device
8 may include a video display, which typically comprises a Cathode Ray Tube (CRT) or
9 Liquid Crystal Display (LCD) based monitor with an interface (e.g., DVI circuitry and
10 cable) that accepts signals from a video interface, may be used. The video interface
11 composites information generated by a computer systemization and generates video
12 signals based on the composited information in a video memory frame. Another output
13 device is a television set, which accepts signals from a video interface. Typically, the
14 video interface provides the composited video information through a video connection
15 interface that accepts a video display interface (e.g., an RCA composite video connector
16 accepting an RCA composite video cable; a DVI connector accepting a DVI display
17 cable, etc.).

18 **[00219]** User input devices 911 often are a type of peripheral device 912 (see below)
19 and may include: card readers, dongles, finger print readers, gloves, graphics tablets,
20 joysticks, keyboards, microphones, mouse (mice), remote controls, retina readers,
21 touch screens (e.g., capacitive, resistive, etc.), trackballs, trackpads, sensors (e.g.,
22 accelerometers, ambient light, GPS, gyroscopes, proximity, etc.), styluses, and/or the
23 like.

24 **[00220]** Peripheral devices 912 may be connected and/or communicate to I/O
25 and/or other facilities of the like such as network interfaces, storage interfaces, directly
26 to the interface bus, system bus, the CPU, and/or the like. Peripheral devices may be
27 external, internal and/or part of the GPPM controller. Peripheral devices may include:
28 antenna, audio devices (e.g., line-in, line-out, microphone input, speakers, etc.),
29 cameras (e.g., still, video, webcam, etc.), dongles (e.g., for copy protection, ensuring
30 secure transactions with a digital signature, and/or the like), external processors (for

1 added capabilities; e.g., crypto devices 928), force-feedback devices (e.g., vibrating
2 motors), network interfaces, printers, scanners, storage devices, transceivers (e.g.,
3 cellular, GPS, etc.), video devices (e.g., goggles, monitors, etc.), video sources, visors,
4 and/or the like. Peripheral devices often include types of input devices (e.g., cameras).

5 **[00221]** It should be noted that although user input devices and peripheral devices
6 may be employed, the GPPM controller may be embodied as an embedded, dedicated,
7 and/or monitor-less (i.e., headless) device, wherein access would be provided over a
8 network interface connection.

9 **[00222]** Cryptographic units such as, but not limited to, microcontrollers,
10 processors 926, interfaces 927, and/or devices 928 may be attached, and/or
11 communicate with the GPPM controller. A MC68HC16 microcontroller, manufactured
12 by Motorola Inc., may be used for and/or within cryptographic units. The MC68HC16
13 microcontroller utilizes a 16-bit multiply-and-accumulate instruction in the 16 MHz
14 configuration and requires less than one second to perform a 512-bit RSA private key
15 operation. Cryptographic units support the authentication of communications from
16 interacting agents, as well as allowing for anonymous transactions. Cryptographic units
17 may also be configured as part of the CPU. Equivalent microcontrollers and/or
18 processors may also be used. Other commercially available specialized cryptographic
19 processors include: the Broadcom's CryptoNetX and other Security Processors;
20 nCipher's nShield, SafeNet's Luna PCI (e.g., 7100) series; Semaphore Communications'
21 40 MHz Roadrunner 184; Sun's Cryptographic Accelerators (e.g., Accelerator 6000
22 PCIe Board, Accelerator 500 Daughtercard); Via Nano Processor (e.g., L2100, L2200,
23 U2400) line, which is capable of performing 500+ MB/s of cryptographic instructions;
24 VLSI Technology's 33 MHz 6868; and/or the like.

25

Memory

26 **[00223]** Generally, any mechanization and/or embodiment allowing a processor to
27 affect the storage and/or retrieval of information is regarded as memory 929. However,
28 memory is a fungible technology and resource, thus, any number of memory
29 embodiments may be employed in lieu of or in concert with one another. It is to be

1 understood that the GPPM controller and/or a computer systemization may employ
2 various forms of memory 929. For example, a computer systemization may be
3 configured wherein the operation of on-chip CPU memory (e.g., registers), RAM, ROM,
4 and any other storage devices are provided by a paper punch tape or paper punch card
5 mechanism; however, such an embodiment would result in an extremely slow rate of
6 operation. In a typical configuration, memory 929 will include ROM 906, RAM 905,
7 and a storage device 914. A storage device 914 may be any conventional computer
8 system storage. Storage devices may include a drum; a (fixed and/or removable)
9 magnetic disk drive; a magneto-optical drive; an optical drive (i.e., Blu-ray, CD
10 ROM/RAM/Recordable (R)/ReWritable (RW), DVD R/RW, HD DVD R/RW etc.); an
11 array of devices (e.g., Redundant Array of Independent Disks (RAID)); solid state
12 memory devices (USB memory, solid state drives (SSD), etc.); other processor-readable
13 storage mediums; and/or other devices of the like. Thus, a computer systemization
14 generally requires and makes use of memory.

15 **Component Collection**

16 **[00224]** The memory 929 may contain a collection of program and/or database
17 components and/or data such as, but not limited to: operating system component(s)
18 915 (operating system); information server component(s) 916 (information server);
19 user interface component(s) 917 (user interface); Web browser component(s) 918 (Web
20 browser); database(s) 919; mail server component(s) 921; mail client component(s)
21 922; cryptographic server component(s) 920 (cryptographic server); the GPPM
22 component(s) 935; and/or the like (i.e., collectively a component collection). These
23 components may be stored and accessed from the storage devices and/or from storage
24 devices accessible through an interface bus. Although non-conventional program
25 components such as those in the component collection, typically, are stored in a local
26 storage device 914, they may also be loaded and/or stored in memory such as:
27 peripheral devices, RAM, remote storage facilities through a communications network,
28 ROM, various forms of memory, and/or the like.

Operating System

1
2 **[00225]** The operating system component 915 is an executable program
3 component facilitating the operation of the GPPM controller. Typically, the operating
4 system facilitates access of I/O, network interfaces, peripheral devices, storage devices,
5 and/or the like. The operating system may be a highly fault tolerant, scalable, and
6 secure system such as: Apple Macintosh OS X (Server); AT&T Plan 9; Be OS; Unix and
7 Unix-like system distributions (such as AT&T's UNIX; Berkley Software Distribution
8 (BSD) variations such as FreeBSD, NetBSD, OpenBSD, and/or the like; Linux
9 distributions such as Red Hat, Ubuntu, and/or the like); and/or the like operating
10 systems. However, more limited and/or less secure operating systems also may be
11 employed such as Apple Macintosh OS, IBM OS/2, Microsoft DOS, Microsoft Windows
12 2000/2003/3.1/95/98/CE/Millennium/NT/Vista/XP (Server), Palm OS, and/or the
13 like. An operating system may communicate to and/or with other components in a
14 component collection, including itself, and/or the like. Most frequently, the operating
15 system communicates with other program components, user interfaces, and/or the like.
16 For example, the operating system may contain, communicate, generate, obtain,
17 and/or provide program component, system, user, and/or data communications,
18 requests, and/or responses. The operating system, once executed by the CPU, may
19 enable the interaction with communications networks, data, I/O, peripheral devices,
20 program components, memory, user input devices, and/or the like. The operating
21 system may provide communications protocols that allow the GPPM controller to
22 communicate with other entities through a communications network 913. Various
23 communication protocols may be used by the GPPM controller as a subcarrier
24 transport mechanism for interaction, such as, but not limited to: multicast, TCP/IP,
25 UDP, unicast, and/or the like.

Information Server

26
27 **[00226]** An information server component 916 is a stored program component that
28 is executed by a CPU. The information server may be a conventional Internet
29 information server such as, but not limited to Apache Software Foundation's Apache,

1 Microsoft's Internet Information Server, and/or the like. The information server may
2 allow for the execution of program components through facilities such as Active Server
3 Page (ASP), ActiveX, (ANSI) (Objective-) C (++), C# and/or .NET, Common Gateway
4 Interface (CGI) scripts, dynamic (D) hypertext markup language (HTML), FLASH,
5 Java, JavaScript, Practical Extraction Report Language (PERL), Hypertext Pre-
6 Processor (PHP), pipes, Python, wireless application protocol (WAP), WebObjects,
7 and/or the like. The information server may support secure communications protocols
8 such as, but not limited to, File Transfer Protocol (FTP); HyperText Transfer Protocol
9 (HTTP); Secure Hypertext Transfer Protocol (HTTPS), Secure Socket Layer (SSL),
10 messaging protocols (e.g., America Online (AOL) Instant Messenger (AIM), Application
11 Exchange (APEX), ICQ, Internet Relay Chat (IRC), Microsoft Network (MSN)
12 Messenger Service, Presence and Instant Messaging Protocol (PRIM), Internet
13 Engineering Task Force's (IETF's) Session Initiation Protocol (SIP), SIP for Instant
14 Messaging and Presence Leveraging Extensions (SIMPLE), open XML-based
15 Extensible Messaging and Presence Protocol (XMPP) (i.e., Jabber or Open Mobile
16 Alliance's (OMA's) Instant Messaging and Presence Service (IMPS)), Yahoo! Instant
17 Messenger Service, and/or the like. The information server provides results in the form
18 of Web pages to Web browsers, and allows for the manipulated generation of the Web
19 pages through interaction with other program components. After a Domain Name
20 System (DNS) resolution portion of an HTTP request is resolved to a particular
21 information server, the information server resolves requests for information at
22 specified locations on the GPPM controller based on the remainder of the HTTP
23 request. For example, a request such as `http://123.124.125.126/myInformation.html`
24 might have the IP portion of the request "123.124.125.126" resolved by a DNS server to
25 an information server at that IP address; that information server might in turn further
26 parse the http request for the `"/myInformation.html"` portion of the request and resolve
27 it to a location in memory containing the information "myInformation.html."
28 Additionally, other information serving protocols may be employed across various
29 ports, e.g., FTP communications across port 21, and/or the like. An information server
30 may communicate to and/or with other components in a component collection,
31 including itself, and/or facilities of the like. Most frequently, the information server

1 communicates with the GPPM database 919, operating systems, other program
2 components, user interfaces, Web browsers, and/or the like.

3 **[00227]** Access to the GPPM database may be achieved through a number of
4 database bridge mechanisms such as through scripting languages as enumerated below
5 (e.g., CGI) and through inter-application communication channels as enumerated
6 below (e.g., CORBA, WebObjects, etc.). Any data requests through a Web browser are
7 parsed through the bridge mechanism into appropriate grammars as required by the
8 GPPM. In one embodiment, the information server would provide a Web form
9 accessible by a Web browser. Entries made into supplied fields in the Web form are
10 tagged as having been entered into the particular fields, and parsed as such. The
11 entered terms are then passed along with the field tags, which act to instruct the parser
12 to generate queries directed to appropriate tables and/or fields. In one embodiment,
13 the parser may generate queries in standard SQL by instantiating a search string with
14 the proper join/select commands based on the tagged text entries, wherein the
15 resulting command is provided over the bridge mechanism to the GPPM as a query.
16 Upon generating query results from the query, the results are passed over the bridge
17 mechanism, and may be parsed for formatting and generation of a new results Web
18 page by the bridge mechanism. Such a new results Web page is then provided to the
19 information server, which may supply it to the requesting Web browser.

20 **[00228]** Also, an information server may contain, communicate, generate, obtain,
21 and/or provide program component, system, user, and/or data communications,
22 requests, and/or responses.

23 **User Interface**

24 **[00229]** Computer interfaces in some respects are similar to automobile operation
25 interfaces. Automobile operation interface elements such as steering wheels, gearshifts,
26 and speedometers facilitate the access, operation, and display of automobile resources,
27 and status. Computer interaction interface elements such as check boxes, cursors,
28 menus, scrollers, and windows (collectively and commonly referred to as widgets)
29 similarly facilitate the access, capabilities, operation, and display of data and computer

1 hardware and operating system resources, and status. Operation interfaces are
2 commonly called user interfaces. Graphical user interfaces (GUIs) such as the Apple
3 Macintosh Operating System's Aqua, IBM's OS/2, Microsoft's Windows
4 2000/2003/3.1/95/98/CE/Millennium/NT/XP/Vista/7 (i.e., Aero), Unix's X-Windows
5 (e.g., which may include additional Unix graphic interface libraries and layers such as K
6 Desktop Environment (KDE), mythTV and GNU Network Object Model Environment
7 (GNOME)), web interface libraries (e.g., ActiveX, AJAX, (D)HTML, FLASH, Java,
8 JavaScript, etc. interface libraries such as, but not limited to, Dojo, jQuery(UI),
9 MooTools, Prototype, script.aculo.us, SWFObject, Yahoo! User Interface, any of which
10 may be used and) provide a baseline and means of accessing and displaying
11 information graphically to users.

12 **[00230]** A user interface component 917 is a stored program component that is
13 executed by a CPU. The user interface may be a conventional graphic user interface as
14 provided by, with, and/or atop operating systems and/or operating environments such
15 as already discussed. The user interface may allow for the display, execution,
16 interaction, manipulation, and/or operation of program components and/or system
17 facilities through textual and/or graphical facilities. The user interface provides a
18 facility through which users may affect, interact, and/or operate a computer system. A
19 user interface may communicate to and/or with other components in a component
20 collection, including itself, and/or facilities of the like. Most frequently, the user
21 interface communicates with operating systems, other program components, and/or
22 the like. The user interface may contain, communicate, generate, obtain, and/or
23 provide program component, system, user, and/or data communications, requests,
24 and/or responses.

25

Web Browser

26 **[00231]** A Web browser component 918 is a stored program component that is
27 executed by a CPU. The Web browser may be a conventional hypertext viewing
28 application such as Microsoft Internet Explorer or Netscape Navigator. Secure Web
29 browsing may be supplied with 128bit (or greater) encryption by way of HTTPS, SSL,

1 and/or the like. Web browsers allowing for the execution of program components
2 through facilities such as ActiveX, AJAX, (D)HTML, FLASH, Java, JavaScript, web
3 browser plug-in APIs (e.g., FireFox, Safari Plug-in, and/or the like APIs), and/or the
4 like. Web browsers and like information access tools may be integrated into PDAs,
5 cellular telephones, and/or other mobile devices. A Web browser may communicate to
6 and/or with other components in a component collection, including itself, and/or
7 facilities of the like. Most frequently, the Web browser communicates with information
8 servers, operating systems, integrated program components (e.g., plug-ins), and/or the
9 like; e.g., it may contain, communicate, generate, obtain, and/or provide program
10 component, system, user, and/or data communications, requests, and/or responses.
11 Also, in place of a Web browser and information server, a combined application may be
12 developed to perform similar operations of both. The combined application would
13 similarly affect the obtaining and the provision of information to users, user agents,
14 and/or the like from the GPPM enabled nodes. The combined application may be
15 nugatory on systems employing standard Web browsers.

16

Mail Server

17 **[00232]** A mail server component 921 is a stored program component that is
18 executed by a CPU 903. The mail server may be a conventional Internet mail server
19 such as, but not limited to sendmail, Microsoft Exchange, and/or the like. The mail
20 server may allow for the execution of program components through facilities such as
21 ASP, ActiveX, (ANSI) (Objective-) C (++), C# and/or .NET, CGI scripts, Java,
22 JavaScript, PERL, PHP, pipes, Python, WebObjects, and/or the like. The mail server
23 may support communications protocols such as, but not limited to: Internet message
24 access protocol (IMAP), Messaging Application Programming Interface
25 (MAPI)/Microsoft Exchange, post office protocol (POP3), simple mail transfer protocol
26 (SMTP), and/or the like. The mail server can route, forward, and process incoming and
27 outgoing mail messages that have been sent, relayed and/or otherwise traversing
28 through and/or to the GPPM.

1 **[00233]** Access to the GPPM mail may be achieved through a number of APIs
2 offered by the individual Web server components and/or the operating system.

3 **[00234]** Also, a mail server may contain, communicate, generate, obtain, and/or
4 provide program component, system, user, and/or data communications, requests,
5 information, and/or responses.

6 **Mail Client**

7 **[00235]** A mail client component 922 is a stored program component that is
8 executed by a CPU 903. The mail client may be a conventional mail viewing application
9 such as Apple Mail, Microsoft Entourage, Microsoft Outlook, Microsoft Outlook
10 Express, Mozilla, Thunderbird, and/or the like. Mail clients may support a number of
11 transfer protocols, such as: IMAP, Microsoft Exchange, POP3, SMTP, and/or the like. A
12 mail client may communicate to and/or with other components in a component
13 collection, including itself, and/or facilities of the like. Most frequently, the mail client
14 communicates with mail servers, operating systems, other mail clients, and/or the like;
15 e.g., it may contain, communicate, generate, obtain, and/or provide program
16 component, system, user, and/or data communications, requests, information, and/or
17 responses. Generally, the mail client provides a facility to compose and transmit
18 electronic mail messages.

19 **Cryptographic Server**

20 **[00236]** A cryptographic server component 920 is a stored program component
21 that is executed by a CPU 903, cryptographic processor 926, cryptographic processor
22 interface 927, cryptographic processor device 928, and/or the like. Cryptographic
23 processor interfaces will allow for expedition of encryption and/or decryption requests
24 by the cryptographic component; however, the cryptographic component, alternatively,
25 may run on a conventional CPU. The cryptographic component allows for the
26 encryption and/or decryption of provided data. The cryptographic component allows
27 for both symmetric and asymmetric (e.g., Pretty Good Protection (PGP)) encryption
28 and/or decryption. The cryptographic component may employ cryptographic

1 techniques such as, but not limited to: digital certificates (e.g., X.509 authentication
2 framework), digital signatures, dual signatures, enveloping, password access
3 protection, public key management, and/or the like. The cryptographic component will
4 facilitate numerous (encryption and/or decryption) security protocols such as, but not
5 limited to: checksum, Data Encryption Standard (DES), Elliptical Curve Encryption
6 (ECC), International Data Encryption Algorithm (IDEA), Message Digest 5 (MD5,
7 which is a one way hash operation), passwords, Rivest Cipher (RC5), Rijndael, RSA
8 (which is an Internet encryption and authentication system that uses an algorithm
9 developed in 1977 by Ron Rivest, Adi Shamir, and Leonard Adleman), Secure Hash
10 Algorithm (SHA), Secure Socket Layer (SSL), Secure Hypertext Transfer Protocol
11 (HTTPS), and/or the like. Employing such encryption security protocols, the GPPM
12 may encrypt all incoming and/or outgoing communications and may serve as node
13 within a virtual private network (VPN) with a wider communications network. The
14 cryptographic component facilitates the process of “security authorization” whereby
15 access to a resource is inhibited by a security protocol wherein the cryptographic
16 component effects authorized access to the secured resource. In addition, the
17 cryptographic component may provide unique identifiers of content, e.g., employing
18 and MD5 hash to obtain a unique signature for an digital audio file. A cryptographic
19 component may communicate to and/or with other components in a component
20 collection, including itself, and/or facilities of the like. The cryptographic component
21 supports encryption schemes allowing for the secure transmission of information
22 across a communications network to enable the GPPM component to engage in secure
23 transactions if so desired. The cryptographic component facilitates the secure accessing
24 of resources on the GPPM and facilitates the access of secured resources on remote
25 systems; i.e., it may act as a client and/or server of secured resources. Most frequently,
26 the cryptographic component communicates with information servers, operating
27 systems, other program components, and/or the like. The cryptographic component
28 may contain, communicate, generate, obtain, and/or provide program component,
29 system, user, and/or data communications, requests, and/or responses.

The GPPM Database

[00237] The GPPM database component 919 may be embodied in a database and its stored data. The database is a stored program component, which is executed by the CPU; the stored program component portion configuring the CPU to process the stored data. The database may be a conventional, fault tolerant, relational, scalable, secure database such as Oracle or Sybase. Relational databases are an extension of a flat file. Relational databases consist of a series of related tables. The tables are interconnected via a key field. Use of the key field allows the combination of the tables by indexing against the key field; i.e., the key fields act as dimensional pivot points for combining information from various tables. Relationships generally identify links maintained between tables by matching primary keys. Primary keys represent fields that uniquely identify the rows of a table in a relational database. More precisely, they uniquely identify rows of a table on the “one” side of a one-to-many relationship.

[00238] Alternatively, the GPPM database may be implemented using various standard data-structures, such as an array, hash, (linked) list, struct, structured text file (e.g., XML), table, and/or the like. Such data-structures may be stored in memory and/or in (structured) files. In another alternative, an object-oriented database may be used, such as Frontier, ObjectStore, Poet, Zope, and/or the like. Object databases can include a number of object collections that are grouped and/or linked together by common attributes; they may be related to other object collections by some common attributes. Object-oriented databases perform similarly to relational databases with the exception that objects are not just pieces of data but may have other types of capabilities encapsulated within a given object. If the GPPM database is implemented as a data-structure, the use of the GPPM database 919 may be integrated into another component such as the GPPM component 935. Also, the database may be implemented as a mix of data structures, objects, and relational structures. Databases may be consolidated and/or distributed in countless variations through standard data processing techniques. Portions of databases, e.g., tables, may be exported and/or imported and thus decentralized and/or integrated.

1 **[00239]** In one embodiment, the database component 919 includes several tables
2 919a-l. A producers table 919a may include fields such as, but not limited to:
3 producer_id, producer_name, state, address_firstline, address_secondline, zipcode,
4 devices_list, account_info, producer_assets, contact_info, contact_type,
5 alt_contact_info, alt_contact_type, financial_data, and/or the like.

6 **[00240]** A purchasers table 919b may include fields such as, but not limited to:
7 purchaser_ID, purchaser_name, history, account_data, contact_data,
8 financial_records, and/or the like.

9 **[00241]** An accounts table 919c may include fields such as, but not limited to:
10 account_ID, location, assets, crops, acreage, historical, history, deals, trades,
11 instruments, devices, and/or the like.

12 **[00242]** A profiles table 919d may include fields such as, but not limited to:
13 profile_ID, parameters, history, location, and/or the like.

14 **[00243]** A geo table 919e may include fields such as, but not limited to: geo_id,
15 geo_details, geo_assets, geo_accounts, and/or the like.

16 **[00244]** A resources table 919f may include fields such as, but not limited to:
17 resource_id, location, associations, parameters, history and/or the like.

18 **[00245]** An equipment table 919g may include fields such as, but not limited to:
19 equipment_ID, location, parameters, associations, details, model, and/or the like.

20 **[00246]** A storage table 919h may include fields such as, but not limited to:
21 storage_id, location, parameters, resource, type, history and/or the like.

22 **[00247]** A commodity table 919i may include fields such as, but not limited to:
23 commodity_ID, type, parameters, details, market, price, trend, and/or the like.

24 **[00248]** A transaction table 919j may include fields such as, but not limited to:
25 transaction_ID, parties, parameters, history, details, and/or the like.

1 **[00249]** A devices table 919k may include fields such as, but not limited to:
2 device_ID, associations, history, parameters, location, owner, account, and/or the like.

3 **[00250]** A Market Data table 919l may include fields such as, but not limited to:
4 market_data_feed_ID, asset_ID, asset_symbol, asset_name, spot_price, bid_price,
5 ask_price, and/or the like; in one embodiment, the market data table is populated
6 through a market data feed (e.g., Bloomberg's PhatPipe, Dun & Bradstreet, Reuter's
7 Tib, Triarch, etc.), for example, through Microsoft's Active Template Library and
8 Dealing Object Technology's real-time toolkit Rtt.Multi.

9 **[00251]** In one embodiment, the GPPM database may interact with other database
10 systems. For example, employing a distributed database system, queries and data
11 access by search GPPM component may treat the combination of the GPPM database,
12 an integrated data security layer database as a single database entity.

13 **[00252]** In one embodiment, user programs may contain various user interface
14 primitives, which may serve to update the GPPM. Also, various accounts may require
15 custom database tables depending upon the environments and the types of clients the
16 GPPM may need to serve. It should be noted that any unique fields may be designated
17 as a key field throughout. In an alternative embodiment, these tables have been
18 decentralized into their own databases and their respective database controllers (i.e.,
19 individual database controllers for each of the above tables). Employing standard data
20 processing techniques, one may further distribute the databases over several computer
21 systemizations and/or storage devices. Similarly, configurations of the decentralized
22 database controllers may be varied by consolidating and/or distributing the various
23 database components 919a-l. The GPPM may be configured to keep track of various
24 settings, inputs, and parameters via database controllers.

25 **[00253]** The GPPM database may communicate to and/or with other components
26 in a component collection, including itself, and/or facilities of the like. Most frequently,
27 the GPPM database communicates with the GPPM component, other program
28 components, and/or the like. The database may contain, retain, and provide
29 information regarding other nodes and data.

The GPPMs

[00254] The GPPM component 935 is a stored program component that is executed by a CPU. In one embodiment, the GPPM component incorporates any and/or all combinations of the aspects of the GPPM discussed in the previous figures. As such, the GPPM affects accessing, obtaining and the provision of information, services, transactions, and/or the like across various communications networks. The features and embodiments of the GPPM discussed herein increase network efficiency by reducing data transfer requirements the use of more efficient data structures and mechanisms for their transfer and storage. As a consequence, more data may be transferred in less time, and latencies with regard to transactions, are also reduced. In many cases, such reduction in storage, transfer time, bandwidth requirements, latencies, etc., will reduce the capacity and structural infrastructure requirements to support the GPPM's features and facilities, and in many cases reduce the costs, energy consumption/requirements, and extend the life of GPPM's underlying infrastructure; this has the added benefit of making the GPPM more reliable. Similarly, many of the features and mechanisms are designed to be easier for users to use and access, thereby broadening the audience that may enjoy/employ and exploit the feature sets of the GPPM; such ease of use also helps to increase the reliability of the GPPM. In addition, the feature sets include heightened security as noted via the Cryptographic components 820, 826, 828 and throughout, making access to the features and data more reliable and secure.

[00255] The GPPM component may transform producer crop asset information via GPPM components into dynamic, automated, real-time, and/or near real-time inventory updates, and/or the like and use of the GPPM. In one embodiment, the GPPM component 935 takes inputs (e.g., storage requests, storage volume updates, farm service agency data, agribusiness data, futures/cash bid services data, financial services data, offers to buy, offers to sell, insurance data, market data, inventory data, available volume requests, purchase requests, and/or the like) etc., and transforms the inputs via various components (e.g., integration component 941; PAE component 942; CGS inventory component 943; matching component 944; matching component 945;

1 PP inventory component 946; profile generation component 947; RRCU component
2 948; publication component 949; PT component 950; LFM component 951; Risk
3 component 952; and/or the like), into outputs (e.g., responses; updates; available
4 volume; portfolio values; crop values; purchase orders; market data updates; and/or
5 the like).

6 **[00256]** The GPPM component enabling access of information between nodes may
7 be developed by employing standard development tools and languages such as, but not
8 limited to: Apache components, Assembly, ActiveX, binary executables, (ANSI)
9 (Objective-) C (++), C# and/or .NET, database adapters, CGI scripts, Java, JavaScript,
10 mapping tools, procedural and object oriented development tools, PERL, PHP, Python,
11 shell scripts, SQL commands, web application server extensions, web development
12 environments and libraries (e.g., Microsoft's ActiveX; Adobe AIR, FLEX & FLASH;
13 AJAX; (D)HTML; Dojo, Java; JavaScript; jQuery(UI); MooTools; Prototype;
14 script.aculo.us; Simple Object Access Protocol (SOAP); SWFObject; Yahoo! User
15 Interface; and/or the like), WebObjects, and/or the like. In one embodiment, the
16 GPPM server employs a cryptographic server to encrypt and decrypt communications.
17 The GPPM component may communicate to and/or with other components in a
18 component collection, including itself, and/or facilities of the like. Most frequently, the
19 GPPM component communicates with the GPPM database, operating systems, other
20 program components, and/or the like. The GPPM may contain, communicate,
21 generate, obtain, and/or provide program component, system, user, and/or data
22 communications, requests, and/or responses.

23

Distributed GPPMs

24 **[00257]** The structure and/or operation of any of the GPPM node controller
25 components may be combined, consolidated, and/or distributed in any number of ways
26 to facilitate development and/or deployment. Similarly, the component collection may
27 be combined in any number of ways to facilitate deployment and/or development. To
28 accomplish this, one may integrate the components into a common code base or in a
29 facility that can dynamically load the components on demand in an integrated fashion.

1 **[00258]** The component collection may be consolidated and/or distributed in
2 countless variations through standard data processing and/or development techniques.
3 Multiple instances of any one of the program components in the program component
4 collection may be instantiated on a single node, and/or across numerous nodes to
5 improve performance through load-balancing and/or data-processing techniques.
6 Furthermore, single instances may also be distributed across multiple controllers
7 and/or storage devices; e.g., databases. All program component instances and
8 controllers working in concert may do so through standard data processing
9 communication techniques.

10 **[00259]** The configuration of the GPPM controller will depend on the context of
11 system deployment. Factors such as, but not limited to, the budget, capacity, location,
12 and/or use of the underlying hardware resources may affect deployment requirements
13 and configuration. Regardless of if the configuration results in more consolidated
14 and/or integrated program components, results in a more distributed series of program
15 components, and/or results in some combination between a consolidated and
16 distributed configuration, data may be communicated, obtained, and/or provided.
17 Instances of components consolidated into a common code base from the program
18 component collection may communicate, obtain, and/or provide data. This may be
19 accomplished through intra-application data processing communication techniques
20 such as, but not limited to: data referencing (e.g., pointers), internal messaging, object
21 instance variable communication, shared memory space, variable passing, and/or the
22 like.

23 **[00260]** If component collection components are discrete, separate, and/or
24 external to one another, then communicating, obtaining, and/or providing data with
25 and/or to other components may be accomplished through inter-application data
26 processing communication techniques such as, but not limited to: Application Program
27 Interfaces (API) information passage; (distributed) Component Object Model
28 ((D)COM), (Distributed) Object Linking and Embedding ((D)OLE), and/or the like),
29 Common Object Request Broker Architecture (CORBA), Jini local and remote
30 application program interfaces, JavaScript Object Notation (JSON), Remote Method

1 Invocation (RMI), SOAP, process pipes, shared files, and/or the like. Messages sent
2 between discrete component components for inter-application communication or
3 within memory spaces of a singular component for intra-application communication
4 may be facilitated through the creation and parsing of a grammar. A grammar may be
5 developed by using development tools such as lex, yacc, XML, and/or the like, which
6 allow for grammar generation and parsing capabilities, which in turn may form the
7 basis of communication messages within and between components.

8 **[00261]** For example, a grammar may be arranged to recognize the tokens of an
9 HTTP post command, e.g.:

10 `w3c -post http://... Value1`
11

12 **[00262]** where Value1 is discerned as being a parameter because “http://” is part of
13 the grammar syntax, and what follows is considered part of the post value. Similarly,
14 with such a grammar, a variable “Value1” may be inserted into an “http://” post
15 command and then sent. The grammar syntax itself may be presented as structured
16 data that is interpreted and/or otherwise used to generate the parsing mechanism (e.g.,
17 a syntax description text file as processed by lex, yacc, etc.). Also, once the parsing
18 mechanism is generated and/or instantiated, it itself may process and/or parse
19 structured data such as, but not limited to: character (e.g., tab) delineated text, HTML,
20 structured text streams, XML, and/or the like structured data. In another embodiment,
21 inter-application data processing protocols themselves may have integrated and/or
22 readily available parsers (e.g., JSON, SOAP, and/or like parsers) that may be employed
23 to parse (e.g., communications) data. Further, the parsing grammar may be used
24 beyond message parsing, but may also be used to parse: databases, data collections,
25 data stores, structured data, and/or the like. Again, the desired configuration will
26 depend upon the context, environment, and requirements of system deployment.

27 **[00263]** For example, in some implementations, the GPPM controller may be
28 executing a PHP script implementing a Secure Sockets Layer (“SSL”) socket server via
29 the information server, which listens to incoming communications on a server port to
30 which a client may send data, e.g., data encoded in JSON format. Upon identifying an

1 incoming communication, the PHP script may read the incoming message from the
2 client device, parse the received JSON-encoded text data to extract information from
3 the JSON-encoded text data into PHP script variables, and store the data (e.g., client
4 identifying information, etc.) and/or extracted information in a relational database
5 accessible using the Structured Query Language (“SQL”). An exemplary listing, written
6 substantially in the form of PHP/SQL commands, to accept JSON-encoded input data
7 from a client device via a SSL connection, parse the data to extract variables, and store
8 the data to a database, is provided below:

```
9  <?PHP
10  header('Content-Type: text/plain');
11
12  // set ip address and port to listen to for incoming data
13  $address = '192.168.0.100';
14  $port = 255;
15
16  // create a server-side SSL socket, listen for/accept incoming
17  communication
18  $sock = socket_create(AF_INET, SOCK_STREAM, 0);
19  socket_bind($sock, $address, $port) or die('Could not bind to
20  address');
21  socket_listen($sock);
22  $client = socket_accept($sock);
23
24  // read input data from client device in 1024 byte blocks until
25  end of message
26  do {
27      $input = "";
28      $input = socket_read($client, 1024);
29      $data .= $input;
30  } while($input != "");
31
32  // parse data to extract variables
33  $obj = json_decode($data, true);
```

```
1
2 // store input data in a database
3 mysql_connect("201.408.185.132",$DBserver,$password); // access
4     database server
5 mysql_select("CLIENT_DB.SQL"); // select database to append
6 mysql_query("INSERT INTO UserTable (transmission)
7 VALUES ($data)"); // add data to UserTable table in a CLIENT
8     database
9 mysql_close("CLIENT_DB.SQL"); // close connection to database
10 ?>
```

11
12 **[00264]** Also, the following resources may be used to provide example
13 embodiments regarding SOAP parser implementation:

```
14 http://www.xav.com/perl/site/lib/SOAP/Parser.html
15 http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?
16     topic=/com.ibm.IBMDI.doc/referenceguide295.htm
```

17
18 **[00265]** and other parser implementations:

```
19 http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp?
20     topic=/com.ibm.IBMDI.doc/referenceguide259.htm
```

21
22 **[00266]** all of which are hereby expressly incorporated by reference herein.

23 **[00267]** In some implementations, a user may download and install a GPPM
24 mobile component on a mobile device (e.g., an Apple iPhone, a BlackBerry, a Google
25 Android, a Samsung Galaxy, etc.) or other portable web-enabled computing device.
26 Integration of the mobile component reduces the number of network transactions and
27 messages that fulfill GPPM information requests and transmissions, as well as
28 associated services. In this way, with the reduction of network communications, the
29 number of transactions that may be processed per day is increased, i.e., processing
30 efficiency is improved. Additionally, by the collection and provision of real-time, near-
31 real-time and/or dynamic crop asset data allows for more efficient and accurate pricing

1 of grain/commodity sales, market pricing and instrument trading, and/or improved
2 farm management. The GPPM allows a farmer to more quickly and efficiently manage
3 his or her farm, including sales of agricultural assets, and may also provide for more
4 efficient logistics (e.g., by allow shippers to fill up available cargo efficiently and on the
5 fly).

6 **[00268]** It is to be understood that various embodiments of the GPPM may suitably
7 comprise, consist of, or consist essentially of, various combinations of the disclosed
8 elements, components, features, parts, steps, means, etc. Some of the disclosed
9 features, elements, implementation, etc., may be mutually contradictory, in that they
10 cannot be simultaneously present in a single embodiment. Similarly, some features are
11 applicable to one aspect of the disclosure, and inapplicable to others.

12 **[00269]** The follow items provide exemplary embodiments of the GPPM:

13 **[00270]** 1. A crop asset tracking processor-implemented method, comprising:
14 providing, creating and/or enabling access to a producer crop asset management
15 account for a producer; receiving crop asset storage resource information, the crop
16 asset storage resource information including storage resource location data for an at
17 least one crop storage resource; associating received crop asset storage resource
18 information with the producer crop asset management account; associating an at least
19 one mobile device with the producer crop asset management account; determining via
20 a processor when the at least one mobile device is within a specified distance of the
21 location of the at least one crop storage resource; generating a notification on the at
22 least one mobile device based on the determination that the at least one mobile device
23 is within the specified distance of the location of the at least one crop storage resource,
24 the notification including a request to provide near-real-time crop state data for the at
25 least one crop storage resource; receiving near-real-time crop state data for the at least
26 one crop storage resource; and associating the received near-real-time crop state data
27 with the producer crop asset management account.

28 **[00271]** 2. The method of item 1, wherein the at least one crop storage resource is a
29 crop field.

- 1 **[00272]** 3. The method of item 1, wherein the at least one crop storage resource is a
2 harvested crop storage facility.
- 3 **[00273]** 4. The method of item 3, wherein the harvested crop storage facility is a
4 storage bin.
- 5 **[00274]** 5. The method of any of items 1-4, further comprising monitoring the
6 location of the at least one mobile device.
- 7 **[00275]** 6. The method of any of items 1-5, wherein receiving near-real-time crop
8 state data comprises receiving an at least one image captured by the mobile device.
- 9 **[00276]** 7. The method of any of items 1-5, wherein receiving near-real-time crop
10 state data comprises receiving precision agricultural equipment data.
- 11 **[00277]** 8. The method of any of items 1-7, wherein the crop state data comprises
12 volume data.
- 13 **[00278]** 9. The method of any of items 1-7, wherein the crop state data comprises
14 an indication that the crop is ready for harvest.
- 15 **[00279]** 10. A crop asset tracking apparatus, comprising: a processor; and a
16 memory disposed in communication with the processor and storing processor-issuable
17 instructions to: create a producer crop asset management account for a producer;
18 receive crop asset storage resource information, the crop asset storage resource
19 information including storage resource location data for an at least one crop storage
20 resource; associate received crop asset storage resource information with the producer
21 crop asset management account; associate an at least one mobile device with the
22 producer crop asset management account; determine when the at least one mobile
23 device is within a specified distance of the at least one crop storage resource location;
24 generate and provide a notification on the at least one mobile device based on the
25 determination that the at least one mobile device is within the specified distance of the
26 at least one crop storage resource location, the notification including a request to
27 provide near-real-time crop volume data for the at least one crop storage resource;

1 receive near-real-time crop volume data for the at least one crop storage resource; and
2 associate the received near-real-time crop volume data with the producer crop asset
3 management account.

4 **[00280]** 11. The apparatus of item 10, wherein receiving near-real-time crop
5 volume data comprises receiving an at least one image captured by the mobile device.

6 **[00281]** 12. A processor-readable non-transitory tangible medium storing
7 processor-issuable crop asset tracking instructions to: create a producer crop asset
8 management account for a producer; receive crop asset storage resource information,
9 the crop asset storage resource information including storage resource location data for
10 an at least one crop storage resource; associate received crop asset storage resource
11 information with the producer crop asset management account; associate an at least
12 one mobile device with the producer crop asset management account; determine when
13 the at least one mobile device is within a specified distance of the at least one crop
14 storage resource location; generate a notification on the at least one mobile device
15 based on the determination that the at least one mobile device is within the specified
16 distance of the at least one crop storage resource location, the notification including a
17 request to provide near-real-time crop volume data for the at least one crop storage
18 resource; receive near-real-time crop volume data for the at least one crop storage
19 resource; and associate the received near-real-time crop volume data with the producer
20 crop asset management account.

21 **[00282]** 13. A crop asset tracking apparatus, comprising: a processor; and a
22 memory disposed in communication with the processor and storing processor-issuable
23 instructions to: provide, create and/or enable access to a producer crop asset
24 management account for a producer; receive crop asset storage resource information,
25 the crop asset storage resource information including storage resource location data for
26 an at least one crop storage resource; associate received crop asset storage resource
27 information with the producer crop asset management account; associate an at least
28 one mobile device with the producer crop asset management account; determine when
29 the at least one mobile device is within a specified distance of the location of the at least
30 one crop storage resource; generate a notification on the at least one mobile device

1 based on the determination that the at least one mobile device is within the specified
2 distance of the location of the at least one crop storage resource, the notification
3 including a request to provide near-real-time crop state data for the at least one crop
4 storage resource; receive near-real-time crop state data for the at least one crop storage
5 resource; and associate the received near-real-time crop state data with the producer
6 crop asset management account.

7 **[00283]** 14. The apparatus of item 13, wherein the at least one crop storage
8 resource is a crop field.

9 **[00284]** 15. The apparatus of item 13, wherein the at least one crop storage
10 resource is a harvested crop storage facility.

11 **[00285]** 16. The apparatus of item 15, wherein the harvested crop storage facility is
12 a storage bin.

13 **[00286]** 17. The apparatus of any of items 13-16, further comprising instructions to
14 monitor the location of the at least one mobile device.

15 **[00287]** 18. The apparatus of any of items 13-17, wherein receiving near-real-time
16 crop state data comprises receiving an at least one image captured by the mobile
17 device.

18 **[00288]** 19. The apparatus of any of items 13-17, wherein receiving near-real-time
19 crop state data comprises receiving precision agricultural equipment data.

20 **[00289]** 20. The apparatus of any of items 13-17, wherein receiving near-real-time
21 crop state data comprises receiving satellite data.

22 **[00290]** 21. The apparatus of any of items 13-17, wherein receiving near-real-time
23 crop state data comprises receiving satellite image data.

24 **[00291]** 22. The apparatus of any of items 13-21, wherein the crop state data
25 comprises volume data.

1 **[00292]** 23. The apparatus of any of items 13-21, wherein the crop state data
2 comprises an indication that the crop is ready for harvest.

3 **[00293]** 24. A processor-readable non-transitory tangible medium storing
4 processor-issuable crop asset tracking instructions to: provide, create and/or enable
5 access to a producer crop asset management account for a producer; receive crop asset
6 storage resource information, the crop asset storage resource information including
7 storage resource location data for an at least one crop storage resource; associate
8 received crop asset storage resource information with the producer crop asset
9 management account; associate an at least one mobile device with the producer crop
10 asset management account; determine when the at least one mobile device is within a
11 specified distance of the location of the at least one crop storage resource; generate a
12 notification on the at least one mobile device based on the determination that the at
13 least one mobile device is within the specified distance of the location of the at least one
14 crop storage resource, the notification including a request to provide near-real-time
15 crop state data for the at least one crop storage resource; receive near-real-time crop
16 state data for the at least one crop storage resource; and associate the received near-
17 real-time crop state data with the producer crop asset management account.

18 **[00294]** 25. The medium of item 24, wherein the at least one crop storage resource
19 is a crop field.

20 **[00295]** 26. The medium of item 24, wherein the at least one crop storage resource
21 is a harvested crop storage facility.

22 **[00296]** 27. The medium of item 26, wherein the harvested crop storage facility is a
23 storage bin.

24 **[00297]** 28. The medium of any of items 24-27, further comprising instructions to
25 monitor the location of the at least one mobile device.

26 **[00298]** 29. The medium of any of items 24-28, wherein receiving near-real-time
27 crop state data comprises receiving an at least one image captured by the mobile
28 device.

- 1 **[00299]** 30. The medium of any of items 24-28, wherein receiving near-real-time
2 crop state data comprises receiving precision agricultural equipment data.
- 3 **[00300]** 31. The medium of any of items 24-28, wherein receiving near-real-time
4 crop state data comprises receiving satellite data.
- 5 **[00301]** 32. The medium of any of items 24-28, wherein receiving near-real-time
6 crop state data comprises receiving satellite image data.
- 7 **[00302]** 33. The medium of any of items 24-32, wherein the crop state data
8 comprises volume data.
- 9 **[00303]** 34. The medium of any of items 24-32, wherein the crop state data
10 comprises an indication that the crop is ready for harvest.
- 11 **[00304]** 35. A crop asset tracking system, comprising: means to provide, create
12 and/or enable access to a producer crop asset management account for a producer;
13 means to receive crop asset storage resource information, the crop asset storage
14 resource information including storage resource location data for an at least one crop
15 storage resource; means to associate received crop asset storage resource information
16 with the producer crop asset management account; means to associate an at least one
17 mobile device with the producer crop asset management account; means to determine
18 when the at least one mobile device is within a specified distance of the location of the
19 at least one crop storage resource; means to generate a notification on the at least one
20 mobile device based on the determination that the at least one mobile device is within
21 the specified distance of the location of the at least one crop storage resource, the
22 notification including a request to provide near-real-time crop state data for the at least
23 one crop storage resource; means to receive near-real-time crop state data for the at
24 least one crop storage resource; and means to associate the received near-real-time
25 crop state data with the producer crop asset management account.
- 26 **[00305]** 36. The system of item 35, wherein the at least one crop storage resource is
27 a crop field.

- 1 **[00306]** 37. The system of item 35, wherein the at least one crop storage resource is
2 a harvested crop storage facility.
- 3 **[00307]** 38. The system of item 37, wherein the harvested crop storage facility is a
4 storage bin.
- 5 **[00308]** 39. The system of any of items 35-38, further comprising means to
6 monitor the location of the at least one mobile device.
- 7 **[00309]** 40. The system of any of items 35-39, wherein receiving near-real-time
8 crop state data comprises receiving an at least one image captured by the mobile
9 device.
- 10 **[00310]** 41. The system of any of items 35-39, wherein receiving near-real-time
11 crop state data comprises receiving precision agricultural equipment data.
- 12 **[00311]** 42. The system of any of items 35-39, wherein receiving near-real-time
13 crop state data comprises receiving satellite data.
- 14 **[00312]** 43. The system of any of items 35-39, wherein receiving near-real-time
15 crop state data comprises receiving satellite image data.
- 16 **[00313]** 44. The system of any of items 35-43, wherein the crop state data
17 comprises volume data.
- 18 **[00314]** 45. The system of any of items 35-43, wherein the crop state data
19 comprises an indication that the crop is ready for harvest.
- 20 **[00315]** 46. An agricultural commodity asset management processor-implemented
21 method, comprising: providing, creating, maintaining, and/or enabling access to an
22 agricultural commodity asset management account for an agricultural asset producer;
23 receiving harvested agricultural asset storage resource information for an at least one
24 harvested agricultural asset storage resource associated with the agricultural asset
25 producer, the harvested agricultural asset storage resource information including
26 location data; receiving actual agricultural asset storage data for an at least one

1 agricultural asset stored in the at least one harvested agricultural asset storage
2 resource, the actual agricultural asset storage data including agricultural asset crop
3 type and agricultural asset volume; receiving in-field agricultural asset information for
4 an at least one agricultural asset associated with the agricultural asset producer, the in-
5 field agricultural asset information including agricultural asset crop type and
6 agricultural asset location data; receiving agricultural financial instrument data for an
7 at least one agricultural financial instrument associated with the agricultural
8 commodity asset management account; receiving agricultural asset market data;
9 determining via a processor an agricultural asset portfolio value for the agricultural
10 commodity asset management account based on the actual agricultural asset storage
11 data, the in-field agricultural asset information, the agricultural financial instrument
12 data and the agricultural asset market data; receiving near-real-time update
13 information for at least one of the actual agricultural asset storage data and the in-field
14 agricultural asset information; updating the determined agricultural asset portfolio
15 value based on the received near-real-time update information; and outputting the
16 updated agricultural asset portfolio value for the agricultural commodity asset
17 management account.

18 **[00316]** 47. The method of item 46, wherein the near-real-time update information
19 is provided via a mobile device associated with the agricultural asset producer.

20 **[00317]** 48. The method of item 46 or 47, wherein the at least one harvested
21 agricultural asset storage resource is on-farm storage.

22 **[00318]** 49. The method of any of items 46-48, wherein the at least one harvested
23 agricultural asset storage resource is shared with an at least one other asset agricultural
24 producer.

25 **[00319]** 50. An agricultural commodity asset management apparatus, comprising:
26 a processor; and a memory disposed in communication with the processor and storing
27 processor-issuable instructions to: provide, create, maintain and/or enable access to an
28 agricultural commodity asset management account for an agricultural asset producer;
29 receive harvested agricultural asset storage resource information for an at least one

1 harvested agricultural asset storage resource associated with the agricultural asset
2 producer, the harvested agricultural asset storage resource information including
3 location data; receive actual agricultural asset storage data for an at least one
4 agricultural asset stored in the at least one harvested agricultural asset storage
5 resource, the actual agricultural asset storage data including agricultural asset crop
6 type and agricultural asset volume; receive in-field agricultural asset information for an
7 at least one agricultural asset associated with agricultural asset producer, in-field
8 agricultural asset information including agricultural asset crop type and location data;
9 receive agricultural financial instrument data for an at least one agricultural financial
10 instrument associated with the agricultural commodity asset management account;
11 receive agricultural asset market data; determine an agricultural asset portfolio value
12 for the agricultural commodity asset management account based on the actual
13 agricultural asset storage data, the in-field agricultural asset information, the
14 agricultural financial instrument data and the agricultural asset market data; receive
15 near-real-time update information for at least one of the actual agricultural asset
16 storage data and the in-field agricultural asset information; update the determined
17 agricultural asset portfolio value based on the received near-real-time update
18 information; and output the updated agricultural asset portfolio value for the
19 agricultural commodity asset management account.

20 **[00320]** 51. The apparatus of item 50, wherein the near-real-time update
21 information is provided via a mobile device associated with the agricultural asset
22 producer.

23 **[00321]** 52. The apparatus of item 50 or 51, wherein the at least one harvested
24 agricultural asset storage resource is on-farm storage.

25 **[00322]** 53. The apparatus of item 50, 51 or 52, wherein the at least one harvested
26 agricultural asset storage resource is shared with an at least one other asset agricultural
27 producer.

28 **[00323]** 54. A processor-readable tangible medium storing processor-issuable
29 agricultural commodity asset management instructions to: provide, create, maintain

1 and/or enable access to an agricultural commodity asset management account for an
2 agricultural asset producer; receive harvested agricultural asset storage resource
3 information for an at least one harvested agricultural asset storage resource associated
4 with the agricultural asset producer, the harvested agricultural asset storage resource
5 information including location data; receive actual agricultural asset storage data for an
6 at least one agricultural asset stored in the at least one harvested agricultural asset
7 storage resource, the actual agricultural asset storage data including agricultural asset
8 crop type and agricultural asset volume; receive in-field agricultural asset information
9 for an at least one agricultural asset associated with agricultural asset producer, in-field
10 agricultural asset information including agricultural asset crop type and location data;
11 receive agricultural financial instrument data for an at least one agricultural financial
12 instrument associated with the agricultural commodity asset management account;
13 receive agricultural asset market data; determine an agricultural asset portfolio value
14 for the agricultural commodity asset management account based on the actual
15 agricultural asset storage data, the in-field agricultural asset information, the
16 agricultural financial instrument data and the agricultural asset market data; receive
17 near-real-time update information for at least one of the actual agricultural asset
18 storage data and the in-field agricultural asset information; update the determined
19 agricultural asset portfolio value based on the received near-real-time update
20 information; and output the updated agricultural asset portfolio value for the
21 agricultural commodity asset management account.

22 **[00324]** 55. The medium of item 54, wherein the near-real-time update
23 information is provided via a mobile device associated with the agricultural asset
24 producer.

25 **[00325]** 56. The medium of item 54 or 55, wherein the at least one harvested
26 agricultural asset storage resource is on-farm storage.

27 **[00326]** 57. The medium of item 54, 55, or 56, wherein the at least one harvested
28 agricultural asset storage resource is shared with an at least one other asset agricultural
29 producer.

1 **[00327]** 58. An agricultural commodity asset management system, comprising:
2 means to provide, create, maintain and/or enable access to an agricultural commodity
3 asset management account for an agricultural asset producer; receive harvested
4 agricultural asset storage resource information for an at least one harvested
5 agricultural asset storage resource associated with the agricultural asset producer, the
6 harvested agricultural asset storage resource information including location data;
7 means to receive actual agricultural asset storage data for an at least one agricultural
8 asset stored in the at least one harvested agricultural asset storage resource, the actual
9 agricultural asset storage data including agricultural asset crop type and agricultural
10 asset volume; means to receive in-field agricultural asset information for an at least one
11 agricultural asset associated with agricultural asset producer, in-field agricultural asset
12 information including agricultural asset crop type and location data; means to receive
13 agricultural financial instrument data for an at least one agricultural financial
14 instrument associated with the agricultural commodity asset management account;
15 means to receive agricultural asset market data; means to determine an agricultural
16 asset portfolio value for the agricultural commodity asset management account based
17 on the actual agricultural asset storage data, the in-field agricultural asset information,
18 the agricultural financial instrument data and the agricultural asset market data;
19 means to receive near-real-time update information for at least one of the actual
20 agricultural asset storage data and the in-field agricultural asset information; means to
21 update the determined agricultural asset portfolio value based on the received near-
22 real-time update information; and means to output the updated agricultural asset
23 portfolio value for the agricultural commodity asset management account.

24 **[00328]** 59. The system of item 58, wherein the at least one harvested agricultural
25 asset storage resource is on-farm storage.

26 **[00329]** 60. The system of item 58 or 59, wherein the at least one harvested
27 agricultural asset storage resource is shared with an at least one other asset agricultural
28 producer.

29 **[00330]** 61. A grain purchase management processor-implemented method,
30 comprising: receiving grain storage resource information for each of a plurality of grain

1 producers, the grain storage resource information including grain storage resource
2 location data, stored grain type data, and stored grain volume data; receiving a
3 location-based, grain-specific purchase inquiry from an at least one purchaser;
4 determining via a processor an aggregate grain volume available for purchase from the
5 received grain storage resource information based on the location-based, grain-specific
6 purchase inquiry and the grain storage resource location data, stored grain type data,
7 and stored grain volume data, the determination comprising accessing and/or utilizing
8 data from at least a threshold number of grain producers; providing the determined
9 aggregate grain volume available for purchase to the at least one purchaser in response
10 to the received location-based, grain-specific purchase inquiry; receiving a purchase
11 request from the purchaser based on the provided aggregate grain volume available for
12 purchase, the purchase request specifying at least one of a grain type, a grain purchase
13 volume and grain purchase price; and facilitating a transaction for the specified grain
14 type between the purchaser and at least one of the plurality of grain producers based on
15 the received purchase request.

16 **[00331]** 62. The method of item 61, wherein the received location-based, grain-
17 specific purchase inquiry includes initial boundary parameters defining a geographic
18 search area.

19 **[00332]** 63. The method of item 62, wherein the initial geographic boundary
20 parameters include a geographic search radius.

21 **[00333]** 64. The method of item 62 or 63, further comprising: modifying the initial
22 boundary parameters to provide data from at least the threshold number of grain
23 producers.

24 **[00334]** 65. A grain purchase management apparatus, comprising: a processor;
25 and a memory disposed in communication with the processor and storing processor-
26 issuable instructions to: receive grain storage resource information for each of a
27 plurality of grain producers, the grain storage resource information including grain
28 storage resource location data, stored grain type data, and stored grain volume data;
29 receive an at least one location-based, grain-specific purchase inquiry from an at least

1 one purchaser; determine an aggregate grain volume available for purchase from
2 received grain storage resource information based on the location-based, grain-specific
3 purchase inquiry and the grain storage resource location data, stored grain type data,
4 and stored grain volume data, the determination comprising accessing and utilizing
5 data from at least a threshold number of grain producers; provide the determined
6 aggregate grain volume available for purchase to the at least one purchaser in response
7 to the received location-based, grain-specific purchase inquiry; receive a purchase
8 request from the purchaser based on the provided aggregate grain volume available for
9 purchase, the purchase request specifying at least two of a grain type, a grain purchase
10 volume, and grain purchase price; and execute a transaction for the specified grain
11 type between the purchaser and at least one of the plurality of grain producers based on
12 the received purchase request.

13 **[00335]** 66. The apparatus of item 65, wherein the received location-based, grain-
14 specific purchase inquiry includes initial boundary parameters defining a geographic
15 search area.

16 **[00336]** 67. The apparatus of item 66, wherein the initial geographic boundary
17 parameters include a geographic search radius.

18 **[00337]** 68. The apparatus of item 66 or 67, further comprising processor-issuable
19 instructions to: modify the initial boundary parameters to provide data from at least
20 the threshold number of grain producers.

21 **[00338]** 69. A processor-readable tangible medium storing processor-issuable
22 grain purchase management instructions to: receive grain storage resource information
23 for each of a plurality of grain producers, the grain storage resource information
24 including grain storage resource location data, stored grain type data, and stored grain
25 volume data; receive a location-based, grain-specific purchase inquiry from an at least
26 one purchaser; determine an aggregate grain volume available for purchase from
27 received grain storage resource information based on the location-based, grain-specific
28 purchase inquiry and the grain storage resource location data, stored grain type data,
29 and stored grain volume data, the determination including data from at least a

1 threshold number of grain producers; provide the determined aggregate grain volume
2 available for purchase to the at least one purchaser in response to the received location-
3 based, grain-specific purchase inquiry; receive a purchase request from the purchaser
4 based on the provided aggregate grain volume available for purchase, the purchase
5 request specifying a grain type and at least one of a grain purchase volume and grain
6 purchase price; and execute a transaction for the specified grain type between the
7 purchaser and at least one of the plurality of grain producers based on the received
8 purchase request.

9 **[00339]** 70. The medium of item 69, wherein the received location-based, grain-
10 specific purchase inquiry includes initial boundary parameters defining a geographic
11 search area.

12 **[00340]** 71. The medium of item 70, wherein the initial geographic boundary
13 parameters include a geographic search radius.

14 **[00341]** 72. The medium of item 70 or 71, further comprising instructions to:
15 modify the initial boundary parameters to provide data from at least the threshold
16 number of grain producers.

17 **[00342]** 73. A grain purchase management system, comprising: means to receive
18 grain storage resource information for each of a plurality of grain producers, the grain
19 storage resource information including grain storage resource location data, stored
20 grain type data, and stored grain volume data; means to receive an at least one
21 location-based, grain-specific purchase inquiry from an at least one purchaser; means
22 to determine an aggregate grain volume available for purchase from received grain
23 storage resource information based on the location-based, grain-specific purchase
24 inquiry and the grain storage resource location data, stored grain type data, and stored
25 grain volume data, the determination comprising accessing and utilizing data from at
26 least a threshold number of grain producers; means to provide the determined
27 aggregate grain volume available for purchase to the at least one purchaser in response
28 to the received location-based, grain-specific purchase inquiry; means to receive a
29 purchase request from the purchaser based on the provided aggregate grain volume

1 available for purchase, the purchase request specifying at least two of a grain type, a
2 grain purchase volume, and grain purchase price; and means to execute a transaction
3 for the specified grain type between the purchaser and at least one of the plurality of
4 grain producers based on the received purchase request.

5 **[00343]** 74. The system of item 73, wherein the received location-based, grain-
6 specific purchase inquiry includes initial boundary parameters defining a geographic
7 search area.

8 **[00344]** 75. The system of item 74, wherein the initial geographic boundary
9 parameters include a geographic search radius.

10 **[00345]** 76. The system of item 75 or 76, further comprising: means to modify the
11 initial boundary parameters to provide data from at least the threshold number of grain
12 producers.

13 **[00346]** 77. The method of any of items 61-64, wherein the purchaser is livestock
14 raiser or a feedlot.

15 **[00347]** 78. The apparatus of any of items 65-68, wherein the purchaser is
16 livestock raiser or a feedlot.

17 **[00348]** 79. The medium of any of items 69-72, wherein the purchaser is livestock
18 raiser or a feedlot.

19 **[00349]** 80. The system of any of items 73-76, wherein the purchaser is livestock
20 raiser or a feedlot.

21 **[00350]** 81. A near-real-time geographic market data feed processor-implemented
22 method, comprising: maintaining an agricultural asset tracking account for each of a
23 plurality of agricultural asset producers, each agricultural asset tracking account
24 comprising agricultural asset account information including asset type data, asset
25 location data, and asset availability data; receiving an at least one near-real-time
26 update to the agricultural asset account information associated with at least one of the
27 plurality of agricultural asset producers; determining via a processor aggregate market

1 data for at least one geographic region from a set of the plurality of agricultural asset
2 producers based on the respective asset type data, asset location data, asset availability
3 data and the at least one near-real-time update to the respective agricultural asset
4 account information; and generating a near-real-time geographic market data feed
5 from the determined aggregate market data for the at least one geographic region.

6 **[00351]** 82. The method of item 1, wherein maintaining an agricultural asset
7 tracking account for an agricultural asset producer of the plurality of agricultural asset
8 producers comprises: receiving harvested agricultural asset storage resource
9 information for an at least one harvested agricultural asset storage resource associated
10 with the agricultural asset producer, the harvested agricultural asset storage resource
11 information including location data; receiving actual agricultural asset storage data for
12 an at least one agricultural asset stored in the at least one harvested agricultural asset
13 storage resource, the actual agricultural asset storage data including agricultural asset
14 crop type and agricultural asset volume; and receiving in-field agricultural asset
15 information for an at least one agricultural asset associated with the agricultural asset
16 producer, the in-field agricultural asset information including asset crop type and asset
17 location data.

18 **[00352]** 83. The method of item 81 or 82, wherein agricultural asset account
19 information includes in-field asset data.

20 **[00353]** 84. The method of item 81, 82 or 83, wherein agricultural asset account
21 information includes harvested asset data.

22 **[00354]** 85. The method of any of items 81-84, wherein agricultural asset account
23 information includes asset storage data.

24 **[00355]** 86. The method of any of items 81-85, wherein the at least one near-real-
25 time update to agricultural asset account information is received from a mobile device
26 associated with an agricultural asset producer from the plurality of agricultural asset
27 producers.

- 1 **[00356]** 87. The method of any of items 81-86, wherein the at least one near-real-
2 time update to asset account information is based on a transaction between an asset
3 producer and an asset purchaser.
- 4 **[00357]** 88. A near-real-time geographic market data feed apparatus, comprising:
5 **[00358]** a processor; and a memory disposed in communication with the processor
6 and storing processor-issuable instructions to: maintain an agricultural asset tracking
7 account for each of a plurality of agricultural asset producers, each agricultural asset
8 tracking account comprising agricultural asset account information including asset type
9 data, asset location data, and asset availability data; receive an at least one near-real-
10 time update to asset account information from at least one of the plurality of
11 agricultural asset producers; determine aggregate market data for a geographic region
12 from a set of the plurality of agricultural asset producers based on asset type data, asset
13 location data, asset availability data and the at least one near-real-time update to asset
14 account information; and generate a near-real-time geographic market data feed from
15 the determined aggregate market data for the geographic region.
- 16 **[00359]** 89. The apparatus of item 88, wherein asset account information includes
17 in-field asset data.
- 18 **[00360]** 90. The apparatus of item 88 or 89, wherein asset account information
19 includes harvested asset data.
- 20 **[00361]** 91. The apparatus of any of items 88-90, wherein asset account
21 information includes asset storage data.
- 22 **[00362]** 92. The apparatus of any of items 88-91, wherein the at least one near-
23 real-time update to asset account information is received from a mobile device
24 associated with an asset producer.
- 25 **[00363]** 93. The apparatus of any of items 88-92, wherein the at least one near-
26 real-time update to asset account information is based on a transaction between an
27 asset producer and an asset purchaser.

1 **[00364]** 94. A processor-readable tangible medium storing processor-issuable
2 near-real-time geographic market data feed instructions to: maintain an agricultural
3 asset tracking account for each of a plurality of agricultural asset producers, each
4 agricultural asset tracking account comprising agricultural asset account information
5 including asset type data, asset location data, and asset availability data; receive an at
6 least one near-real-time update to asset account information from at least one of the
7 plurality of agricultural asset producers; determine aggregate market data for a
8 geographic region from a set of the plurality of agricultural asset producers based on
9 asset type data, asset location data, asset availability data and the at least one near-real-
10 time update to asset account information; and generate a near-real-time geographic
11 market data feed from the determined aggregate market data for the geographic region.

12 **[00365]** 95. The medium of item 94, wherein asset account information includes
13 in-field asset data.

14 **[00366]** 96. The medium of item 94 or 95, wherein asset account information
15 includes harvested asset data.

16 **[00367]** 97. The medium of any of items 94-96, wherein asset account information
17 includes asset storage data.

18 **[00368]** 98. The medium of any of items 94-97, wherein the at least one near-real-
19 time update to asset account information is received from a mobile device associated
20 with an asset producer.

21 **[00369]** 99. The medium of any of items 94-98, wherein the at least one near-real-
22 time update to asset account information is based on a transaction between an asset
23 producer and an asset purchaser.

24 **[00370]** 100. A near-real-time geographic market data feed system, comprising:
25 means to maintain an agricultural asset tracking account for each of a plurality of
26 agricultural asset producers, each agricultural asset tracking account comprising
27 agricultural asset account information including asset type data, asset location data,
28 and asset availability data; means to receive an at least one near-real-time update to the

1 agricultural asset account information associated with at least one of the plurality of
2 agricultural asset producers; means to determine aggregate market data for at least one
3 geographic region from a set of the plurality of agricultural asset producers based on
4 the respective asset type data, asset location data, asset availability data and the at least
5 one near-real-time update to the respective agricultural asset account information;
6 means to generate a near-real-time geographic market data feed from the determined
7 aggregate market data for the at least one geographic region; wherein maintaining an
8 agricultural asset tracking account for an agricultural asset producer of the plurality of
9 agricultural asset producers comprises: means to receive harvested agricultural asset
10 storage resource information for an at least one harvested agricultural asset storage
11 resource associated with the agricultural asset producer, the harvested agricultural
12 asset storage resource information including location data; means to receive actual
13 agricultural asset storage data for an at least one agricultural asset stored in the at least
14 one harvested agricultural asset storage resource, the actual agricultural asset storage
15 data including agricultural asset crop type and agricultural asset volume; and means to
16 receive in-field agricultural asset information for an at least one agricultural asset
17 associated with the agricultural asset producer, the in-field agricultural asset
18 information including asset crop type and asset location data.

19 **[00371]** A variety of implementations of the GPPM are within the scope of this
20 disclosure, for example, the implementations provided as follows:

21 **[00372]** 1. A grain asset tracking processor-implemented method, comprising:
22 providing, creating and/or enabling access to a producer grain asset management
23 account for a producer; receiving grain asset storage resource information, the grain
24 asset storage resource information including storage resource location data for an at
25 least one grain storage resource; associating received grain asset storage resource
26 information with the producer grain asset management account; associating an at least
27 one mobile device with the producer grain asset management account; determining via
28 a processor when the at least one mobile device is within a specified distance of the
29 location of the at least one grain storage resource; generating a notification on the at
30 least one mobile device based on the determination that the at least one mobile device

1 is within the specified distance of the location of the at least one grain storage resource,
2 the notification including a request to provide automated/dynamic grain state data for
3 the at least one grain storage resource; receiving automated/dynamic grain state data
4 for the at least one grain storage resource; and associating the received
5 automated/dynamic grain state data with the producer grain asset management
6 account.

7 **[00373]** 2. The method of implementation 1, wherein the at least one grain storage
8 resource is a grain field.

9 **[00374]** 3. The method of implementation 1, wherein the at least one grain storage
10 resource is a harvested grain storage facility.

11 **[00375]** 4. The method of implementation 3, wherein the harvested grain storage
12 facility is a storage bin.

13 **[00376]** 5. The method of any of implementations 1-4, further comprising
14 monitoring the location of the at least one mobile device.

15 **[00377]** 6. The method of any of implementations 1-5, wherein receiving
16 automated/dynamic grain state data comprises receiving an at least one image
17 captured by the mobile device.

18 **[00378]** 7. The method of any of implementations 1-5, wherein receiving
19 automated/dynamic grain state data comprises receiving precision agricultural
20 equipment data.

21 **[00379]** 8. The method of any of implementations 1-7, wherein the grain state data
22 comprises volume data.

23 **[00380]** 9. The method of any of implementations 1-7, wherein the grain state data
24 comprises an indication that the grain is ready for harvest.

25 **[00381]** 10. A grain asset tracking apparatus, comprising: a processor; and a
26 memory disposed in communication with the processor and storing processor-issuable

1 instructions to: create a producer grain asset management account for a producer;
2 receive grain asset storage resource information, the grain asset storage resource
3 information including storage resource location data for an at least one grain storage
4 resource; associate received grain asset storage resource information with the producer
5 grain asset management account; associate an at least one mobile device with the
6 producer grain asset management account; determine when the at least one mobile
7 device is within a specified distance of the at least one grain storage resource location;
8 generate a notification on the at least one mobile device based on the determination
9 that the at least one mobile device is within the specified distance of the at least one
10 grain storage resource location, the notification including a request to provide
11 automated/dynamic grain volume data for the at least one grain storage resource;
12 receive automated/dynamic grain volume data for the at least one grain storage
13 resource; and associate the received automated/dynamic grain volume data with the
14 producer grain asset management account.

15 **[00382]** 11. The apparatus of implementation 10, wherein receiving
16 automated/dynamic grain volume data comprises receiving an at least one image
17 captured by the mobile device.

18 **[00383]** 12. A processor-readable non-transitory tangible medium storing
19 processor-issuable grain asset tracking instructions to: create a producer grain asset
20 management account for a producer; receive grain asset storage resource information,
21 the grain asset storage resource information including storage resource location data
22 for an at least one grain storage resource; associate received grain asset storage
23 resource information with the producer grain asset management account; associate an
24 at least one mobile device with the producer grain asset management account;
25 determine when the at least one mobile device is within a specified distance of the at
26 least one grain storage resource location; generate a notification on the at least one
27 mobile device based on the determination that the at least one mobile device is within
28 the specified distance of the at least one grain storage resource location, the notification
29 including a request to provide automated/dynamic grain volume data for the at least
30 one grain storage resource; receive automated/dynamic grain volume data for the at

1 least one grain storage resource; and associate the received automated/dynamic grain
2 volume data with the producer grain asset management account.

3 **[00384]** 13. A grain asset tracking apparatus, comprising: a processor; and a
4 memory disposed in communication with the processor and storing processor-issuable
5 instructions to: provide, create and/or enable access to a producer grain asset
6 management account for a producer; receive grain asset storage resource information,
7 the grain asset storage resource information including storage resource location data
8 for an at least one grain storage resource; associate received grain asset storage
9 resource information with the producer grain asset management account; associate an
10 at least one mobile device with the producer grain asset management account;
11 determine when the at least one mobile device is within a specified distance of the
12 location of the at least one grain storage resource; generate a notification on the at least
13 one mobile device based on the determination that the at least one mobile device is
14 within the specified distance of the location of the at least one grain storage resource,
15 the notification including a request to provide automated/dynamic grain state data for
16 the at least one grain storage resource; receive automated/dynamic grain state data for
17 the at least one grain storage resource; and associate the received automated/dynamic
18 grain state data with the producer grain asset management account.

19 **[00385]** 14. The apparatus of implementation 13, wherein the at least one grain
20 storage resource is a grain field.

21 **[00386]** 15. The apparatus of implementation 13, wherein the at least one grain
22 storage resource is a harvested grain storage facility.

23 **[00387]** 16. The apparatus of implementation 15, wherein the harvested grain
24 storage facility is a storage bin.

25 **[00388]** 17. The apparatus of any of implementations 13-16, further comprising
26 instructions to monitor the location of the at least one mobile device.

- 1 **[00389]** 18. The apparatus of any of implementations 13-17, wherein receiving
2 automated/dynamic grain state data comprises receiving an at least one image
3 captured by the mobile device.
- 4 **[00390]** 19. The apparatus of any of implementations 13-17, wherein receiving
5 automated/dynamic grain state data comprises receiving precision agricultural
6 equipment data.
- 7 **[00391]** 20. The apparatus of any of implementations 13-17, wherein receiving
8 automated/dynamic grain state data comprises receiving satellite data.
- 9 **[00392]** 21. The apparatus of any of implementations 13-17, wherein receiving
10 automated/dynamic grain state data comprises receiving satellite image data.
- 11 **[00393]** 22. The apparatus of any of implementations 13-21, wherein the grain state
12 data comprises volume data.
- 13 **[00394]** 23. The apparatus of any of implementations 13-21, wherein the grain state
14 data comprises an indication that the grain is ready for harvest.
- 15 **[00395]** 24. A processor-readable non-transitory tangible medium storing
16 processor-issuable grain asset tracking instructions to: provide, create and/or enable
17 access to a producer grain asset management account for a producer; receive grain
18 asset storage resource information, the grain asset storage resource information
19 including storage resource location data for an at least one grain storage resource;
20 associate received grain asset storage resource information with the producer grain
21 asset management account; associate an at least one mobile device with the producer
22 grain asset management account; determine when the at least one mobile device is
23 within a specified distance of the location of the at least one grain storage resource;
24 generate a notification on the at least one mobile device based on the determination
25 that the at least one mobile device is within the specified distance of the location of the
26 at least one grain storage resource, the notification including a request to provide
27 automated/dynamic grain state data for the at least one grain storage resource; receive
28 automated/dynamic grain state data for the at least one grain storage resource; and

- 1 associate the received automated/dynamic grain state data with the producer grain
2 asset management account.
- 3 **[00396]** 25. The medium of implementation 24, wherein the at least one grain
4 storage resource is a grain field.
- 5 **[00397]** 26. The medium of implementation 24, wherein the at least one grain
6 storage resource is a harvested grain storage facility.
- 7 **[00398]** 27. The medium of implementation 26, wherein the harvested grain
8 storage facility is a storage bin.
- 9 **[00399]** 28. The medium of any of implementations 24-27, further comprising
10 instructions to monitor the location of the at least one mobile device.
- 11 **[00400]** 29. The medium of any of implementations 24-28, wherein receiving
12 automated/dynamic grain state data comprises receiving an at least one image
13 captured by the mobile device.
- 14 **[00401]** 30. The medium of any of implementations 24-28, wherein receiving
15 automated/dynamic grain state data comprises receiving precision agricultural
16 equipment data.
- 17 **[00402]** 31. The medium of any of implementations 24-28, wherein receiving
18 automated/dynamic grain state data comprises receiving satellite data.
- 19 **[00403]** 32. The medium of any of implementations 24-28, wherein receiving
20 automated/dynamic grain state data comprises receiving satellite image data.
- 21 **[00404]** 33. The medium of any of implementations 24-32, wherein the grain state
22 data comprises volume data.
- 23 **[00405]** 34. The medium of any of implementations 24-32, wherein the grain state
24 data comprises an indication that the grain is ready for harvest.

1 **[00406]** 35. A grain asset tracking system, comprising: means to provide, create
2 and/or enable access to a producer grain asset management account for a producer;
3 means to receive grain asset storage resource information, the grain asset storage
4 resource information including storage resource location data for an at least one grain
5 storage resource; means to associate received grain asset storage resource information
6 with the producer grain asset management account; means to associate an at least one
7 mobile device with the producer grain asset management account; means to determine
8 when the at least one mobile device is within a specified distance of the location of the
9 at least one grain storage resource; means to generate a notification on the at least one
10 mobile device based on the determination that the at least one mobile device is within
11 the specified distance of the location of the at least one grain storage resource, the
12 notification including a request to provide automated/dynamic grain state data for the
13 at least one grain storage resource; means to receive automated/dynamic grain state
14 data for the at least one grain storage resource; and means to associate the received
15 automated/dynamic grain state data with the producer grain asset management
16 account.

17 **[00407]** 36. The system of implementation 35, wherein the at least one grain
18 storage resource is a grain field.

19 **[00408]** 37. The system of implementation 35, wherein the at least one grain
20 storage resource is a harvested grain storage facility.

21 **[00409]** 38. The system of implementation 37, wherein the harvested grain storage
22 facility is a storage bin.

23 **[00410]** 39. The system of any of implementations 35-38, further comprising
24 means to monitor the location of the at least one mobile device.

25 **[00411]** 40. The system of any of implementations 35-39, wherein receiving
26 automated/dynamic grain state data comprises receiving an at least one image
27 captured by the mobile device.

- 1 **[00412]** 41. The system of any of implementations 35-39, wherein receiving
2 automated/dynamic grain state data comprises receiving precision agricultural
3 equipment data.
- 4 **[00413]** 42. The system of any of implementations 35-39, wherein receiving
5 automated/dynamic grain state data comprises receiving satellite data.
- 6 **[00414]** 43. The system of any of implementations 35-39, wherein receiving
7 automated/dynamic grain state data comprises receiving satellite image data.
- 8 **[00415]** 44. The system of any of implementations 35-43, wherein the grain state
9 data comprises volume data.
- 10 **[00416]** 45. The system of any of implementations 35-43, wherein the grain state
11 data comprises an indication that the grain is ready for harvest.
- 12 **[00417]** 46. An agricultural commodity asset management processor-implemented
13 method, comprising: providing, creating, maintaining, and/or enabling access to an
14 agricultural commodity asset management account for an agricultural asset producer;
15 receiving harvested agricultural asset storage resource information for an at least one
16 harvested agricultural asset storage resource associated with the agricultural asset
17 producer, the harvested agricultural asset storage resource information including
18 location data; receiving actual agricultural asset storage data for an at least one
19 agricultural asset stored in the at least one harvested agricultural asset storage
20 resource, the actual agricultural asset storage data including agricultural asset grain
21 type and agricultural asset volume; receiving in-field agricultural asset information for
22 an at least one agricultural asset associated with the agricultural asset producer, the in-
23 field agricultural asset information including agricultural asset grain type and
24 agricultural asset location data; receiving agricultural financial instrument data for an
25 at least one agricultural financial instrument associated with the agricultural
26 commodity asset management account; receiving agricultural asset market data;
27 determining via a processor an agricultural asset portfolio value for the agricultural
28 commodity asset management account based on the actual agricultural asset storage
29 data, the in-field agricultural asset information, the agricultural financial instrument

1 data and the agricultural asset market data; receiving automated/dynamic update
2 information for at least one of the actual agricultural asset storage data and the in-field
3 agricultural asset information; updating the determined agricultural asset portfolio
4 value based on the received automated/dynamic update information; and outputting
5 the updated agricultural asset portfolio value for the agricultural commodity asset
6 management account.

7 **[00418]** 47. The method of implementation 46, wherein the automated/dynamic
8 update information is provided via a mobile device associated with the agricultural
9 asset producer.

10 **[00419]** 48. The method of implementation 46 or 47, wherein the at least one
11 harvested agricultural asset storage resource is on-farm storage.

12 **[00420]** 49. The method of any of implementations 46-48, wherein the at least one
13 harvested agricultural asset storage resource is shared with an at least one other asset
14 agricultural producer.

15 **[00421]** 50. An agricultural commodity asset management apparatus, comprising:
16 a processor; and a memory disposed in communication with the processor and storing
17 processor-issuable instructions to: provide, create, maintain and/or enable access to an
18 agricultural commodity asset management account for an agricultural asset producer;
19 receive harvested agricultural asset storage resource information for an at least one
20 harvested agricultural asset storage resource associated with the agricultural asset
21 producer, the harvested agricultural asset storage resource information including
22 location data; receive actual agricultural asset storage data for an at least one
23 agricultural asset stored in the at least one harvested agricultural asset storage
24 resource, the actual agricultural asset storage data including agricultural asset grain
25 type and agricultural asset volume; receive in-field agricultural asset information for an
26 at least one agricultural asset associated with agricultural asset producer, in-field
27 agricultural asset information including agricultural asset grain type and location data;
28 receive agricultural financial instrument data for an at least one agricultural financial
29 instrument associated with the agricultural commodity asset management account;

1 receive agricultural asset market data; determine an agricultural asset portfolio value
2 for the agricultural commodity asset management account based on the actual
3 agricultural asset storage data, the in-field agricultural asset information, the
4 agricultural financial instrument data and the agricultural asset market data; receive
5 automated/dynamic update information for at least one of the actual agricultural asset
6 storage data and the in-field agricultural asset information; update the determined
7 agricultural asset portfolio value based on the received automated/dynamic update
8 information; and output the updated agricultural asset portfolio value for the
9 agricultural commodity asset management account.

10 **[00422]** 51. The apparatus of implementation 50, wherein the automated/dynamic
11 update information is provided via a mobile device associated with the agricultural
12 asset producer.

13 **[00423]** 52. The apparatus of implementation 50 or 51, wherein the at least one
14 harvested agricultural asset storage resource is on-farm storage.

15 **[00424]** 53. The apparatus of implementation 50, 51 or 52, wherein the at least one
16 harvested agricultural asset storage resource is shared with an at least one other asset
17 agricultural producer.

18 **[00425]** 54. A processor-readable tangible medium storing processor-issuable
19 agricultural commodity asset management instructions to: provide, create, maintain
20 and/or enable access to an agricultural commodity asset management account for an
21 agricultural asset producer; receive harvested agricultural asset storage resource
22 information for an at least one harvested agricultural asset storage resource associated
23 with the agricultural asset producer, the harvested agricultural asset storage resource
24 information including location data; receive actual agricultural asset storage data for an
25 at least one agricultural asset stored in the at least one harvested agricultural asset
26 storage resource, the actual agricultural asset storage data including agricultural asset
27 grain type and agricultural asset volume; receive in-field agricultural asset information
28 for an at least one agricultural asset associated with agricultural asset producer, in-field
29 agricultural asset information including agricultural asset grain type and location data;

1 receive agricultural financial instrument data for an at least one agricultural financial
2 instrument associated with the agricultural commodity asset management account;
3 receive agricultural asset market data; determine an agricultural asset portfolio value
4 for the agricultural commodity asset management account based on the actual
5 agricultural asset storage data, the in-field agricultural asset information, the
6 agricultural financial instrument data and the agricultural asset market data; receive
7 automated/dynamic update information for at least one of the actual agricultural asset
8 storage data and the in-field agricultural asset information; update the determined
9 agricultural asset portfolio value based on the received automated/dynamic update
10 information; and output the updated agricultural asset portfolio value for the
11 agricultural commodity asset management account.

12 **[00426]** 55. The medium of implementation 54, wherein the automated/dynamic
13 update information is provided via a mobile device associated with the agricultural
14 asset producer.

15 **[00427]** 56. The medium of implementation 54 or 55, wherein the at least one
16 harvested agricultural asset storage resource is on-farm storage.

17 **[00428]** 57. The medium of implementation 54, 55, or 56, wherein the at least one
18 harvested agricultural asset storage resource is shared with an at least one other asset
19 agricultural producer.

20 **[00429]** 58. An agricultural commodity asset management system, comprising:
21 means to provide, create, maintain and/or enable access to an agricultural commodity
22 asset management account for an agricultural asset producer; receive harvested
23 agricultural asset storage resource information for an at least one harvested
24 agricultural asset storage resource associated with the agricultural asset producer, the
25 harvested agricultural asset storage resource information including location data;
26 means to receive actual agricultural asset storage data for an at least one agricultural
27 asset stored in the at least one harvested agricultural asset storage resource, the actual
28 agricultural asset storage data including agricultural asset grain type and agricultural
29 asset volume; means to receive in-field agricultural asset information for an at least one

1 agricultural asset associated with agricultural asset producer, in-field agricultural asset
2 information including agricultural asset grain type and location data; means to receive
3 agricultural financial instrument data for an at least one agricultural financial
4 instrument associated with the agricultural commodity asset management account;
5 means to receive agricultural asset market data; means to determine an agricultural
6 asset portfolio value for the agricultural commodity asset management account based
7 on the actual agricultural asset storage data, the in-field agricultural asset information,
8 the agricultural financial instrument data and the agricultural asset market data;
9 means to receive automated/dynamic update information for at least one of the actual
10 agricultural asset storage data and the in-field agricultural asset information; means to
11 update the determined agricultural asset portfolio value based on the received
12 automated/dynamic update information; and means to output the updated agricultural
13 asset portfolio value for the agricultural commodity asset management account.

14 **[00430]** 59. The system of implementation 58, wherein the at least one harvested
15 agricultural asset storage resource is on-farm storage.

16 **[00431]** 60. The system of implementation 58 or 59, wherein the at least one
17 harvested agricultural asset storage resource is shared with an at least one other asset
18 agricultural producer.

19 **[00432]** 61. A livestock feed crop purchase management processor-implemented
20 method, comprising: receiving livestock feed crop storage resource information for
21 each of a plurality of livestock feed crop producers, the livestock feed crop storage
22 resource information including livestock feed crop storage resource location data,
23 stored livestock feed crop type data, and stored livestock feed crop volume data;
24 receiving a location-based, livestock feed crop-specific purchase inquiry from an at
25 least one purchaser; determining via a processor an aggregate livestock feed crop
26 volume available for purchase from the received livestock feed crop storage resource
27 information based on the location-based, livestock feed crop-specific purchase inquiry
28 and the livestock feed crop storage resource location data, stored livestock feed crop
29 type data, and stored livestock feed crop volume data, the determination comprising
30 accessing and/or utilizing data from at least a threshold number of livestock feed crop

1 producers; providing the determined aggregate livestock feed crop volume available for
2 purchase to the at least one purchaser in response to the received location-based,
3 livestock feed crop-specific purchase inquiry; receiving a purchase request from the
4 purchaser based on the provided aggregate livestock feed crop volume available for
5 purchase, the purchase request specifying at least one of a livestock feed crop type, a
6 livestock feed crop purchase volume and livestock feed crop purchase price; and
7 facilitating a transaction for the specified livestock feed crop type between the
8 purchaser and at least one of the plurality of livestock feed crop producers based on the
9 received purchase request.

10 **[00433]** 62. The method of implementation 61, wherein the received location-
11 based, livestock feed crop-specific purchase inquiry includes initial boundary
12 parameters defining a geographic search area.

13 **[00434]** 63. The method of implementation 62, wherein the initial geographic
14 boundary parameters include a geographic search radius.

15 **[00435]** 64. The method of implementation 62 or 63, further comprising:

16 **[00436]** modifying the initial boundary parameters to provide data from at least
17 the threshold number of livestock feed crop producers.

18 **[00437]** 65. A livestock feed crop purchase management apparatus, comprising: a
19 processor; and a memory disposed in communication with the processor and storing
20 processor-issuable instructions to: receive livestock feed crop storage resource
21 information for each of a plurality of livestock feed crop producers, the livestock feed
22 crop storage resource information including livestock feed crop storage resource
23 location data, stored livestock feed crop type data, and stored livestock feed crop
24 volume data; receive an at least one location-based, livestock feed crop-specific
25 purchase inquiry from an at least one purchaser; determine an aggregate livestock feed
26 crop volume available for purchase from received livestock feed crop storage resource
27 information based on the location-based, livestock feed crop-specific purchase inquiry
28 and the livestock feed crop storage resource location data, stored livestock feed crop
29 type data, and stored livestock feed crop volume data, the determination comprising

1 accessing and utilizing data from at least a threshold number of livestock feed crop
2 producers; provide the determined aggregate livestock feed crop volume available for
3 purchase to the at least one purchaser in response to the received location-based,
4 livestock feed crop-specific purchase inquiry; receive a purchase request from the
5 purchaser based on the provided aggregate livestock feed crop volume available for
6 purchase, the purchase request specifying at least two of a livestock feed crop type, a
7 livestock feed crop purchase volume, and livestock feed crop purchase price; and
8 execute a transaction for the specified livestock feed crop type between the purchaser
9 and at least one of the plurality of livestock feed crop producers based on the received
10 purchase request.

11 **[00438]** 66. The apparatus of implementation 65, wherein the received location-
12 based, livestock feed crop-specific purchase inquiry includes initial boundary
13 parameters defining a geographic search area.

14 **[00439]** 67. The apparatus of implementation 66, wherein the initial geographic
15 boundary parameters include a geographic search radius.

16 **[00440]** 68. The apparatus of implementation 66 or 67, further comprising
17 processor-issuable instructions to: modify the initial boundary parameters to provide
18 data from at least the threshold number of livestock feed crop producers.

19 **[00441]** 69. A processor-readable tangible medium storing processor-issuable
20 livestock feed crop purchase management instructions to: receive livestock feed crop
21 storage resource information for each of a plurality of livestock feed crop producers, the
22 livestock feed crop storage resource information including livestock feed crop storage
23 resource location data, stored livestock feed crop type data, and stored livestock feed
24 crop volume data; receive a location-based, livestock feed crop-specific purchase
25 inquiry from an at least one purchaser; determine an aggregate livestock feed crop
26 volume available for purchase from received livestock feed crop storage resource
27 information based on the location-based, livestock feed crop-specific purchase inquiry
28 and the livestock feed crop storage resource location data, stored livestock feed crop
29 type data, and stored livestock feed crop volume data, the determination including data

1 from at least a threshold number of livestock feed crop producers; provide the
2 determined aggregate livestock feed crop volume available for purchase to the at least
3 one purchaser in response to the received location-based, livestock feed crop-specific
4 purchase inquiry; receive a purchase request from the purchaser based on the provided
5 aggregate livestock feed crop volume available for purchase, the purchase request
6 specifying a livestock feed crop type and at least one of a livestock feed crop purchase
7 volume and livestock feed crop purchase price; and execute a transaction for the
8 specified livestock feed crop type between the purchaser and at least one of the plurality
9 of livestock feed crop producers based on the received purchase request.

10 **[00442]** 70. The medium of implementation 69, wherein the received location-
11 based, livestock feed crop-specific purchase inquiry includes initial boundary
12 parameters defining a geographic search area.

13 **[00443]** 71. The medium of implementation 70, wherein the initial geographic
14 boundary parameters include a geographic search radius.

15 **[00444]** 72. The medium of implementation 70 or 71, further comprising
16 instructions to:

17 **[00445]** modify the initial boundary parameters to provide data from at least the
18 threshold number of livestock feed crop producers.

19 **[00446]** 73. A livestock feed crop purchase management system, comprising:
20 means to receive livestock feed crop storage resource information for each of a plurality
21 of livestock feed crop producers, the livestock feed crop storage resource information
22 including livestock feed crop storage resource location data, stored livestock feed crop
23 type data, and stored livestock feed crop volume data; means to receive an at least one
24 location-based, livestock feed crop-specific purchase inquiry from an at least one
25 purchaser; means to determine an aggregate livestock feed crop volume available for
26 purchase from received livestock feed crop storage resource information based on the
27 location-based, livestock feed crop-specific purchase inquiry and the livestock feed crop
28 storage resource location data, stored livestock feed crop type data, and stored livestock
29 feed crop volume data, the determination comprising accessing and utilizing data from

1 at least a threshold number of livestock feed crop producers; means to provide the
2 determined aggregate livestock feed crop volume available for purchase to the at least
3 one purchaser in response to the received location-based, livestock feed crop-specific
4 purchase inquiry; means to receive a purchase request from the purchaser based on the
5 provided aggregate livestock feed crop volume available for purchase, the purchase
6 request specifying at least two of a livestock feed crop type, a livestock feed crop
7 purchase volume, and livestock feed crop purchase price; and means to execute a
8 transaction for the specified livestock feed crop type between the purchaser and at least
9 one of the plurality of livestock feed crop producers based on the received purchase
10 request.

11 **[00447]** 74. The system of implementation 73, wherein the received location-based,
12 livestock feed crop-specific purchase inquiry includes initial boundary parameters
13 defining a geographic search area.

14 **[00448]** 75. The system of implementation 74, wherein the initial geographic
15 boundary parameters include a geographic search radius.

16 **[00449]** 76. The system of implementation 75 or 76, further comprising: means to
17 modify the initial boundary parameters to provide data from at least the threshold
18 number of livestock feed crop producers.

19 **[00450]** 77. The method of any of implementations 61-64, wherein the purchaser is
20 livestock raiser or a feedlot.

21 **[00451]** 78. The apparatus of any of implementations 65-68, wherein the
22 purchaser is livestock raiser or a feedlot.

23 **[00452]** 79. The medium of any of implementations 69-72, wherein the purchaser
24 is livestock raiser or a feedlot.

25 **[00453]** 80. The system of any of implementations 73-76, wherein the purchaser is
26 livestock raiser or a feedlot.

1 **[00454]** 81. A automated/dynamic geographic market data feed processor-
2 implemented method, comprising: maintaining an agricultural asset tracking account
3 for each of a plurality of agricultural asset producers, each agricultural asset tracking
4 account comprising agricultural asset account information including asset type data,
5 asset location data, and asset availability data; receiving an at least one
6 automated/dynamic update to the agricultural asset account information associated
7 with at least one of the plurality of agricultural asset producers; determining via a
8 processor aggregate market data for at least one geographic region from a set of the
9 plurality of agricultural asset producers based on the respective asset type data, asset
10 location data, asset availability data and the at least one automated/dynamic update to
11 the respective agricultural asset account information; and generating a
12 automated/dynamic geographic market data feed from the determined aggregate
13 market data for the at least one geographic region.

14 **[00455]** 82. The method of implementation 1, wherein maintaining an agricultural
15 asset tracking account for an agricultural asset producer of the plurality of agricultural
16 asset producers comprises: receiving harvested agricultural asset storage resource
17 information for an at least one harvested agricultural asset storage resource associated
18 with the agricultural asset producer, the harvested agricultural asset storage resource
19 information including location data; receiving actual agricultural asset storage data for
20 an at least one agricultural asset stored in the at least one harvested agricultural asset
21 storage resource, the actual agricultural asset storage data including agricultural asset
22 grain type and agricultural asset volume; and receiving in-field agricultural asset
23 information for an at least one agricultural asset associated with the agricultural asset
24 producer, the in-field agricultural asset information including asset grain type and
25 asset location data.

26 **[00456]** 83. The method of implementation 81 or 82, wherein agricultural asset
27 account information includes in-field asset data.

28 **[00457]** 84. The method of implementation 81, 82 or 83, wherein agricultural asset
29 account information includes harvested asset data.

- 1 **[00458]** 85. The method of any of implementations 81-84, wherein agricultural
2 asset account information includes asset storage data.
- 3 **[00459]** 86. The method of any of implementations 81-85, wherein the at least one
4 automated/dynamic update to agricultural asset account information is received from a
5 mobile device associated with an agricultural asset producer from the plurality of
6 agricultural asset producers.
- 7 **[00460]** 87. The method of any of implementations 81-86, wherein the at least one
8 automated/dynamic update to asset account information is based on a transaction
9 between an asset producer and an asset purchaser.
- 10 **[00461]** 88. A automated/dynamic geographic market data feed apparatus,
11 comprising: a processor; and a memory disposed in communication with the processor
12 and storing processor-issuable instructions to: maintain an agricultural asset tracking
13 account for each of a plurality of agricultural asset producers, each agricultural asset
14 tracking account comprising agricultural asset account information including asset type
15 data, asset location data, and asset availability data; receive an at least one
16 automated/dynamic update to asset account information from at least one of the
17 plurality of agricultural asset producers; determine aggregate market data for a
18 geographic region from a set of the plurality of agricultural asset producers based on
19 asset type data, asset location data, asset availability data and the at least one
20 automated/dynamic update to asset account information; and generate an
21 automated/dynamic geographic market data feed from the determined aggregate
22 market data for the geographic region.
- 23 **[00462]** 89. The apparatus of implementation 88, wherein asset account
24 information includes in-field asset data.
- 25 **[00463]** 90. The apparatus of implementation 88 or 89, wherein asset account
26 information includes harvested asset data.
- 27 **[00464]** 91. The apparatus of any of implementations 88-90, wherein asset account
28 information includes asset storage data.

1 **[00465]** 92. The apparatus of any of implementations 88-91, wherein the at least
2 one automated/dynamic update to asset account information is received from a mobile
3 device associated with an asset producer.

4 **[00466]** 93. The apparatus of any of implementations 88-92, wherein the at least
5 one automated/dynamic update to asset account information is based on a transaction
6 between an asset producer and an asset purchaser.

7 **[00467]** 94. A processor-readable tangible medium storing processor-issuable
8 automated/dynamic geographic market data feed instructions to: maintain an
9 agricultural asset tracking account for each of a plurality of agricultural asset
10 producers, each agricultural asset tracking account comprising agricultural asset
11 account information including asset type data, asset location data, and asset availability
12 data; receive an at least one automated/dynamic update to asset account information
13 from at least one of the plurality of agricultural asset producers; determine aggregate
14 market data for a geographic region from a set of the plurality of agricultural asset
15 producers based on asset type data, asset location data, asset availability data and the
16 at least one automated/dynamic update to asset account information; and generate a
17 automated/dynamic geographic market data feed from the determined aggregate
18 market data for the geographic region.

19 **[00468]** 95. The medium of implementation 94, wherein asset account information
20 includes in-field asset data.

21 **[00469]** 96. The medium of implementation 94 or 95, wherein asset account
22 information includes harvested asset data.

23 **[00470]** 97. The medium of any of implementations 94-96, wherein asset account
24 information includes asset storage data.

25 **[00471]** 98. The medium of any of implementations 94-97, wherein the at least one
26 automated/dynamic update to asset account information is received from a mobile
27 device associated with an asset producer.

1 **[00472]** 99. The medium of any of implementations 94-98, wherein the at least one
2 automated/dynamic update to asset account information is based on a transaction
3 between an asset producer and an asset purchaser.

4 **[00473]** 100. A automated/dynamic geographic market data feed system,
5 comprising: means to maintain an agricultural asset tracking account for each of a
6 plurality of agricultural asset producers, each agricultural asset tracking account
7 comprising agricultural asset account information including asset type data, asset
8 location data, and asset availability data; means to receive an at least one
9 automated/dynamic update to the agricultural asset account information associated
10 with at least one of the plurality of agricultural asset producers; means to determine
11 aggregate market data for at least one geographic region from a set of the plurality of
12 agricultural asset producers based on the respective asset type data, asset location data,
13 asset availability data and the at least one automated/dynamic update to the respective
14 agricultural asset account information; means to generate a automated/dynamic
15 geographic market data feed from the determined aggregate market data for the at least
16 one geographic region; wherein maintaining an agricultural asset tracking account for
17 an agricultural asset producer of the plurality of agricultural asset producers comprises:
18 means to receive harvested agricultural asset storage resource information for an at
19 least one harvested agricultural asset storage resource associated with the agricultural
20 asset producer, the harvested agricultural asset storage resource information including
21 location data; means to receive actual agricultural asset storage data for an at least one
22 agricultural asset stored in the at least one harvested agricultural asset storage
23 resource, the actual agricultural asset storage data including agricultural asset grain
24 type and agricultural asset volume; and means to receive in-field agricultural asset
25 information for an at least one agricultural asset associated with the agricultural asset
26 producer, the in-field agricultural asset information including asset grain type and
27 asset location data.

28 **[00474]** In order to address various issues and advance the art, the entirety of this
29 application for GRAIN POSITION PLATFORM MANAGER APPARATUSES,
30 METHODS AND SYSTEMS (including the Cover Page, Title, Headings, Field,

1 Background, Summary, Brief Description of the Drawings, Detailed Description,
2 Claims, Abstract, Figures, Appendices and/or otherwise) shows by way of illustration
3 various embodiments in which the claimed innovations may be practiced. The
4 advantages and features of the application are of a representative sample of
5 embodiments only, and are not exhaustive and/or exclusive. They are presented only to
6 assist in understanding and teach the claimed principles. It should be understood that
7 they are not representative of all claimed innovations. As such, certain aspects of the
8 disclosure have not been discussed herein. That alternate embodiments may not have
9 been presented for a specific portion of the innovations or that further undescribed
10 alternate embodiments may be available for a portion is not to be considered a
11 disclaimer of those alternate embodiments. It will be appreciated that many of those
12 undescribed embodiments incorporate the same principles of the innovations and
13 others are equivalent. Thus, it is to be understood that other embodiments may be
14 utilized and functional, logical, operational, organizational, structural and/or
15 topological modifications may be made without departing from the scope and/or spirit
16 of the disclosure. As such, all examples and/or embodiments are deemed to be non-
17 limiting throughout this disclosure. Also, no inference should be drawn regarding those
18 embodiments discussed herein relative to those not discussed herein other than it is as
19 such for purposes of reducing space and repetition. For instance, it is to be understood
20 that the logical and/or topological structure of any combination of any program
21 components (a component collection), other components and/or any present feature
22 sets as described in the figures and/or throughout are not limited to a fixed operating
23 order and/or arrangement, but rather, any disclosed order is exemplary and all
24 equivalents, regardless of order, are contemplated by the disclosure. Furthermore, it is
25 to be understood that such features are not limited to serial execution, but rather, any
26 number of threads, processes, services, servers, and/or the like that may execute
27 asynchronously, concurrently, in parallel, simultaneously, synchronously, and/or the
28 like are contemplated by the disclosure. As such, some of these features may be
29 mutually contradictory, in that they cannot be simultaneously present in a single
30 embodiment. Similarly, some features are applicable to one aspect of the innovations,
31 and inapplicable to others. In addition, the disclosure includes other innovations not
32 presently claimed. Applicant reserves all rights in those presently unclaimed

1 innovations, including the right to claim such innovations, file additional applications,
2 continuations, continuations in part, divisions, and/or the like thereof. As such, it
3 should be understood that advantages, embodiments, examples, functional, features,
4 logical, operational, organizational, structural, topological, and/or other aspects of the
5 disclosure are not to be considered limitations on the disclosure as defined by the
6 claims or limitations on equivalents to the claims. It is to be understood that,
7 depending on the particular needs and/or characteristics of a GPPM individual and/or
8 enterprise user, database configuration and/or relational model, data type, data
9 transmission and/or network framework, syntax structure, and/or the like, various
10 embodiments of the GPPM may be implemented that enable a great deal of flexibility
11 and customization. For example, aspects of the GPPM may be adapted for non-plant
12 farm uses and/or non-agricultural uses. While various embodiments and discussions
13 of the GPPM have been directed to commodity inventory tracking, updating, and
14 management, however, it is to be understood that the embodiments described herein
15 may be readily configured and/or customized for a wide variety of other applications
16 and/or implementations.

CLAIMS

1

2 What is claimed is:

- 3 1. A crop asset tracking processor-implemented method, comprising:
4 enabling access to a producer crop asset management account for a producer;
5 receiving crop asset storage resource information, the crop asset storage resource
6 information including storage resource location data for an at least one crop storage
7 resource;
8 associating received crop asset storage resource information with the producer
9 crop asset management account;
10 associating an at least one mobile device with the producer crop asset
11 management account;
12 determining via a processor when the at least one mobile device is within a
13 specified distance of the location of the at least one crop storage resource and the at
14 least one mobile device is one of a tablet computer and a smart phone;
15 generating a notification on the at least one mobile device based on the
16 determination that the at least one mobile device is within the specified distance of the
17 location of the at least one crop storage resource, the notification including a request to
18 provide real-time crop state data for the at least one crop storage resource;
19 receiving real-time crop state data for the at least one crop storage resource; and
20 associating the received real-time crop state data with the producer crop asset
21 management account.
- 22 2. The method of claim 1, wherein the at least one crop storage resource is a crop
23 field.
- 24
- 25 3. The method of claim 1, wherein the at least one crop storage resource is a
26 harvested crop storage facility.
- 27 4. The method of claim 3, wherein the harvested crop storage facility is a storage
28 bin.

1 5. The method of any of claims 1-4, further comprising monitoring the location of
2 the at least one mobile device.

3 6. The method of any of claims 1-5, wherein receiving real-time crop state data
4 comprises receiving an at least one image captured by the mobile device via a camera
5 integrated with the mobile device, wherein the image is analyzed to determine crop state
6 data.

7 7. The method of any of claims 1-5, wherein receiving real-time crop state data
8 comprises receiving precision agricultural equipment data.

9 8. The method of any of claims 1-7, wherein the crop state data comprises volume
10 data.

11 9. The method of any of claims 1-7, wherein the crop state data comprises an
12 indication that the crop is ready for harvest.

13 10. A crop asset tracking apparatus, comprising:

14 a processor; and

15 a memory disposed in communication with the processor and storing processor-
16 issuable instructions to:

17 create a producer crop asset management account for a producer;

18 receive crop asset storage resource information, the crop asset storage
19 resource information including storage resource location data for an at least one crop
20 storage resource;

21 associate received crop asset storage resource information with the
22 producer crop asset management account;

23 associate an at least one mobile device with the producer crop asset
24 management account;

25 determine when the at least one mobile device is within a specified
26 distance of the at least one crop storage resource location;

27 generate a notification on the at least one mobile device based on the
28 determination that the at least one mobile device is within the specified distance of the
29 at least one crop storage resource location, the notification including a request to
30 provide real-time crop volume data for the at least one crop storage resource;

31 receive real-time crop volume data for the at least one crop storage
32 resource; and

1 associate the received real-time crop volume data with the producer crop
2 asset management account.

3 11. The apparatus of claim 10, wherein receiving real-time crop volume data
4 comprises receiving an at least one image captured by the mobile device.

5 12. A processor-readable non-transitory tangible medium storing processor-
6 issuable crop asset tracking instructions to:

7 create a producer crop asset management account for a producer;

8 receive crop asset storage resource information, the crop asset storage
9 resource information including storage resource location data for an at least one crop
10 storage resource;

11 associate received crop asset storage resource information with the
12 producer crop asset management account;

13 associate an at least one mobile device with the producer crop asset
14 management account;

15 determine when the at least one mobile device is within a specified
16 distance of the at least one crop storage resource location;

17 generate a notification on the at least one mobile device based on the
18 determination that the at least one mobile device is within the specified distance of the
19 at least one crop storage resource location, the notification including a request to
20 provide real-time crop volume data for the at least one crop storage resource;

21 receive real-time crop volume data for the at least one crop storage
22 resource; and

23 associate the received real-time crop volume data with the producer crop
24 asset management account.

25 13. A crop asset tracking apparatus, comprising:

26 a processor; and

27 a memory disposed in communication with the processor and storing processor-
28 issuable instructions to:

29 provide, create and/or enable access to a producer crop asset management
30 account for a producer;

1 receive crop asset storage resource information, the crop asset storage
2 resource information including storage resource location data for an at least one crop
3 storage resource;

4 associate received crop asset storage resource information with the
5 producer crop asset management account;

6 associate an at least one mobile device with the producer crop asset
7 management account;

8 determine when the at least one mobile device is within a specified
9 distance of the location of the at least one crop storage resource;

10 generate a notification on the at least one mobile device based on the
11 determination that the at least one mobile device is within the specified distance of the
12 location of the at least one crop storage resource, the notification including a request to
13 provide real-time crop state data for the at least one crop storage resource;

14 receive real-time crop state data for the at least one crop storage resource;
15 and

16 associate the received real-time crop state data with the producer crop
17 asset management account.

18 14. The apparatus of claim 13, wherein the at least one crop storage resource is a
19 crop field.

20 15. The apparatus of claim 13, wherein the at least one crop storage resource is a
21 harvested crop storage facility.

22 16. The apparatus of claim 15, wherein the harvested crop storage facility is a
23 storage bin.

24 17. The apparatus of any of claims 13-16, further comprising instructions to
25 monitor the location of the at least one mobile device.

26 18. The apparatus of any of claims 13-17, wherein receiving real-time crop state
27 data comprises receiving an at least one image captured by the mobile device.

28 19. The apparatus of any of claims 13-17, wherein receiving real-time crop state
29 data comprises receiving precision agricultural equipment data.

30 20. The apparatus of any of claims 13-17, wherein receiving real-time crop state
31 data comprises receiving satellite data.

1 21. The apparatus of any of claims 13-17, wherein receiving real-time crop state
2 data comprises receiving satellite image data.

3 22. The apparatus of any of claims 13-21, wherein the crop state data comprises
4 volume data.

5 23. The apparatus of any of claims 13-21, wherein the crop state data comprises
6 an indication that the crop is ready for harvest.

7 24. A processor-readable non-transitory tangible medium storing processor-
8 issuable crop asset tracking instructions to:

9 provide, create and/or enable access to a producer crop asset management
10 account for a producer;

11 receive crop asset storage resource information, the crop asset storage
12 resource information including storage resource location data for an at least one crop
13 storage resource;

14 associate received crop asset storage resource information with the
15 producer crop asset management account;

16 associate an at least one mobile device with the producer crop asset
17 management account;

18 determine when the at least one mobile device is within a specified
19 distance of the location of the at least one crop storage resource;

20 generate a notification on the at least one mobile device based on the
21 determination that the at least one mobile device is within the specified distance of the
22 location of the at least one crop storage resource, the notification including a request to
23 provide real-time crop state data for the at least one crop storage resource;

24 receive real-time crop state data for the at least one crop storage resource;
25 and

26 associate the received real-time crop state data with the producer crop
27 asset management account.

28 25. The medium of claim 24, wherein the at least one crop storage resource is a
29 crop field.

30 26. The medium of claim 24, wherein the at least one crop storage resource is a
31 harvested crop storage facility.

1 27. The medium of claim 26, wherein the harvested crop storage facility is a
2 storage bin.

3 28. The medium of any of claims 24-27, further comprising instructions to
4 monitor the location of the at least one mobile device.

5 29. The medium of any of claims 24-28, wherein receiving real-time crop state
6 data comprises receiving an at least one image captured by the mobile device.

7 30. The medium of any of claims 24-28, wherein receiving real-time crop state
8 data comprises receiving precision agricultural equipment data.

9 31. The medium of any of claims 24-28, wherein receiving real-time crop state
10 data comprises receiving satellite data.

11 32. The medium of any of claims 24-28, wherein receiving real-time crop state
12 data comprises receiving satellite image data.

13 33. The medium of any of claims 24-32, wherein the crop state data comprises
14 volume data.

15 34. The medium of any of claims 24-32, wherein the crop state data comprises an
16 indication that the crop is ready for harvest.

17 35. A crop asset tracking system, comprising:

18 means to provide, create and/or enable access to a producer crop asset
19 management account for a producer;

20 means to receive crop asset storage resource information, the crop asset
21 storage resource information including storage resource location data for an at least one
22 crop storage resource;

23 means to associate received crop asset storage resource information with
24 the producer crop asset management account;

25 means to associate an at least one mobile device with the producer crop
26 asset management account;

27 means to determine when the at least one mobile device is within a
28 specified distance of the location of the at least one crop storage resource;

29 means to generate a notification on the at least one mobile device based on
30 the determination that the at least one mobile device is within the specified distance of
31 the location of the at least one crop storage resource, the notification including a request
32 to provide real-time crop state data for the at least one crop storage resource;

1 means to receive real-time crop state data for the at least one crop storage
2 resource; and

3 means to associate the received real-time crop state data with the producer
4 crop asset management account.

5 36. The system of claim 35, wherein the at least one crop storage resource is a
6 crop field.

7 37. The system of claim 35, wherein the at least one crop storage resource is a
8 harvested crop storage facility.

9 38. The system of claim 37, wherein the harvested crop storage facility is a
10 storage bin.

11 39. The system of any of claims 35-38, further comprising means to monitor the
12 location of the at least one mobile device.

13 40. The system of any of claims 35-39, wherein receiving real-time crop state
14 data comprises receiving an at least one image captured by the mobile device.

15 41. The system of any of claims 35-39, wherein receiving real-time crop state data
16 comprises receiving precision agricultural equipment data.

17 42. The system of any of claims 35-39, wherein receiving real-time crop state data
18 comprises receiving satellite data.

19 43. The system of any of claims 35-39, wherein receiving real-time crop state data
20 comprises receiving satellite image data.

21 44. The system of any of claims 35-43, wherein the crop state data comprises
22 volume data.

23 45. The system of any of claims 35-43, wherein the crop state data comprises an
24 indication that the crop is ready for harvest.

25 46. An agricultural commodity asset management processor-implemented
26 method, comprising:

27 providing, creating, maintaining, and/or enabling access to an agricultural
28 commodity asset management account for an agricultural asset producer;

29 receiving harvested agricultural asset storage resource information for an at least
30 one harvested agricultural asset storage resource associated with the agricultural asset
31 producer, the harvested agricultural asset storage resource information including
32 location data;

1 receiving actual agricultural asset storage data for an at least one agricultural
2 asset stored in the at least one harvested agricultural asset storage resource, the actual
3 agricultural asset storage data including agricultural asset crop type and agricultural
4 asset volume;

5 receiving in-field agricultural asset information for an at least one agricultural
6 asset associated with the agricultural asset producer, the in-field agricultural asset
7 information including agricultural asset crop type and agricultural asset location data;

8 receiving agricultural financial instrument data for an at least one agricultural
9 financial instrument associated with the agricultural commodity asset management
10 account;

11 receiving agricultural asset market data;

12 determining via a processor an agricultural asset portfolio value for the
13 agricultural commodity asset management account based on the actual agricultural
14 asset storage data, the in-field agricultural asset information, the agricultural financial
15 instrument data and the agricultural asset market data;

16 receiving real-time update information for at least one of the actual agricultural
17 asset storage data and the in-field agricultural asset information;

18 updating the determined agricultural asset portfolio value based on the received
19 real-time update information; and

20 outputting the updated agricultural asset portfolio value for the agricultural
21 commodity asset management account.

22 47. The method of claim 46, wherein the real-time update information is
23 provided via a mobile device associated with the agricultural asset producer.

24

25 48. The method of claim 46 or 47, wherein the at least one harvested agricultural
26 asset storage resource is on-farm storage.

27 49. The method of any of claims 46-48, wherein the at least one harvested
28 agricultural asset storage resource is shared with an at least one other asset agricultural
29 producer.

30 50. An agricultural commodity asset management apparatus, comprising:
31 a processor; and

1 a memory disposed in communication with the processor and storing processor-
2 issuable instructions to:

3 provide, create, maintain and/or enable access to an agricultural
4 commodity asset management account for an agricultural asset producer;

5 receive harvested agricultural asset storage resource information for an at
6 least one harvested agricultural asset storage resource associated with the agricultural
7 asset producer, the harvested agricultural asset storage resource information including
8 location data;

9 receive actual agricultural asset storage data for an at least one agricultural
10 asset stored in the at least one harvested agricultural asset storage resource, the actual
11 agricultural asset storage data including agricultural asset crop type and agricultural
12 asset volume;

13 receive in-field agricultural asset information for an at least one
14 agricultural asset associated with agricultural asset producer, in-field agricultural asset
15 information including agricultural asset crop type and location data;

16 receive agricultural financial instrument data for an at least one
17 agricultural financial instrument associated with the agricultural commodity asset
18 management account;

19 receive agricultural asset market data;

20 determine an agricultural asset portfolio value for the agricultural
21 commodity asset management account based on the actual agricultural asset storage
22 data, the in-field agricultural asset information, the agricultural financial instrument
23 data and the agricultural asset market data;

24 receive real-time update information for at least one of the actual
25 agricultural asset storage data and the in-field agricultural asset information;

26 update the determined agricultural asset portfolio value based on the
27 received real-time update information; and

28 output the updated agricultural asset portfolio value for the agricultural
29 commodity asset management account.

30 51. The apparatus of claim 50, wherein the real-time update information is
31 provided via a mobile device associated with the agricultural asset producer.

1 52. The apparatus of claim 50 or 51, wherein the at least one harvested
2 agricultural asset storage resource is on-farm storage.

3 53. The apparatus of claim 50, 51 or 52, wherein the at least one harvested
4 agricultural asset storage resource is shared with an at least one other asset agricultural
5 producer.

6 54. A processor-readable tangible medium storing processor-issuable agricultural
7 commodity asset management instructions to:

8 provide, create, maintain and/or enable access to an agricultural commodity
9 asset management account for an agricultural asset producer;

10 receive harvested agricultural asset storage resource information for an at least
11 one harvested agricultural asset storage resource associated with the agricultural asset
12 producer, the harvested agricultural asset storage resource information including
13 location data;

14 receive actual agricultural asset storage data for an at least one agricultural asset
15 stored in the at least one harvested agricultural asset storage resource, the actual
16 agricultural asset storage data including agricultural asset crop type and agricultural
17 asset volume;

18 receive in-field agricultural asset information for an at least one agricultural asset
19 associated with agricultural asset producer, in-field agricultural asset information
20 including agricultural asset crop type and location data;

21 receive agricultural financial instrument data for an at least one agricultural
22 financial instrument associated with the agricultural commodity asset management
23 account;

24 receive agricultural asset market data;

25 determine an agricultural asset portfolio value for the agricultural commodity
26 asset management account based on the actual agricultural asset storage data, the in-
27 field agricultural asset information, the agricultural financial instrument data and the
28 agricultural asset market data;

29 receive real-time update information for at least one of the actual agricultural
30 asset storage data and the in-field agricultural asset information;

31 update the determined agricultural asset portfolio value based on the received
32 real-time update information; and

1 output the updated agricultural asset portfolio value for the agricultural
2 commodity asset management account.

3 55. The medium of claim 54, wherein the real-time update information is
4 provided via a mobile device associated with the agricultural asset producer.

5 56. The medium of claim 54 or 55, wherein the at least one harvested agricultural
6 asset storage resource is on-farm storage.

7 57. The medium of claim 54, 55, or 56, wherein the at least one harvested
8 agricultural asset storage resource is shared with an at least one other asset agricultural
9 producer.

10 58. An agricultural commodity asset management system, comprising:
11 means to provide, create, maintain and/or enable access to an agricultural
12 commodity asset management account for an agricultural asset producer;
13 receive harvested agricultural asset storage resource information for an at least
14 one harvested agricultural asset storage resource associated with the agricultural asset
15 producer, the harvested agricultural asset storage resource information including
16 location data;

17 means to receive actual agricultural asset storage data for an at least one
18 agricultural asset stored in the at least one harvested agricultural asset storage resource,
19 the actual agricultural asset storage data including agricultural asset crop type and
20 agricultural asset volume;

21 means to receive in-field agricultural asset information for an at least one
22 agricultural asset associated with agricultural asset producer, in-field agricultural asset
23 information including agricultural asset crop type and location data;

24 means to receive agricultural financial instrument data for an at least one
25 agricultural financial instrument associated with the agricultural commodity asset
26 management account;

27 means to receive agricultural asset market data;

28 means to determine an agricultural asset portfolio value for the agricultural
29 commodity asset management account based on the actual agricultural asset storage
30 data, the in-field agricultural asset information, the agricultural financial instrument
31 data and the agricultural asset market data;

1 means to receive real-time update information for at least one of the actual
2 agricultural asset storage data and the in-field agricultural asset information;

3 means to update the determined agricultural asset portfolio value based on the
4 received real-time update information; and

5 means to output the updated agricultural asset portfolio value for the agricultural
6 commodity asset management account.

7 59. The system of claim 58, wherein the at least one harvested agricultural asset
8 storage resource is on-farm storage.

9 60. The system of claim 58 or 59, wherein the at least one harvested agricultural
10 asset storage resource is shared with an at least one other asset agricultural producer.

11 61. A crop purchase management processor-implemented method, comprising:

12 receiving crop storage resource information for each of a plurality of crop
13 producers, the crop storage resource information including crop storage resource
14 location data, stored crop type data, and stored crop volume data;

15 receiving a location-based, crop-specific purchase inquiry from an at least one
16 purchaser;

17 determining via a processor an aggregate crop volume available for purchase
18 from the received crop storage resource information based on the location-based, crop-
19 specific purchase inquiry and the crop storage resource location data, stored crop type
20 data, and stored crop volume data, the determination comprising accessing and/or
21 utilizing data from at least a threshold number of crop producers;

22 providing the determined aggregate crop volume available for purchase to the at
23 least one purchaser in response to the received location-based, crop-specific purchase
24 inquiry;

25 receiving a purchase request from the purchaser based on the provided aggregate
26 crop volume available for purchase, the purchase request specifying at least one of a
27 crop type, a crop purchase volume and crop purchase price; and

28 facilitating a transaction for the specified crop type between the purchaser and at
29 least one of the plurality of crop producers based on the received purchase request.

30

1 62. The method of claim 61, wherein the received location-based, crop-specific
2 purchase inquiry includes initial boundary parameters defining a geographic search
3 area.

4
5 63. The method of claim 62, wherein the initial geographic boundary parameters
6 include a geographic search radius.

7 64. The method of claim 62 or 63, further comprising:
8 modifying the initial boundary parameters to provide data from at least the
9 threshold number of crop producers.

10 65. A crop purchase management apparatus, comprising:
11 a processor; and
12 a memory disposed in communication with the processor and storing processor-
13 issuable instructions to:

14 receive crop storage resource information for each of a plurality of crop
15 producers, the crop storage resource information including crop storage resource
16 location data, stored crop type data, and stored crop volume data;

17 receive an at least one location-based, crop-specific purchase inquiry from
18 an at least one purchaser;

19 determine an aggregate crop volume available for purchase from received
20 crop storage resource information based on the location-based, crop-specific purchase
21 inquiry and the crop storage resource location data, stored crop type data, and stored
22 crop volume data, the determination comprising accessing and utilizing data from at
23 least a threshold number of crop producers;

24 provide the determined aggregate crop volume available for purchase to
25 the at least one purchaser in response to the received location-based, crop-specific
26 purchase inquiry;

27 receive a purchase request from the purchaser based on the provided
28 aggregate crop volume available for purchase, the purchase request specifying at least
29 two of a crop type, a crop purchase volume, and crop purchase price; and

30 execute a transaction for the specified crop type between the purchaser
31 and at least one of the plurality of crop producers based on the received purchase
32 request.

1 66. The apparatus of claim 65, wherein the received location-based, crop-specific
2 purchase inquiry includes initial boundary parameters defining a geographic search
3 area.

4 67. The apparatus of claim 66, wherein the initial geographic boundary
5 parameters include a geographic search radius.

6 68. The apparatus of claim 66 or 67, further comprising processor-issuable
7 instructions to:

8 modify the initial boundary parameters to provide data from at least the
9 threshold number of crop producers.

10 69. A processor-readable tangible medium storing processor-issuable crop
11 purchase management instructions to:

12 receive crop storage resource information for each of a plurality of crop
13 producers, the crop storage resource information including crop storage resource
14 location data, stored crop type data, and stored crop volume data;

15 receive a location-based, crop-specific purchase inquiry from an at least one
16 purchaser;

17 determine an aggregate crop volume available for purchase from received crop
18 storage resource information based on the location-based, crop-specific purchase
19 inquiry and the crop storage resource location data, stored crop type data, and stored
20 crop volume data, the determination including data from at least a threshold number of
21 crop producers;

22 provide the determined aggregate crop volume available for purchase to the at
23 least one purchaser in response to the received location-based, crop-specific purchase
24 inquiry;

25 receive a purchase request from the purchaser based on the provided aggregate
26 crop volume available for purchase, the purchase request specifying a crop type and at
27 least one of a crop purchase volume and crop purchase price; and

28 execute a transaction for the specified crop type between the purchaser and at
29 least one of the plurality of crop producers based on the received purchase request.

30 70. The medium of claim 69, wherein the received location-based, crop-specific
31 purchase inquiry includes initial boundary parameters defining a geographic search
32 area.

1 71. The medium of claim 70, wherein the initial geographic boundary parameters
2 include a geographic search radius.

3 72. The medium of claim 70 or 71, further comprising instructions to:
4 modify the initial boundary parameters to provide data from at least the
5 threshold number of crop producers.

6 73. A crop purchase management system, comprising:

7 means to receive crop storage resource information for each of a plurality of crop
8 producers, the crop storage resource information including crop storage resource
9 location data, stored crop type data, and stored crop volume data;

10 means to receive an at least one location-based, crop-specific purchase inquiry
11 from an at least one purchaser;

12 means to determine an aggregate crop volume available for purchase from
13 received crop storage resource information based on the location-based, crop-specific
14 purchase inquiry and the crop storage resource location data, stored crop type data, and
15 stored crop volume data, the determination comprising accessing and utilizing data
16 from at least a threshold number of crop producers;

17 means to provide the determined aggregate crop volume available for purchase to
18 the at least one purchaser in response to the received location-based, crop-specific
19 purchase inquiry;

20 means to receive a purchase request from the purchaser based on the provided
21 aggregate crop volume available for purchase, the purchase request specifying at least
22 two of a crop type, a crop purchase volume, and crop purchase price; and

23 means to execute a transaction for the specified crop type between the purchaser
24 and at least one of the plurality of crop producers based on the received purchase
25 request.

26 74. The system of claim 73, wherein the received location-based, crop-specific
27 purchase inquiry includes initial boundary parameters defining a geographic search
28 area.

29 75. The system of claim 74, wherein the initial geographic boundary parameters
30 include a geographic search radius.

31 76. The system of claim 75 or 76, further comprising:

1 means to modify the initial boundary parameters to provide data from at least the
2 threshold number of crop producers.

3 77. The method of any of claims 61-64, wherein the purchaser is livestock raiser
4 or a feedlot.

5 78. The apparatus of any of claims 65-68, wherein the purchaser is livestock
6 raiser or a feedlot.

7 79. The medium of any of claims 69-72, wherein the purchaser is livestock raiser
8 or a feedlot.

9 80. The system of any of claims 73-76, wherein the purchaser is livestock raiser
10 or a feedlot.

11 81. A real-time geographic market data feed processor-implemented method,
12 comprising:

13 maintaining an agricultural asset tracking account for each of a plurality of
14 agricultural asset producers, each agricultural asset tracking account comprising
15 agricultural asset account information including asset type data, asset location data, and
16 asset availability data;

17 receiving an at least one real-time update to the agricultural asset account
18 information associated with at least one of the plurality of agricultural asset producers;

19 determining via a processor aggregate market data for at least one geographic
20 region from a set of the plurality of agricultural asset producers based on the respective
21 asset type data, asset location data, asset availability data and the at least one real-time
22 update to the respective agricultural asset account information; and

23 generating a real-time geographic market data feed from the determined
24 aggregate market data for the at least one geographic region.

25 82. The method of claim 1, wherein maintaining an agricultural asset tracking
26 account for an agricultural asset producer of the plurality of agricultural asset producers
27 comprises:

28 receiving harvested agricultural asset storage resource information for an at least
29 one harvested agricultural asset storage resource associated with the agricultural asset
30 producer, the harvested agricultural asset storage resource information including
31 location data;

1 receiving actual agricultural asset storage data for an at least one agricultural
2 asset stored in the at least one harvested agricultural asset storage resource, the actual
3 agricultural asset storage data including agricultural asset crop type and agricultural
4 asset volume; and

5 receiving in-field agricultural asset information for an at least one agricultural
6 asset associated with the agricultural asset producer, the in-field agricultural asset
7 information including asset crop type and asset location data.

8 83. The method of claim 81 or 82, wherein agricultural asset account information
9 includes in-field asset data.

10 84. The method of claim 81, 82 or 83, wherein agricultural asset account
11 information includes harvested asset data.

12 85. The method of any of claims 81-84, wherein agricultural asset account
13 information includes asset storage data.

14 86. The method of any of claims 81-85, wherein the at least one real-time update
15 to agricultural asset account information is received from a mobile device associated
16 with an agricultural asset producer from the plurality of agricultural asset producers.

17 87. The method of any of claims 81-86, wherein the at least one real-time update
18 to asset account information is based on a transaction between an asset producer and an
19 asset purchaser.

20 88. A real-time geographic market data feed apparatus, comprising:

21 a processor; and

22 a memory disposed in communication with the processor and storing processor-
23 issuable instructions to:

24 maintain an agricultural asset tracking account for each of a plurality of
25 agricultural asset producers, each agricultural asset tracking account comprising
26 agricultural asset account information including asset type data, asset location data, and
27 asset availability data;

28 receive an at least one real-time update to asset account information from
29 at least one of the plurality of agricultural asset producers;

1 determine aggregate market data for a geographic region from a set of the
2 plurality of agricultural asset producers based on asset type data, asset location data,
3 asset availability data and the at least one real-time update to asset account
4 information; and

5 generate a real-time geographic market data feed from the determined
6 aggregate market data for the geographic region.

7 89. The apparatus of claim 88, wherein asset account information includes in-
8 field asset data.

9 90. The apparatus of claim 88 or 89, wherein asset account information includes
10 harvested asset data.

11 91. The apparatus of any of claims 88-90, wherein asset account information
12 includes asset storage data.

13 92. The apparatus of any of claims 88-91, wherein the at least one real-time
14 update to asset account information is received from a mobile device associated with an
15 asset producer.

16 93. The apparatus of any of claims 88-92, wherein the at least one real-time
17 update to asset account information is based on a transaction between an asset producer
18 and an asset purchaser.

19 94. A processor-readable tangible medium storing processor-issuable real-time
20 geographic market data feed instructions to:

21 maintain an agricultural asset tracking account for each of a plurality of
22 agricultural asset producers, each agricultural asset tracking account comprising
23 agricultural asset account information including asset type data, asset location data, and
24 asset availability data;

25 receive an at least one real-time update to asset account information from at least
26 one of the plurality of agricultural asset producers;

27 determine aggregate market data for a geographic region from a set of the
28 plurality of agricultural asset producers based on asset type data, asset location data,
29 asset availability data and the at least one real-time update to asset account
30 information; and

31 generate a real-time geographic market data feed from the determined aggregate
32 market data for the geographic region.

1

2 95. The medium of claim 94, wherein asset account information includes in-field
3 asset data.

4

5 96. The medium of claim 94 or 95, wherein asset account information includes
6 harvested asset data.

6

7 97. The medium of any of claims 94-96, wherein asset account information
8 includes asset storage data.

8

9 98. The medium of any of claims 94-97, wherein the at least one real-time update
10 to asset account information is received from a mobile device associated with an asset
11 producer.

11

12 99. The medium of any of claims 94-98, wherein the at least one real-time update
13 to asset account information is based on a transaction between an asset producer and an
14 asset purchaser.

14

15 100. A real-time geographic market data feed system, comprising:

15

16 means to maintain an agricultural asset tracking account for each of a plurality of
17 agricultural asset producers, each agricultural asset tracking account comprising
18 agricultural asset account information including asset type data, asset location data, and
19 asset availability data;

19

20 means to receive an at least one real-time update to the agricultural asset account
21 information associated with at least one of the plurality of agricultural asset producers;

21

22 means to determine aggregate market data for at least one geographic region
23 from a set of the plurality of agricultural asset producers based on the respective asset
24 type data, asset location data, asset availability data and the at least one real-time
25 update to the respective agricultural asset account information;

25

26 means to generate a real-time geographic market data feed from the determined
27 aggregate market data for the at least one geographic region;

27

28 wherein maintaining an agricultural asset tracking account for an
29 agricultural asset producer of the plurality of agricultural asset producers comprises:

29

30 means to receive harvested agricultural asset storage resource information
31 for an at least one harvested agricultural asset storage resource associated with the
32 agricultural asset producer, the harvested agricultural asset storage resource
33 information including location data;

1 means to receive actual agricultural asset storage data for an at least one
2 agricultural asset stored in the at least one harvested agricultural asset storage resource,
3 the actual agricultural asset storage data including agricultural asset crop type and
4 agricultural asset volume; and

5 means to receive in-field agricultural asset information for an at least one
6 agricultural asset associated with the agricultural asset producer, the in-field
7 agricultural asset information including asset crop type and asset location data.

8 101. The method of claim 6, wherein the analysis includes determination of a
9 frost or condensation line.

10 102. The method of claim 6, wherein the analysis comprises three-dimensional
11 analysis

12 103. The method of claim 6, wherein the analysis includes comparison of the
13 image to an at least one previously-captured image.

14

15

16

17

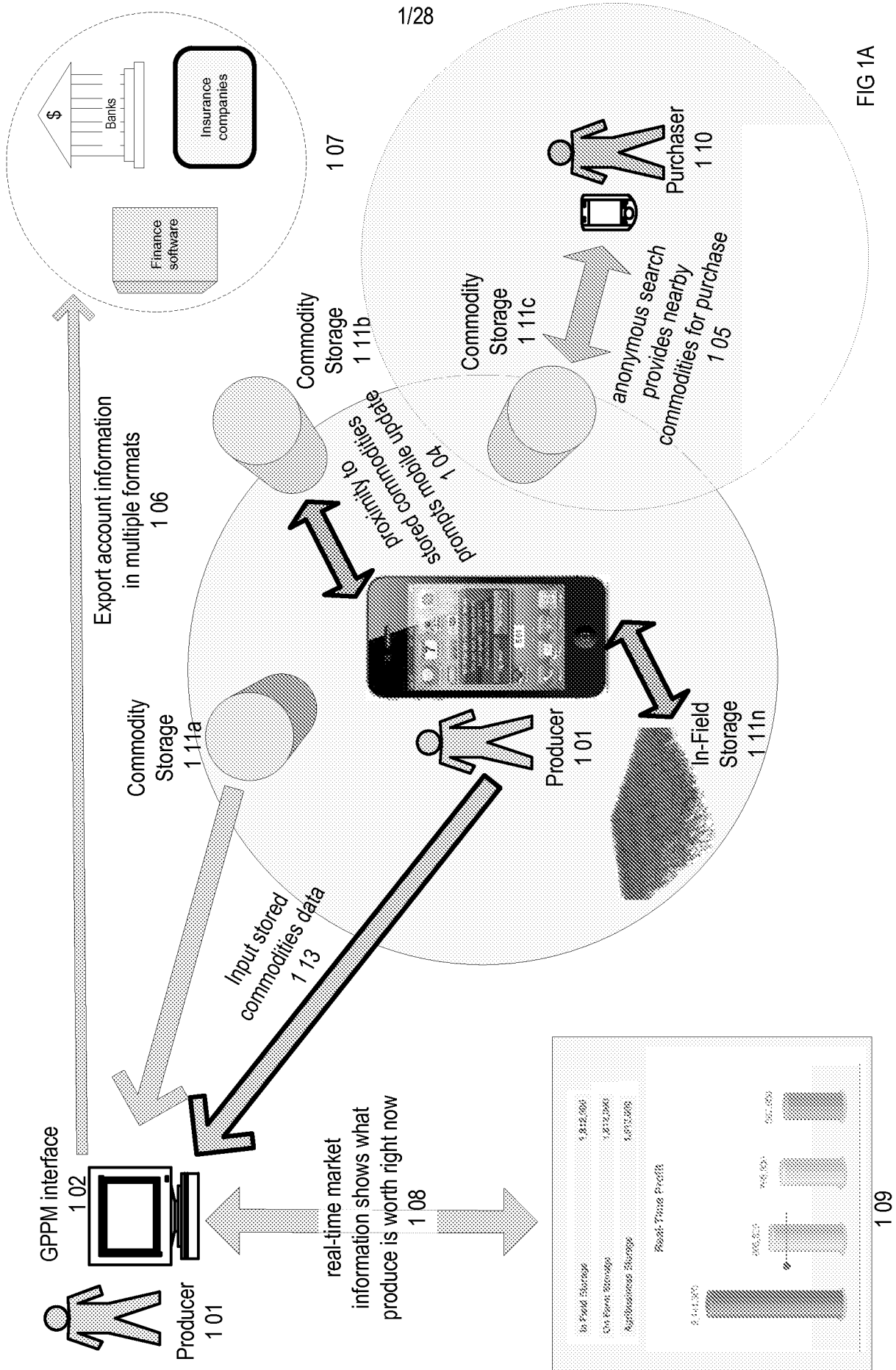
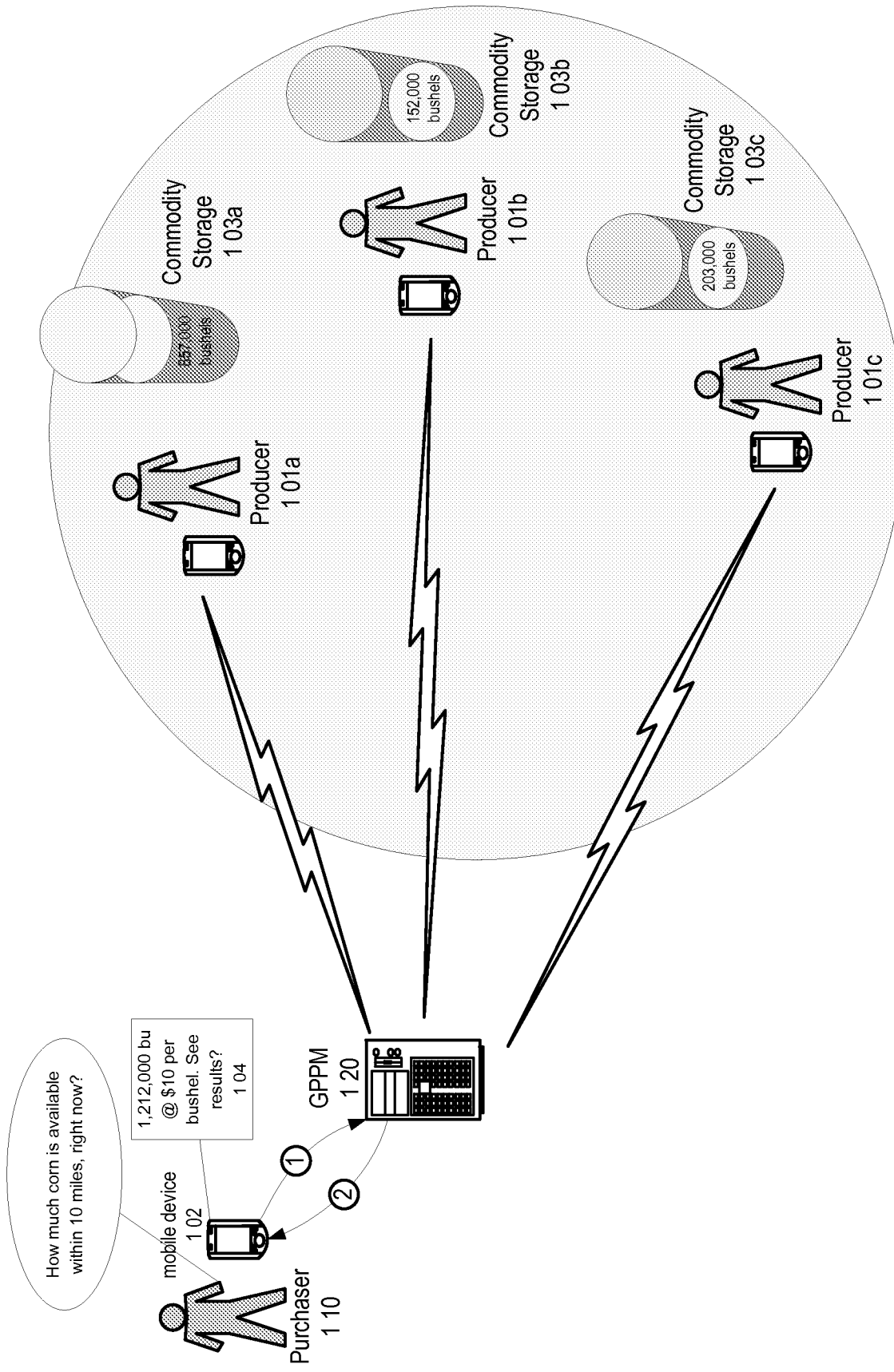


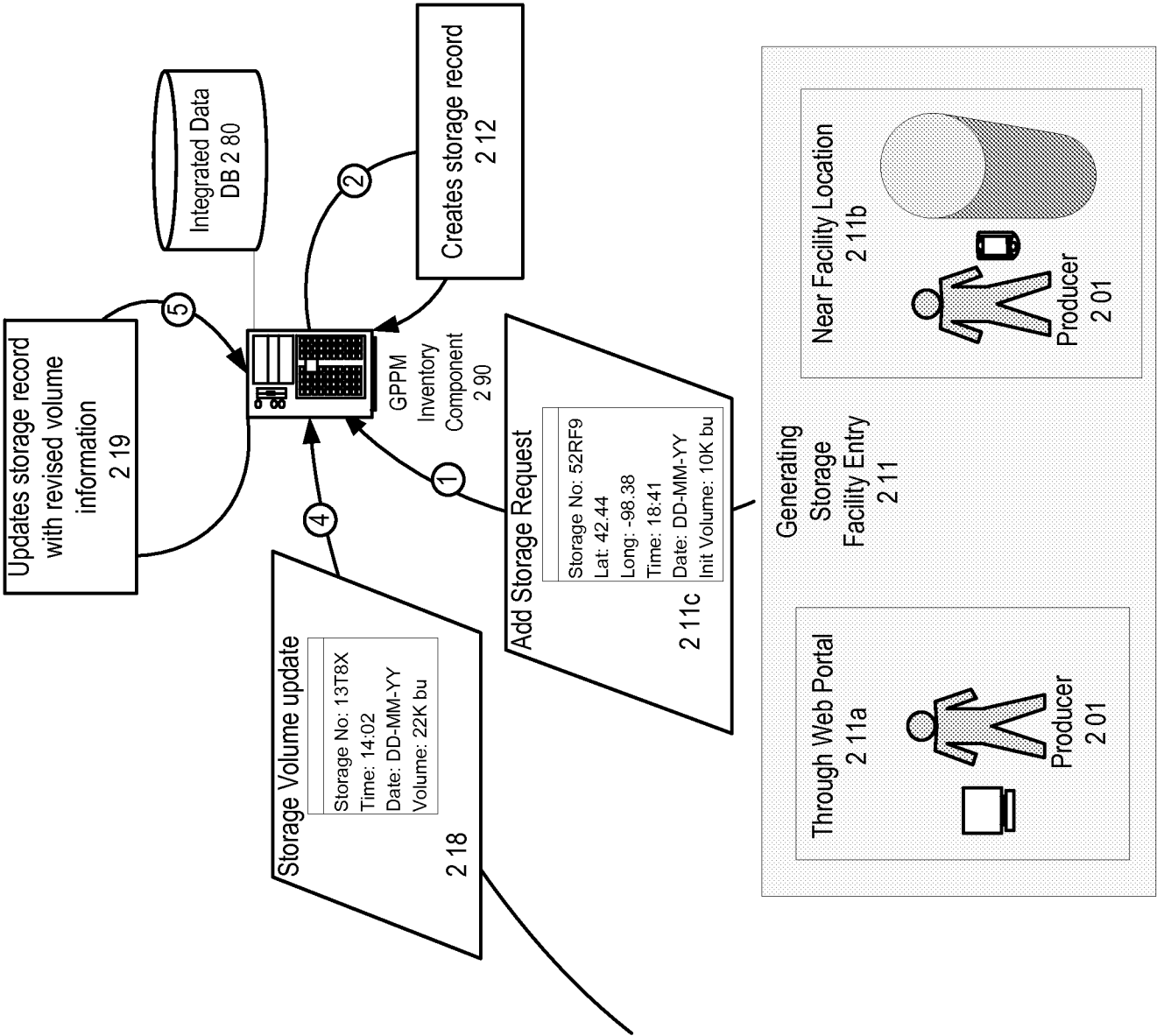
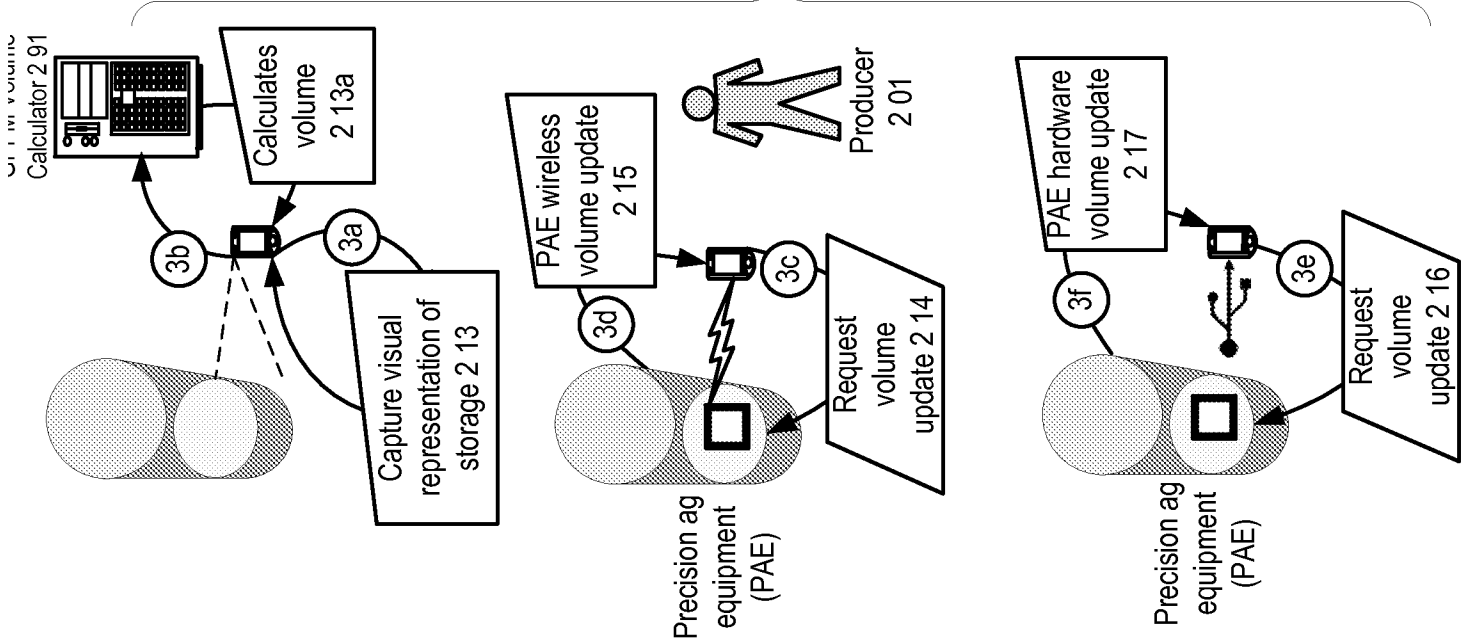
FIG 1A

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Example Overview Commodity Search FIG 1B

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Example Resource Record Creation/Update (RRCU) Data Flow

FIG 2A

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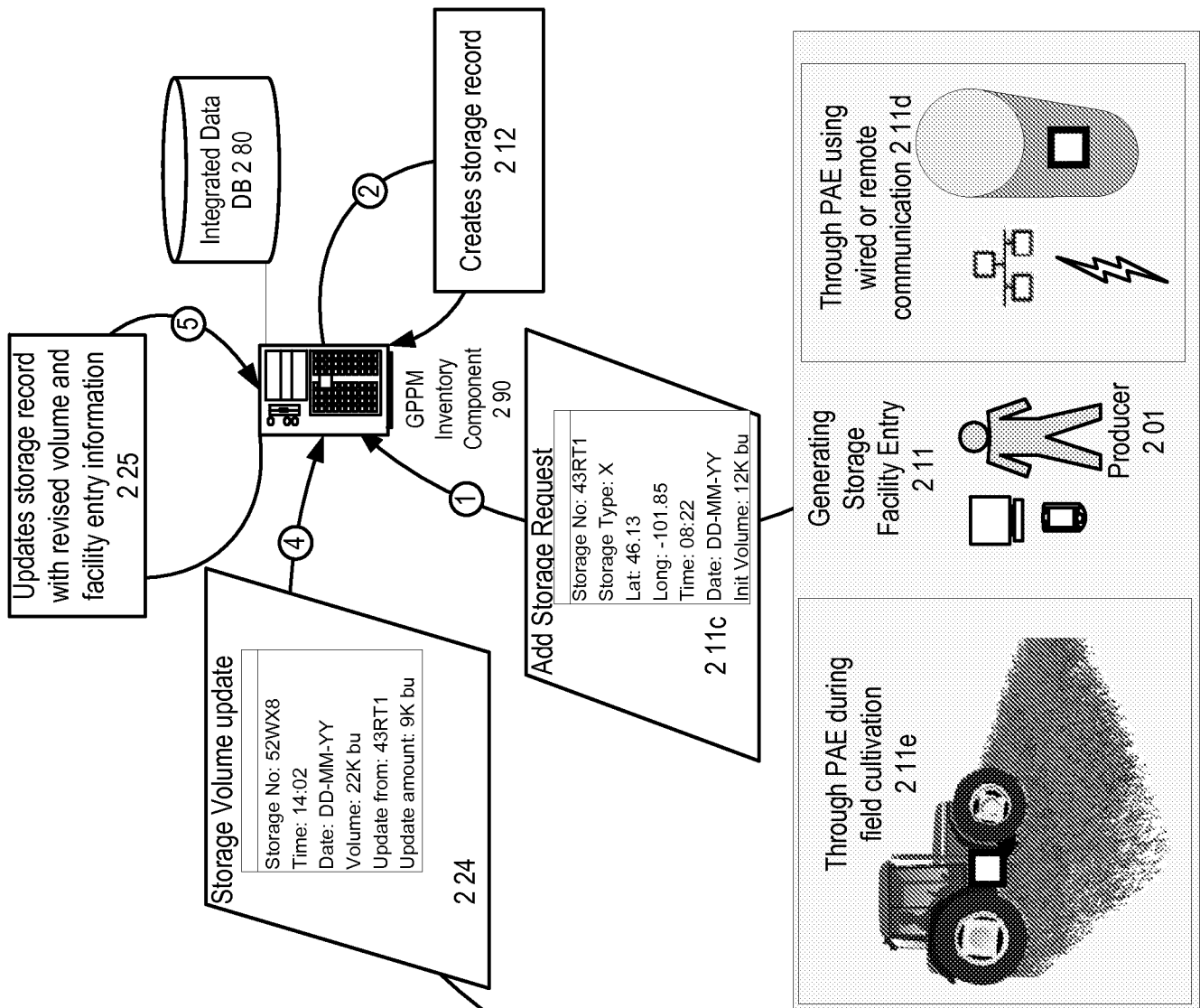
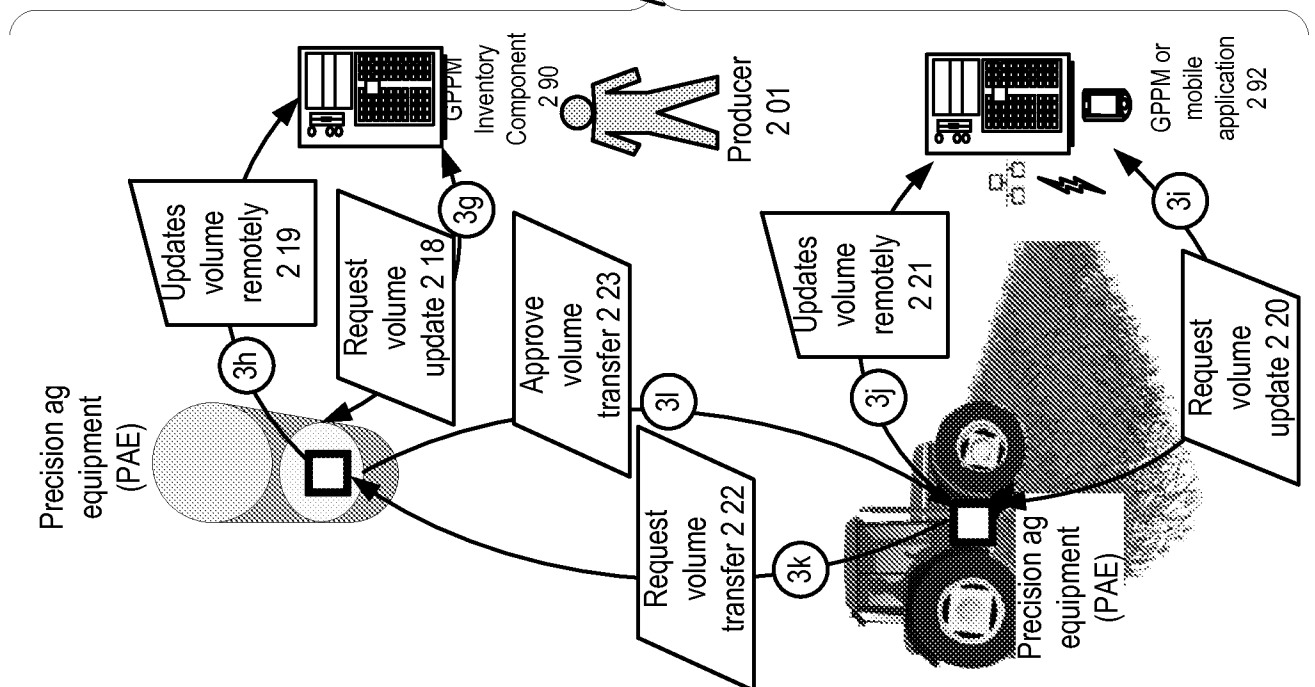
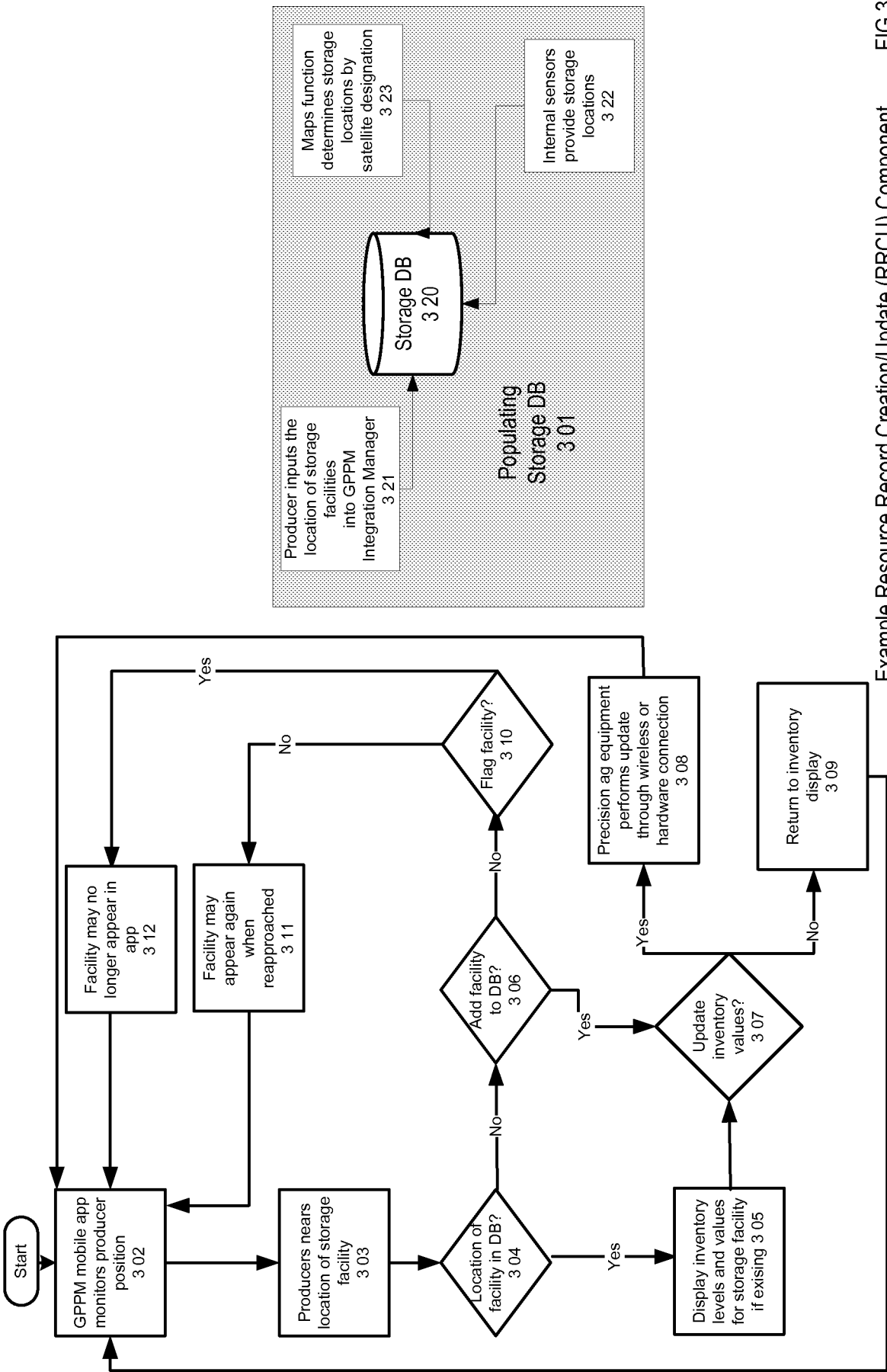


FIG 2B

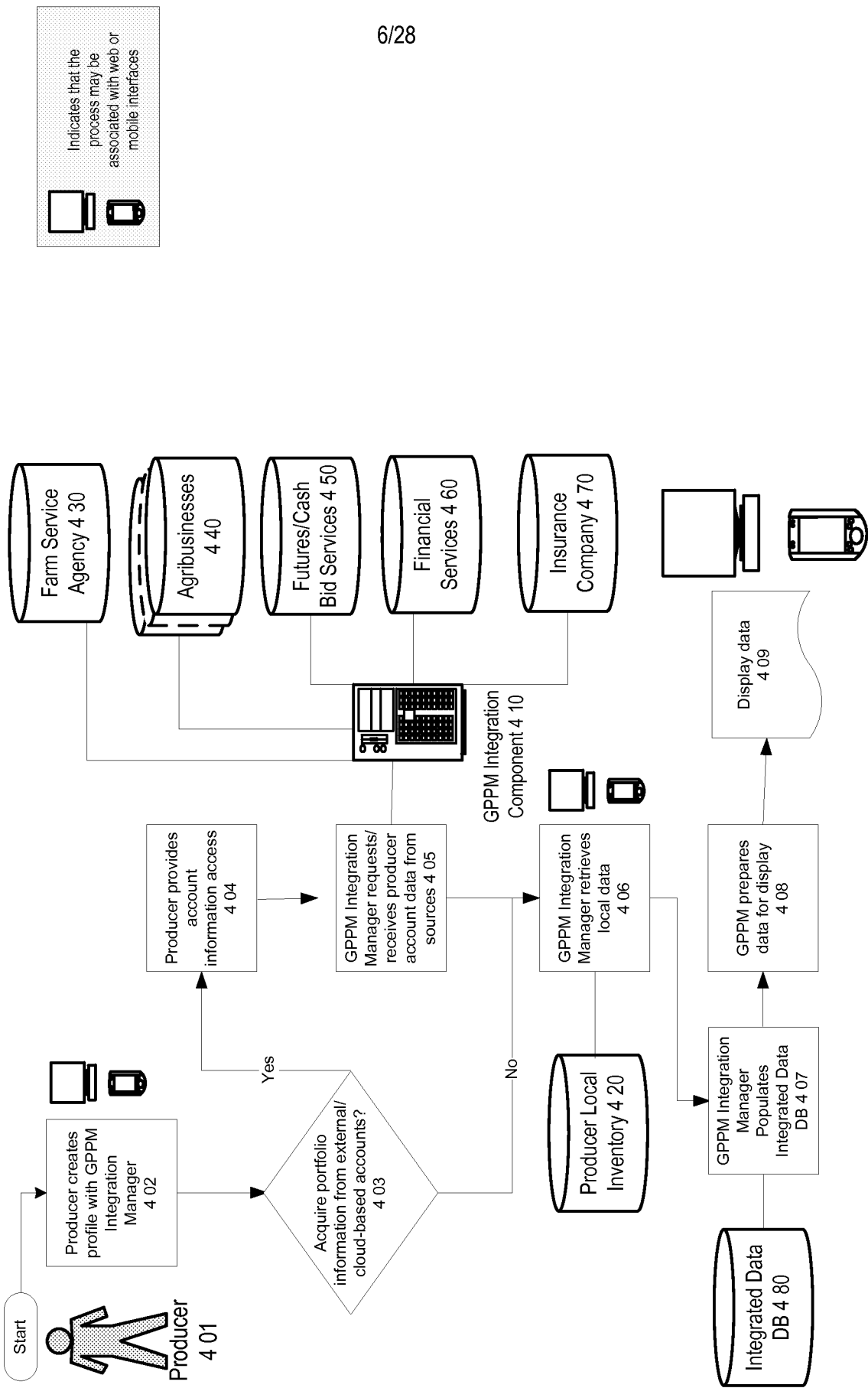
Example Resource Record Creation/Update (RRCU) Data Flow



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Example Resource Record Creation/Update (RRCU) Component FIG 3



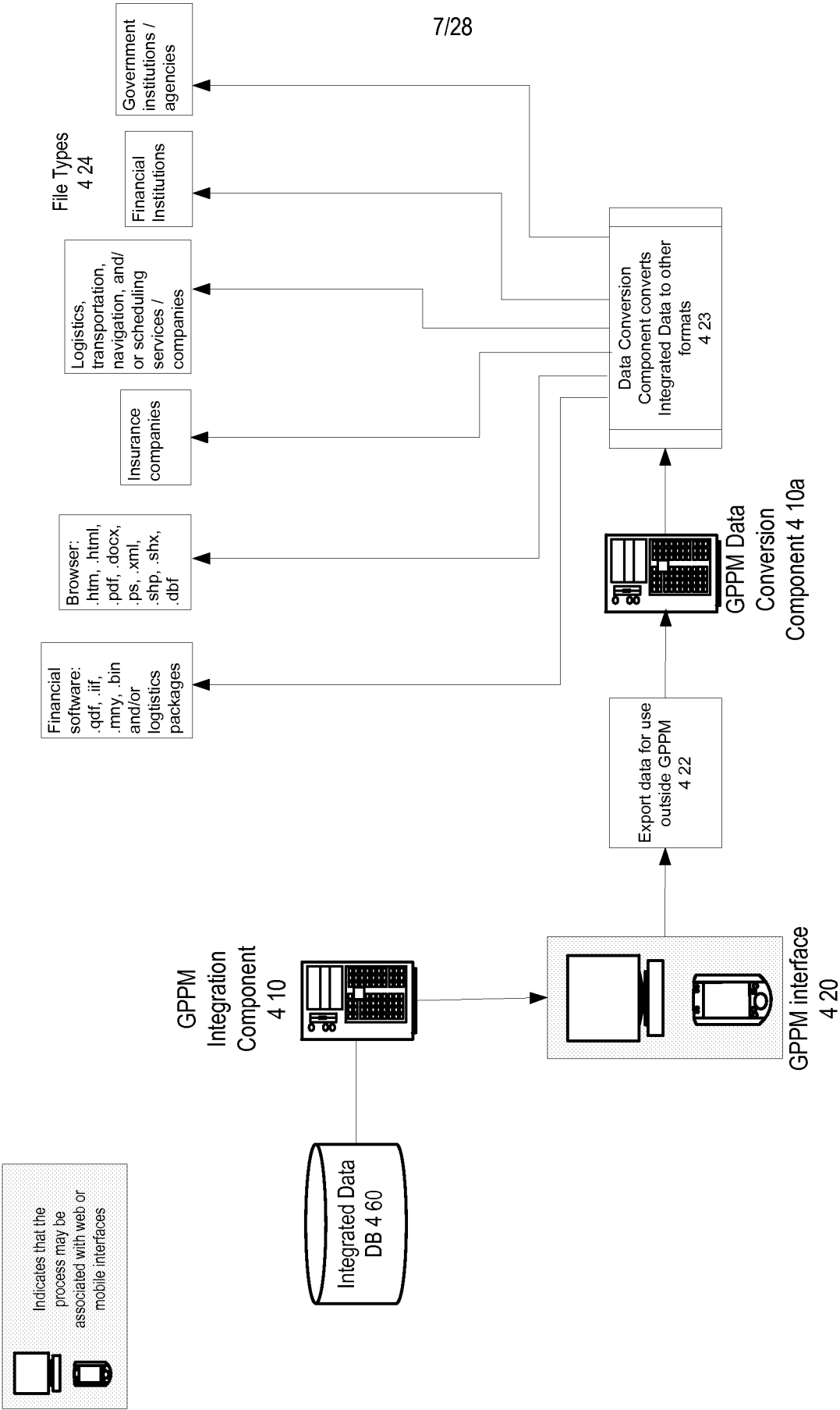
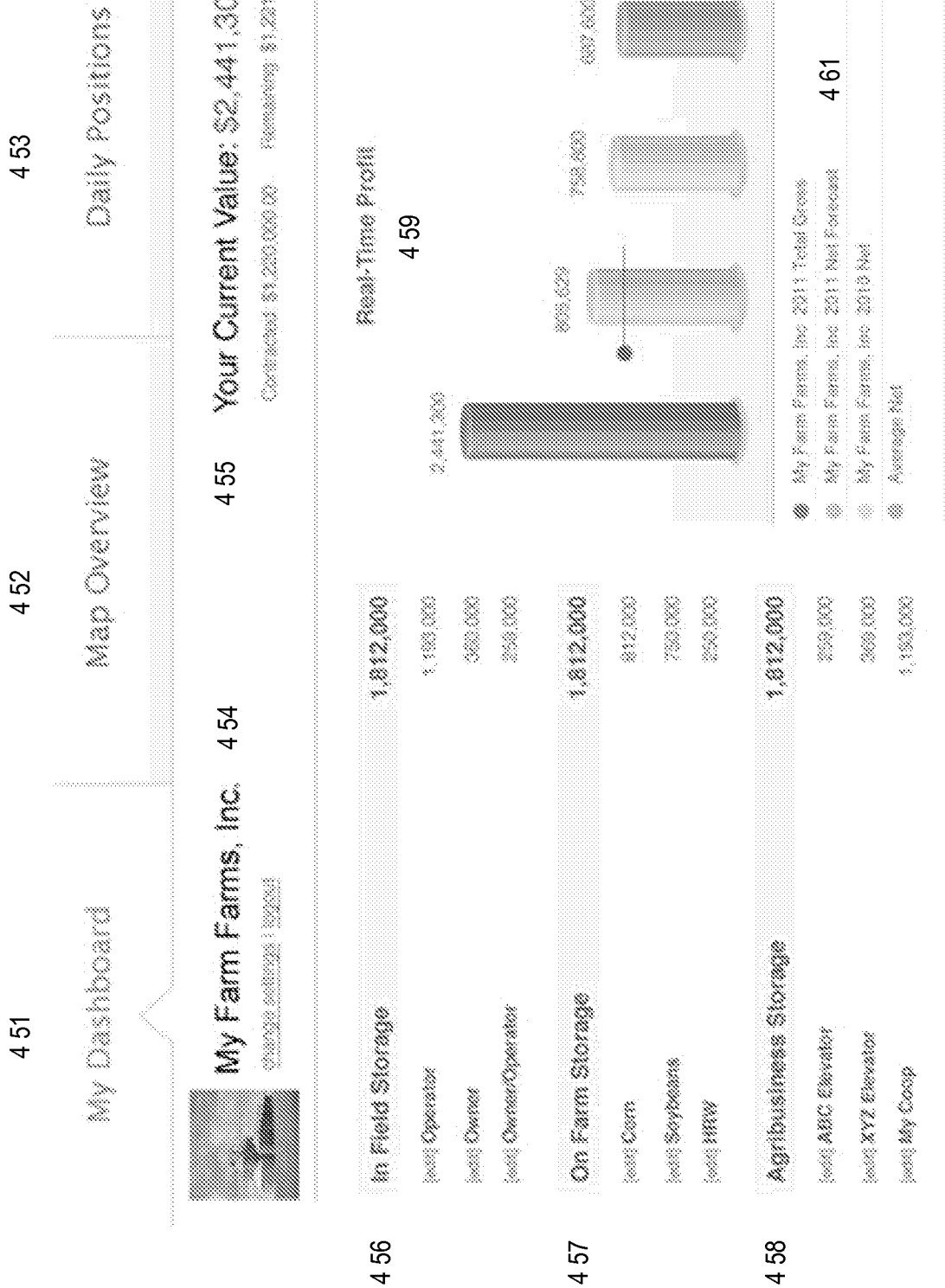


FIG 4B

Example Data Conversion

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Example Dashboard Interface FIG 4C

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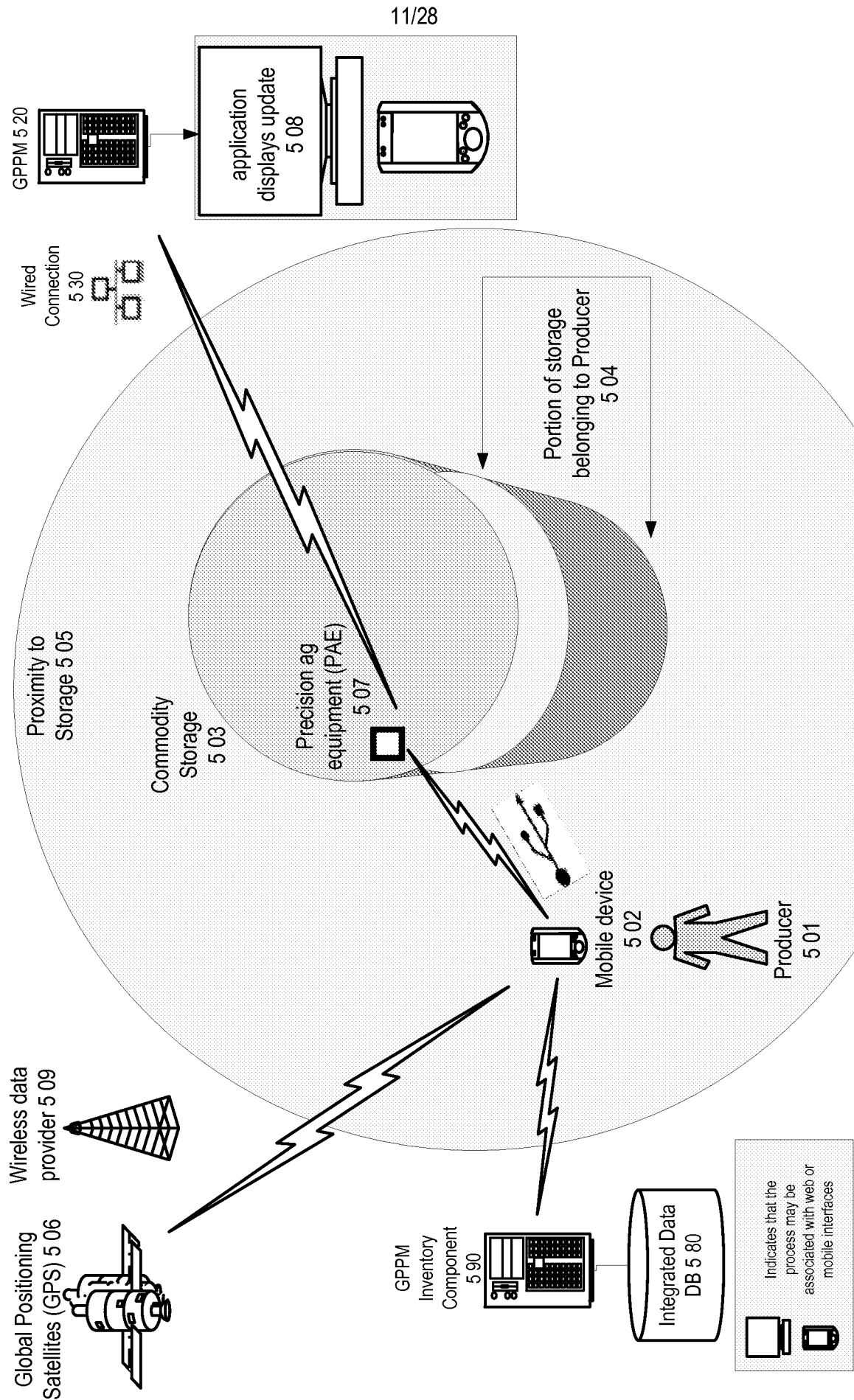
FIG 4E



Example Positions Interface

4 70

4 71



Example Producer Prompt (PP) Inventory

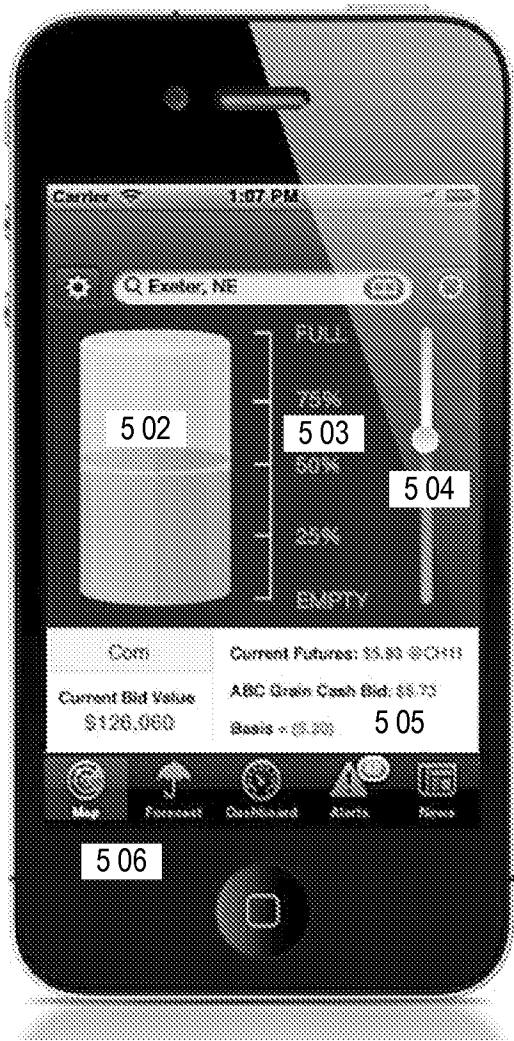
FIG 5A

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Example Producer Prompt (PP) Inventory Interface

FIG 5B



Example Producer Update (PU) Inventory Interface

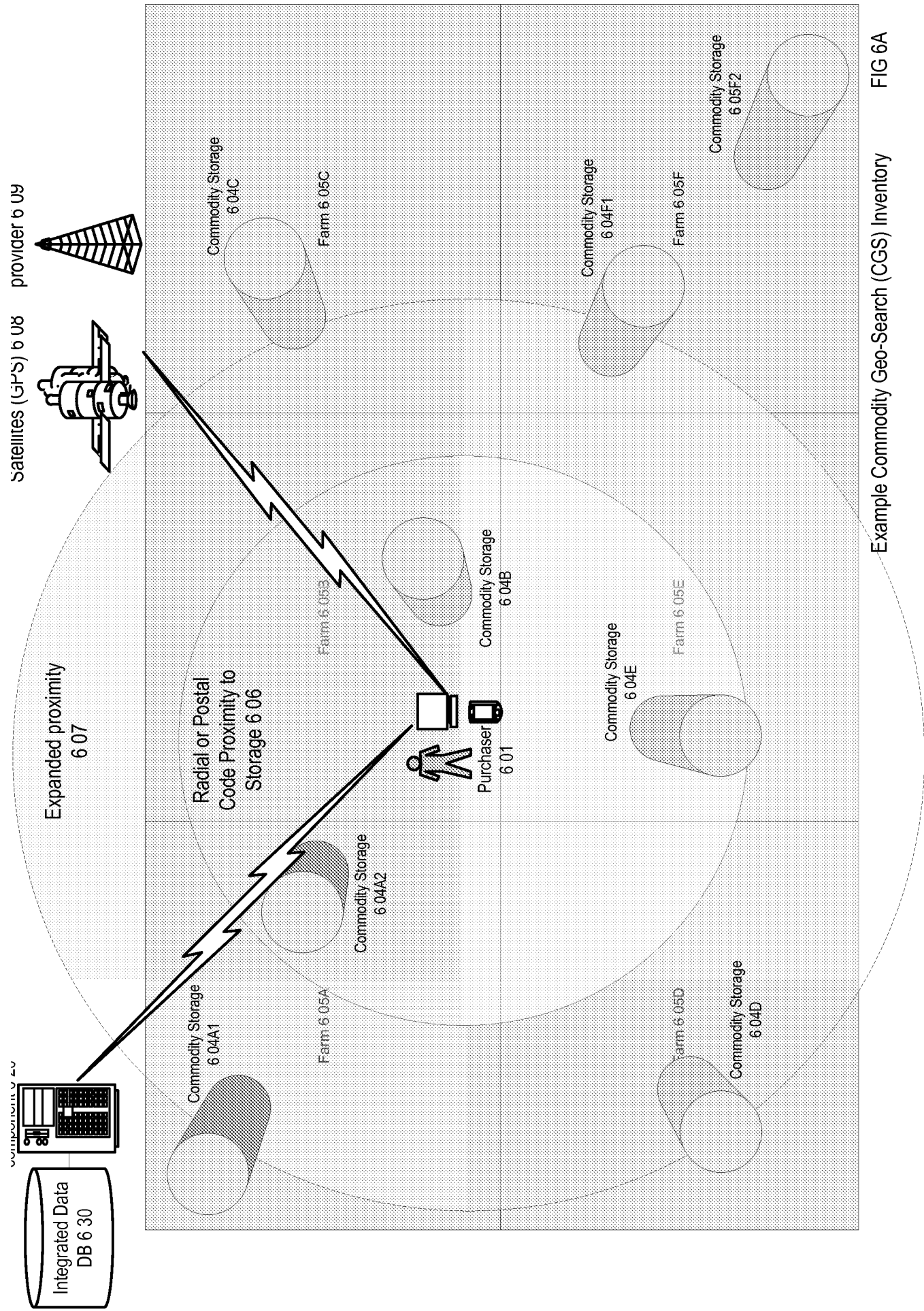
FIG 5C

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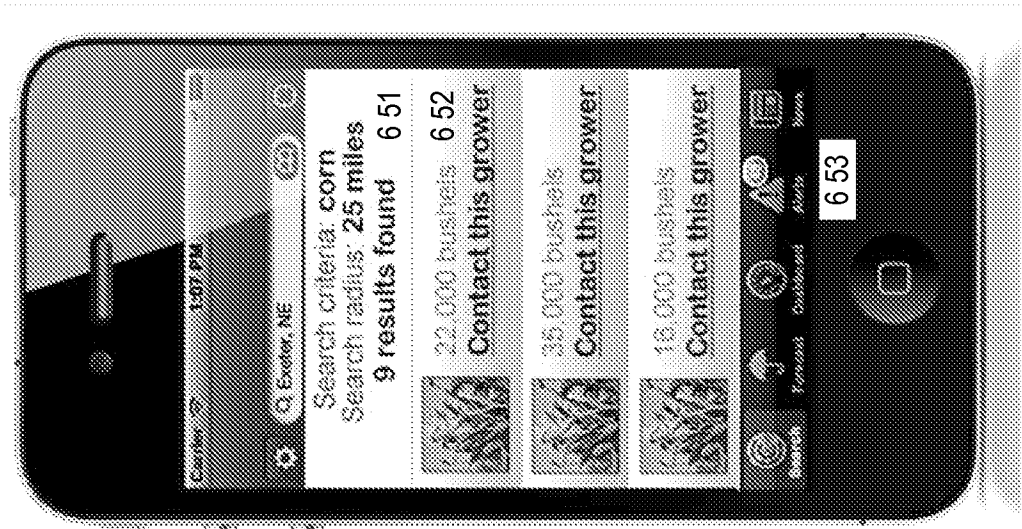
Example Mobile Interfaces

FIG 5D



Example Commodity Geo-Search (CGS) Inventory

FIG 6A



Example Mobile Commodity Geo-Search Inventory Interface

FIG 6B

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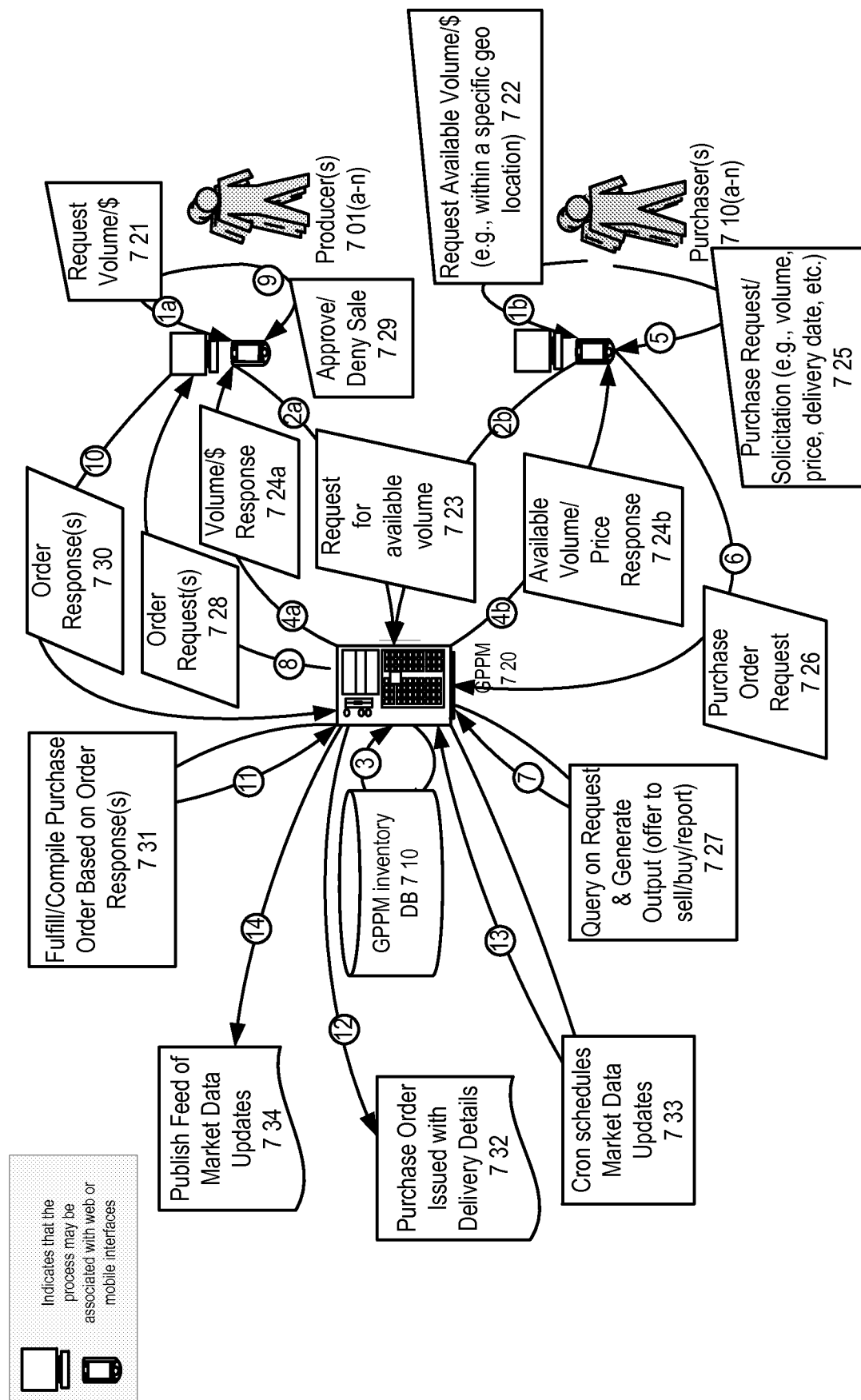
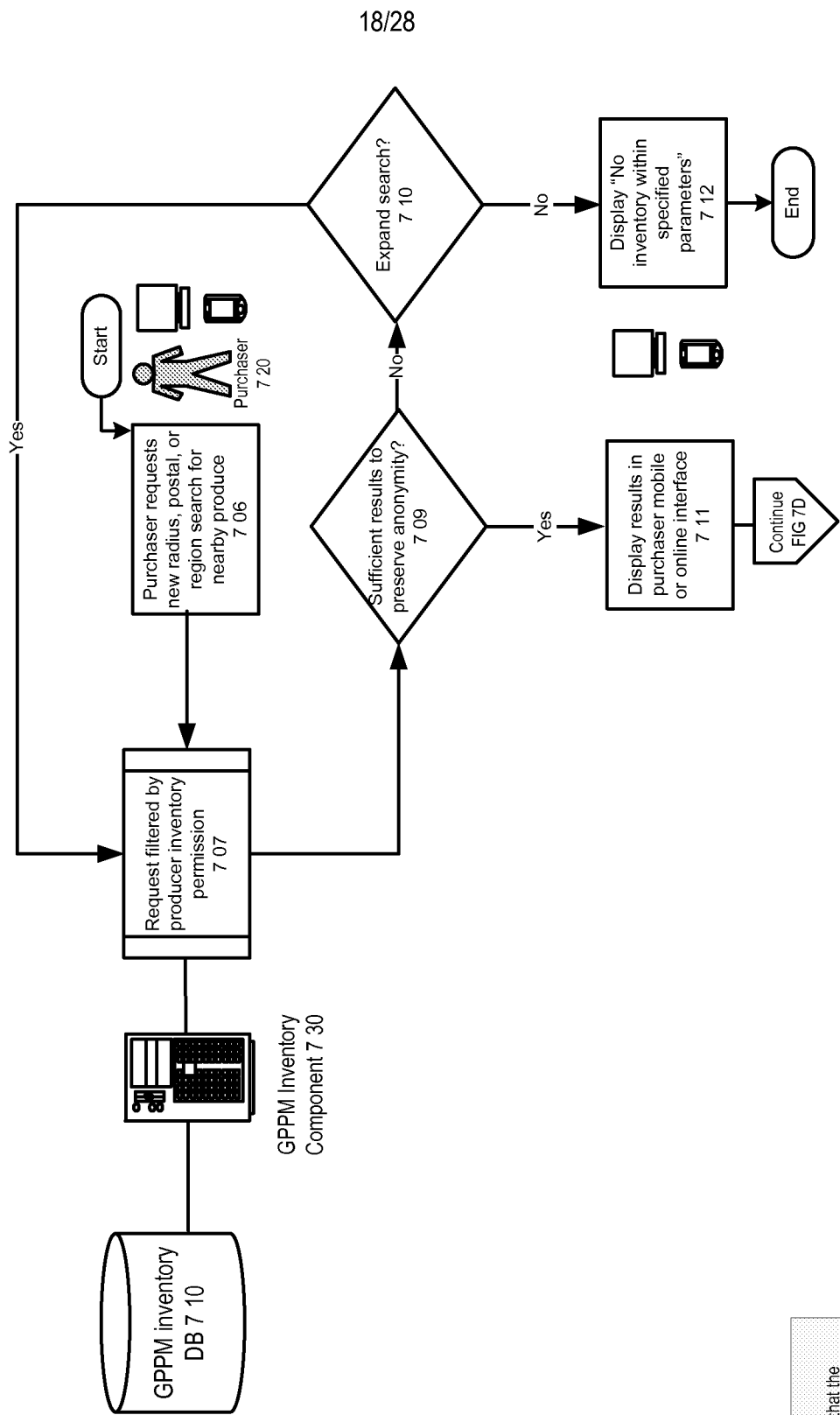


FIG 7A

Example Commodity Geo-Search and Commodity Matching Data Flow

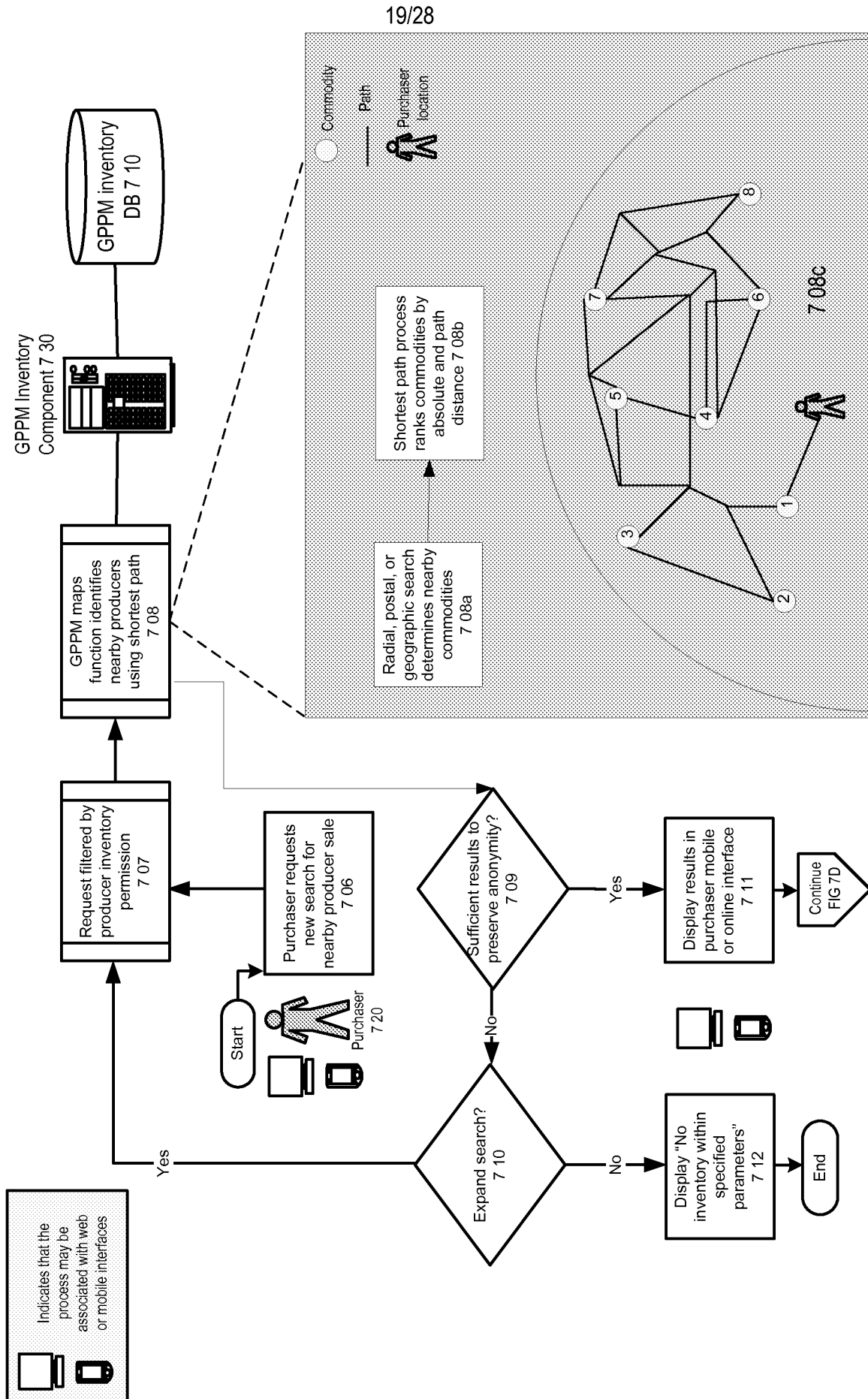


Indicates that the process may be associated with web or mobile interfaces

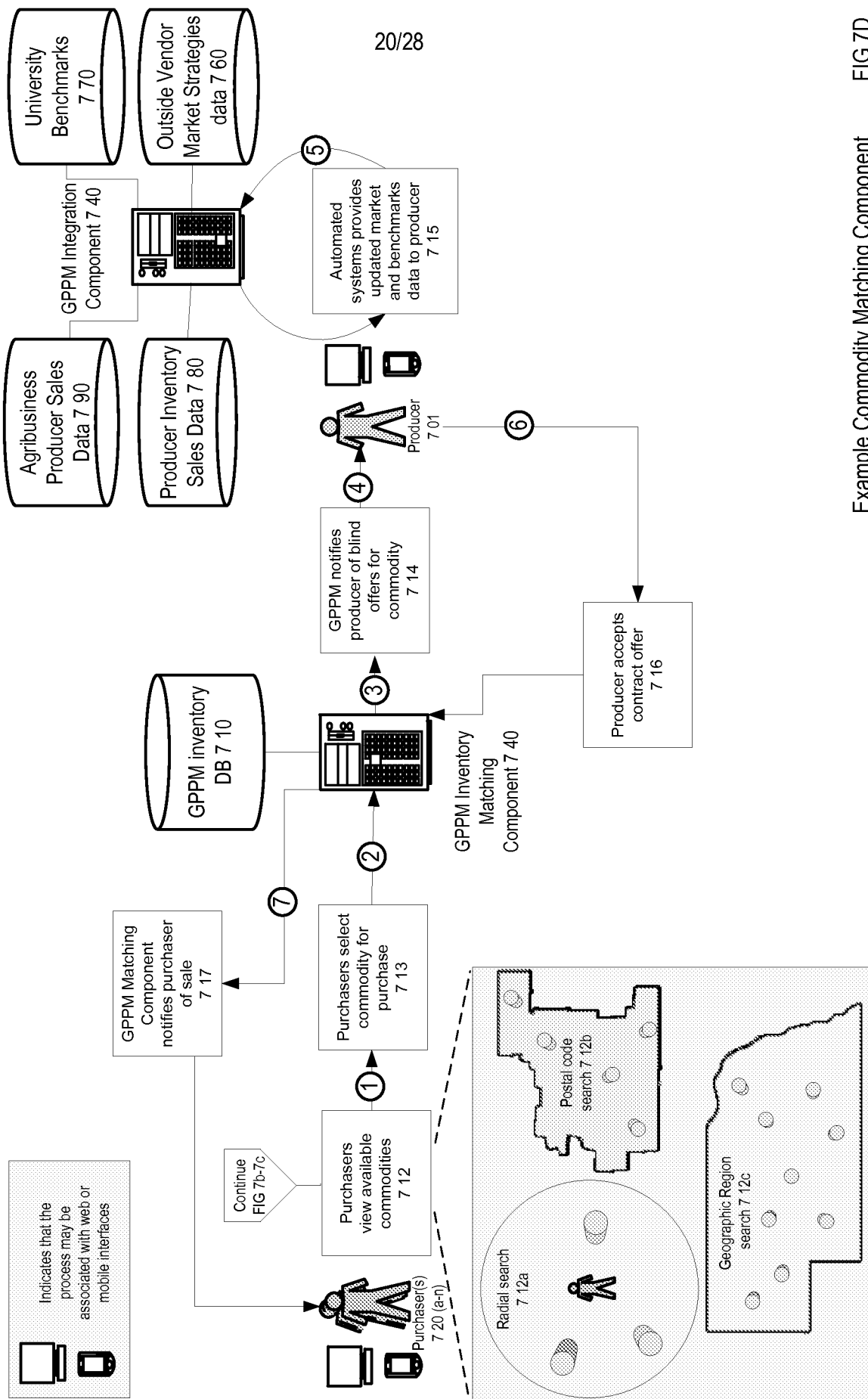


Example Commodity Geo-Search (CGS) Inventory Component

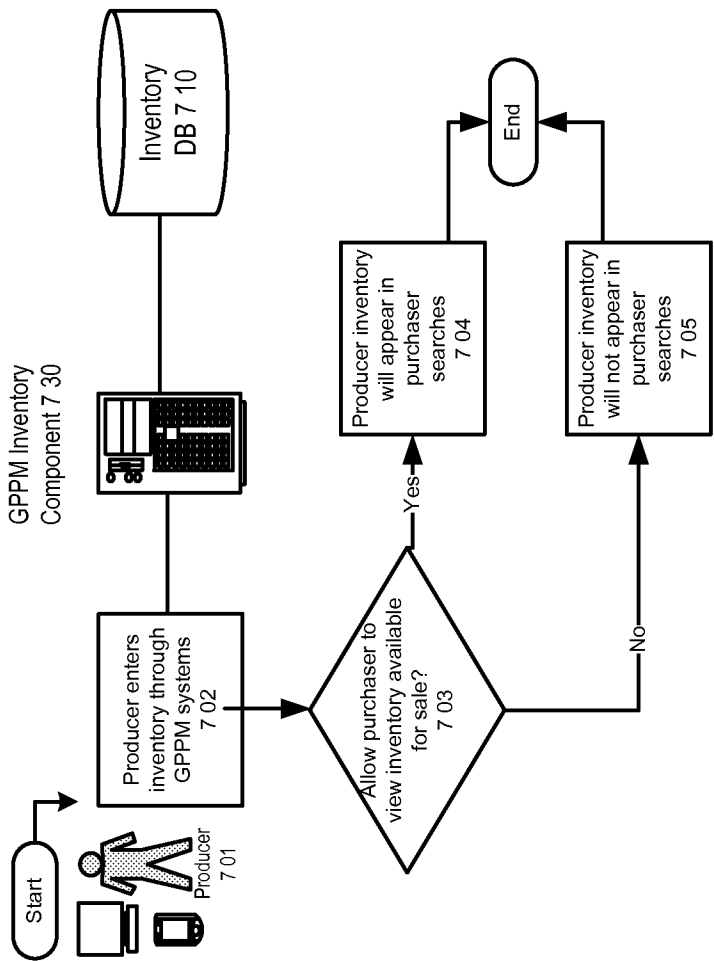
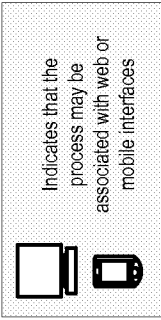
FIG 7B



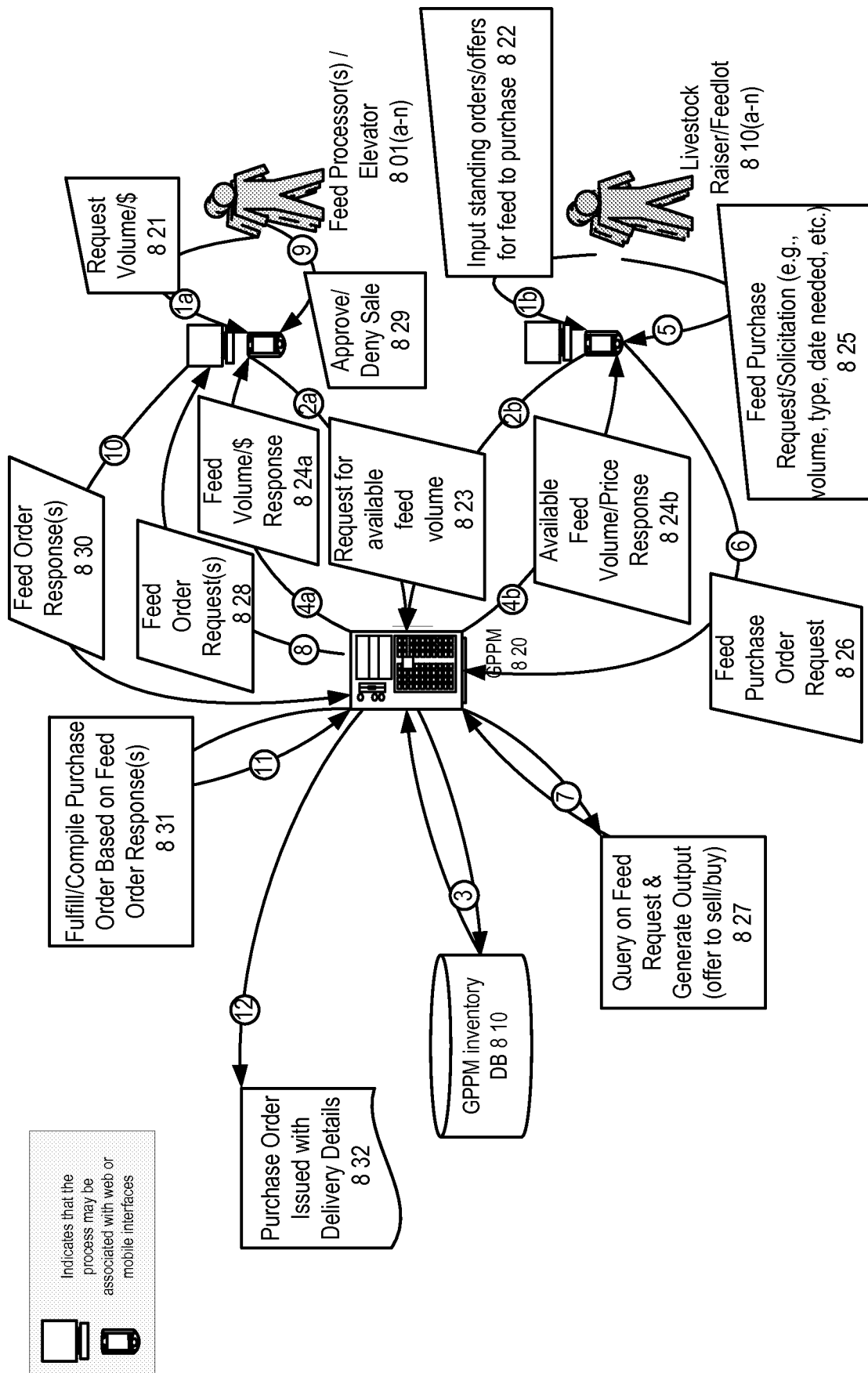
Example Commodity Geo-Search (CGS) Inventory Component (alt.) FIG 7C



Example Commodity Matching Component



Example Resource/Record Publication Component FIG 7E



Example Livestock Feed Matching Component Data Flow

Enter offers into the Portal by clicking the Enter Producer Offer tab

ABC Agri Services

Location

All

Offers To

Buy

DTM Portal Dashboard

Preferences

Communication

Enter Producer Offer

Commodity

DTM Product

#Units

Cash

Futures

Basis

Total

No offers.

Commodity

Name

#Units

Cash

Futures

Basis

Total

Com

Brown

1,500

\$3,6000

\$3,9500

\$-0.2825

\$0.01

Commodity

Name

#Units

Cash

Futures

Basis

Total

Com

Hamlet

1,000

\$3,2500

\$3,6000

\$-0.4275

\$0.01

Soybeans

Kenz

1,000

-

-

\$-0.5000

\$0.01

Soybeans

Doe

250

\$9,0000

\$9,5500

\$-0.5250

\$0.01

Soybeans

Watt

1,200

-

\$9,5000

-

\$0.01

Com

Johna

2,500

\$3,7500

\$4,1000

\$-0.1325

\$0.01

Com

Johns

2,300

\$3,5000

\$3,9500

\$-0.1775

\$0.01

Com

Yelben

1,000

\$3,4900

\$3,8400

\$-0.0750

\$0.01

Com

Kenz

4,000

-

\$4,0000

-

\$0.01

Example Offer Enter Interface

FIG 8B

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Enter New Producer Offer - Windows Internet Explorer

TELVENT^{Edm} Hosting Solutions

ABC Agri Services

Enter New Producer Offer

To enter a new producer offer, select the producer's user and the desired contract details, then click the Continue button.

To enter an offer from a user who does not have an account, select "New" in the User dropdown and fill out the First Name, LastName, and Email fields. All 3 fields are required for new user accounts.

User: Select the User (customer) that you are making the offer for

Location:

Commodity:

Contract Delivery:

3 ways to populate User list

- Import your customer list via spreadsheet
- Use the integrated solution with your accounting package
- Enter manually by selecting 'New' from the User list

FIGURE 8C

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Make Offer Form

Most of the data will self populate

- Select Offer Type
 - Cash
 - Futures Only
 - Basis Only

Make an Offer - Windows Internet Explorer

Contract Details

Location	Corn		
Commodity	3.4375		
Price	3.4375		
Delivery	Before Oct 1 and Oct 31		
Last Modified	3:44 PM on 4/8		

Futures

Name	Sym	Price	Open	High	Low	Last	Chg	Trade
SOB4 Dec 1	SOB4	3012	3012	3044	2788	2788	-24	1,488 Apr

All quotes are delayed snapshots
Click here for info on Exchange delays

Offer Entry (Step 1 of 2)

Commodity: Corn

Buy or Sell: ☒ Buy ☐ Sell

Offer Type: ☒ Cash ☐ Futures

Quantity & Price: Bushels at \$3.4375

Delivery: BETWEEN 10/01 AND 10/31

Delivery Method: ☒ Delivered ☐ Other

Expiration: 04/16 2 PM

Contact 1:

Contact 2:

Comments: Created by Site Administrator

Terms and Conditions

The Terms & Conditions you create in the Preferences section will appear here and when a customer submits an offer from your website they will need to check the box, thus agreeing to your terms and conditions.

Since you created the Terms & Conditions, and you are entering the offer on behalf of the producer, we will check the box on your behalf thus eliminating a step for you.

☒ Check this box to acknowledge you have read, understood, and are in agreement in the terms and conditions described above

FIGURE 8D

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Make an Offer - Windows Internet Explorer

Contract Details

Location	Genesee
Commodity	Corn
Price	3.4375
Delivery	Between Oct 1 and Oct 31
Last Modified	3:54 PM on 4/8

Futures

Name	Sym	Prev	Open	High	Low	Last	Chg	Trade
COB0 Dec	@02	3312	3310	3344	3288	3288	-34	1,402 Apr

All quotes are delayed snapshots
Click here for info on Exchange delays

Confirm Offer (Step 2 of 2)

Commodity: Corn
Buy or Sell: Sell
Offer Type: Cash
Quantity & Price: 2500 Bushels at \$3.75
Delivery: Between Oct 1 and Oct 31
Delivery Method: Delivered (CIF)
Expiration: Oct 31 12 PM
Contact 1:
Contact 2:
Comments: Created by Site Administrator

Back Enable Offer Cancel

Offer Completed

Offer ID: 237929
Commodity: Corn
Buy or Sell: Sell
Offer Type: Cash
Quantity & Price: 2500 Bushels at \$3.75
Delivery: Between Oct 1 and Oct 31
Delivery Method: Delivered (CIF)
Expiration: Oct 31 2 PM
Contact 1:
Contact 2:
Comments: Created by Site Administrator

Close Window

FIGURE 8E

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The offer will appear in the Incoming Producer Offer section
 Offers that your producers submit from your website will also appear here as well
 The Alert pane will notify you of any new events in your portal that need attention. It has the same Open, Dismiss, Snooze
 and time interval features as MS Outlook

TELVENT[®] Hosting Solutions
 ABC Agri Services

Location: All ☒ Offers To: Buy ☐ **DTN Portal Dashboard**

Preferences Communication ☐ Enter Producer Offer Tools Help

Offer Search: **April 9 10:42 PM**

Main Menu View Home Page User Guide FAQs Support

Alerts

1 Incoming Offer

Open Item ☒ Dismiss Snooze

15 Minutes

Incoming DTN Marketplace Offers

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Incoming Producer Offers

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Accepted Offers

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Total Bought

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Total Sold

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Outgoing Counter Offers

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Outgoing Private Bids

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Expired Withdrawn and Declined Offers

Symbol	Price	Quantity	Time	Symbol	Price	Quantity	Time
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000
ADZ	2.200	\$3,7500	94-1000	94-1000	94-1000	94-1000	94-1000

Action Symbols: A = Accept, AC = Accept Conditionally, AD = Adjust Offer, C = Cancel, D = Decline, W = Withdraw

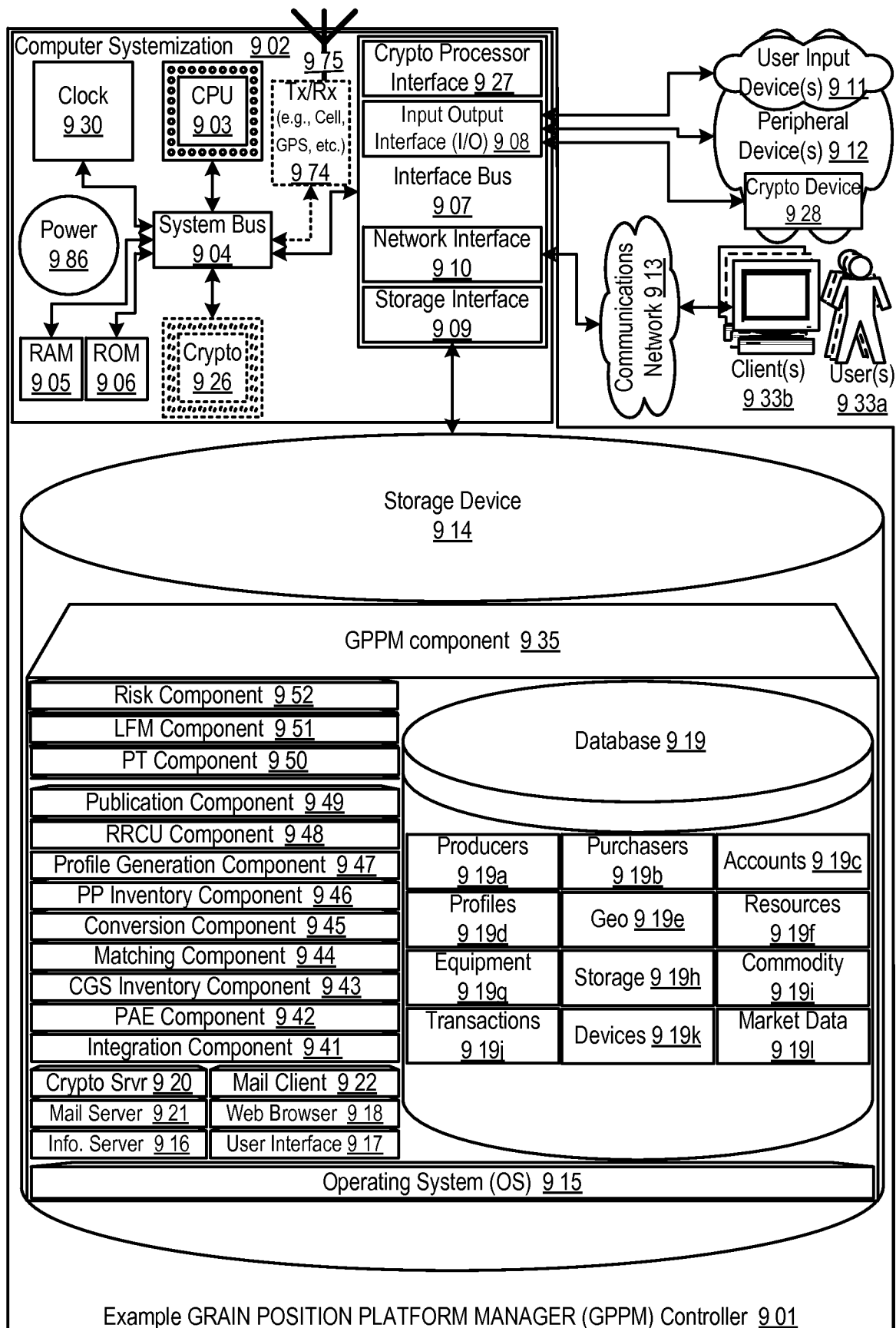
Offer Status Symbols: * = Offer originated from DTN Marketplace, * = Offer originated from Administrator

Offer Type Symbols: C = a standard offer against the best price of the bid, P = an offer against the price of the future contract the bid is based on, B = an offer against the best of the bid, the difference of the bid's last price and the price of the future contract it is based on.

FIGURE 8F

FIGURE 9

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A. CLASSIFICATION OF SUBJECT MATTER**G06Q 50/02(2012.01)i**

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)

G06Q 50/02; G05B 13/02; G06F 19/00; G06F 17/00; G08B 21/00; G06F 17/60; G06F 17/30; A01B 79/00; G06Q 40/00; G06F 169/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords:crop, storage, mobile, location, agricultural commodity asset, market, purchase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1346622 A1 (DEERE & COMPANY) 24 September 2003 See abstract, paragraphs [0050]-[0054], [0062], [0070], [0128], [0149], [0150], [0184] and claims 1, 7, 11.	81-85, 88-91, 94-97, 100
Y		1-80, 86, 87, 92, 93, 98, 99, 101-103
Y	US 2008-0157990 A1 (WILLIAM A. BELZER et al.) 03 July 2008 See abstract, paragraphs [0041], [0057], [0064]-[0074] and claims 1, 2, 4-7, 15-18.	1-45, 47, 51, 55, 86, 92, 98, 101-103
A		46, 48-50, 52-54, 56-85, 87-91, 93-97, 99, 100
Y	US 2011-0208636 A1 (DEEPA CHANDRA BACHU et al.) 25 August 2011 See abstract, paragraphs [0026], [0058], [0063], [0080] and claims 1, 2, 7.	61-80, 87, 93, 99
A		1-60, 81-86, 88-92, 94-98, 100-103
Y	US 2009-0150273 A1 (DAVID LEHMAN et al.) 11 June 2009 See abstract and claims 13, 19, 23.	46-60
A		1-45, 61-103



Further documents are listed in the continuation of Box C.



See patent family annex.

* 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 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

21 August 2013 (21.08.2013)

Date of mailing of the international search report

21 August 2013 (21.08.2013)

Name and mailing address of the ISA/KR


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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/031784

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003-0125877 A1 (GLENN P. HANSON) 03 July 2003 See abstract and claims 16, 17.	20, 21, 31, 32, 42, 43
A		1-19, 22-30, 33-41 , 44-103
A	US 6999877 B1 (JAMES SCOTT DYER et al.) 14 February 2006 See abstract and claims 1, 9.	1-103
A	US 2002-0032497 A1 (WILLIAM L. JORGENSEN et al.) 14 March 2002 See abstract and claims 1-6.	1-103
A	US 2011-0016144 A1 (JAMIE STRACHAN et al.) 20 January 2011 See abstract and claims 1-10.	1-103

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/031784

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Group I, claims 1-45, 101-103, directed to a crop asset tracking method for informing a producer of their account data and aggregated storage, and updating crop state data related to the storage.

Group II, claims 46-60, directed to an agricultural commodity asset management method for providing the agricultural asset portfolio based on the commodity market data and the agricultural asset data.

Group III, claims 61-80, directed to a crop purchase management method for informing purchaser of commodities for purchase within a geographical area and facilitating a commodity transaction.

Group IV, claims 81-100, directed to a method for generating a real-time geographic market data feed by using an agricultural asset tracking account.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2013/031784

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2013/031784

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