

DATA PROVIDING SYSTEM AND DISCLOSURE STATUS SETTING METHOD
IN DATA PROVIDING SYSTEM

FIELD OF THE INVENTION

[0001]

The present invention relates to a data providing system which receives data provided from a data provider side and provides the data to a data receiver side, and a disclosure status setting method in the data providing system.

[0002]

More specifically, the present invention relates to a data providing system performing centralized management of a disclosure limited data, on a service infrastructure provider device, including a disclosure control function of aggregating all the data provided from the data provider side to an OLAP cube, constructing a data warehouse, and setting or changing setting by separating a disclosure-enabled data and a disclosure-disabled data with respect to a data receiver side, among the disclosure limited data of the data warehouse, and a disclosure status setting method in the data providing system.

BACKGROUND ART

[0003]

Japanese Patent Application Laid-Open Publication No. 2010-140502 (Patent Document 1) discloses a background art of the

technical field of the present invention. This publication discloses a practical data warehouse system utilizing a network, which connects a data collecting means and a server which provides data via the network, and the data collecting means collects the data from a data providing server based on a data request condition from a client.

Citation List

Patent Document

[0004]

Patent Document 1: Japanese Patent Application Laid-Open Publication No. 2010-140502

SUMMARY OF THE INVENTION

PROBLEMS TO BE SOLVED BY THE INVENTION

[0005]

The above-mentioned Patent Document 1 discloses that the data collecting means in the data warehouse system collects the data from the data providing server, and performs, using the data, analysis (data mining) based on disclosure-enabled data to the client.

[0006]

However, in the data warehouse system of Patent Document 1, there is no specific description about a disclosure limitation of the data provided from a data provider server to the data collecting

means side. In such data warehouse system, for example, in a case where an addition, an update, a deletion or the like is made to the data of the data providing server side, it is necessary to perform maintenance of the data for each collected data providing server. Even if the data is a disclosure-disabled data at first, there are cases where the data becomes disclosure-enabled if, for example, sufficient statistical processing is performed. In such case, generally the data collecting means uses a method of collecting the data indirectly via a third party which performs statistical processing of the data. However, such method tends to require much effort and time.

[0007]

Therefore, the present invention provides a data providing system constructing a data warehouse capable of providing data on a real-time basis to a data receiver side, even in a case where a change such as an addition, an update, a deletion and the like is made to a disclosed data, without performing maintenance of the data for each data provider side, and a disclosure status setting method in the data providing system.

[0008]

Further, the present invention provides a data providing system constructing the data warehouse capable of providing data performed with sufficient statistical processing on a real-time basis to the data receiver side, and a disclosure status setting method in the data providing system.

MEANS FOR SOLVING THE PROBLEMS

[0009]

In order to solve the problems mentioned above, the present invention includes, to an infrastructure system side, a means for collecting data from a data provider side, a means for aggregating the collected data to "an OLAP cube" and constructing a data warehouse, and a disclosure control means for controlling a disclosure master (a disclosure enable/disable setting) which limits disclosure of the aggregated data to a data receiver side.

[0010]

For example, the data providing system of the present invention is a data providing system including a service infrastructure provider device, which receives data from a plurality of data providing agent device sides, and which provides the data to a plurality of data receiving agent device sides, wherein the service infrastructure provider device includes a data receiving means which receives data from the data providing agent device, a storage means which includes an OLAP cube constructing a data warehouse by aggregating all the data received by the data receiving means, and a master storage unit which stores a disclosure master including a disclosure status which sets a disclosure enable/disable of the data to the data receiving agent device; a data transmitting means which transmits an OLAP cube data of the storage means to the data receiving agent device; and a data

disclosure control means which controls the disclosure status of the disclosure master sets and controls the disclosure enable/disable of the disclosure of the data of the OLAP cube data to the data receiving agent device.

[0011]

In the data providing system, the service infrastructure provider device further includes a means which searches the data (the OLAP cube data) accumulated (or stored) in the OLAP cube, and which automatically reconfigures a disclosure-enabled data based on the disclosure status when the data is updated.

[0012]

Further, in the data providing system, the master storage unit of the storage means stores a disclosure store number master, a disclosure business category master, a disclosure region master, a disclosure enable/disable condition master, a store master, a disclosure master (detailed information), and a disclosure master (statistical information), the data disclosure control means including a disclosure status setting unit which sets and controls the disclosure status of the disclosure master, a data search unit which searches the OLAP cube data, and a list creating unit which creates an agent ID list which specifies a disclosure source data providing agent (store and the like) and a disclosure destination data receiving agent (store and the like) of the data, and which specifies a disclosure-enabled data receiving agent, and when the OLAP cube data is updated, the disclosure status setting the

disclosure-enabled data is automatically reconfigured based on the agent ID list, and even in a case where a disclosure of a detailed data is disabled at a time of setting the disclosure status, the disclosure of the data is enabled in a case where the data is statistically processed thereafter.

[0013]

Further, a disclosure status setting method in the data providing system of the present invention includes the data providing system including a service infrastructure provider device, a plurality of data providing agent devices, and a plurality of data receiving agent devices; wherein the service infrastructure provider device includes a data receiving means which receives data from the data providing agent device; a storage means which includes an OLAP cube constructing a data warehouse by aggregating all the data received by the data receiving means, and a master storage unit which stores a disclosure master including a disclosure status which sets a disclosure data of the data to the data receiving agent device; a data transmitting means which transmits an OLAP cube data of the storage means to the data receiving agent device; and a data disclosure control means which controls the disclosure status of the disclosure master sets and controls the disclosure enable/disable of the disclosure of the data of the OLAP cube data to the data receiving agent device; the master storage unit of the storage means stores a disclosure store number master, a disclosure business category master, a disclosure region master, a disclosure

enable/disable condition master, a store master, a disclosure master (detailed information), and a disclosure master (statistical information); and the data disclosure control means includes a disclosure status setting unit which sets and controls the disclosure status of the disclosure master, a data search unit which searches the OLAP cube data, and a list creating unit which creates a store ID list which specifies a store as a disclosure source data providing agent and a store as a disclosure destination data receiving agent of the data, and which specifies a store of a disclosure-enabled data receiving agent; and when the OLAP cube data is updated, the disclosure status setting the disclosure-enabled data is automatically reconfigured based on the store ID list, and even in a case where a disclosure of a detailed data is disabled at a time of setting the disclosure status, the disclosure of the data is enabled in a case where the data is statistically processed thereafter; wherein the data disclosure control means obtains a store ID from the store master, represents a disclosure source store ID and a disclosure destination store ID with the store ID, obtains a disclosure business category ID from the disclosure business category master, obtains a disclosure region ID from the disclosure region master, obtains a disclosure store number ID from the disclosure store number master, and sets a non-disclosure (0) or a disclosure (1) with respect to all combinations of the store IDs and the disclosure store number IDs, by referring to the disclosure enable/disable condition master.

[0014]

Further, a disclosure status setting method in the data providing system of the present invention includes the data providing system including a service infrastructure provider device, a plurality of data providing agent devices, and a plurality of data receiving agent devices; wherein the service infrastructure provider device includes a data receiving means which receives data from the data providing agent device; a storage means which includes an OLAP cube constructing a data warehouse by aggregating all the data received by the data receiving means, and a master storage unit which stores a disclosure master including a disclosure status which sets a disclosure data of the data to the data receiving agent device; a data transmitting means which transmits an OLAP cube data of the storage means to the data receiving agent device; and a data disclosure control means which controls the disclosure status of the disclosure master sets and controls the disclosure enable/disable of the disclosure of the data of the OLAP cube data to the data receiving agent device; the master storage unit of the storage means stores a disclosure store number master, a disclosure business category master, a disclosure region master, a disclosure enable/disable condition master, a store master, a disclosure master (detailed information), and a disclosure master (statistical information); and the data disclosure control means includes a disclosure status setting unit which sets and controls the disclosure status of the disclosure master, a data search unit which

searches the OLAP cube data, and a list creating unit which creates a store ID list which specifies a store as a disclosure source data providing agent and a store as a disclosure destination data receiving agent of the data, and which specifies a store of a disclosure-enabled data receiving agent; and when the OLAP cube data is updated, the disclosure status setting the disclosure-enabled data is automatically reconfigured based on the store ID list, and even in a case where a disclosure of a detailed data is disabled at a time of setting the disclosure status, the disclosure of the data is enabled in a case where the data is statistically processed thereafter; wherein the data disclosure control means obtains a store ID from the store master, obtains a disclosure store number ID from the disclosure store number master, and sets a non-disclosure (0) or a disclosure (1) with respect to all combinations of the store IDs and the disclosure store number IDs, by referring to the disclosure enable/disable condition master.

Effect of the Invention

[0015]

According to the present invention, even in a case where a change such as an addition, an update or a deletion is made to the disclosed data, it becomes possible to provide the data on a real-time basis to the data receiver side, without performing maintenance of the data for each data provider side. The problems,

configuration and effect other than those explained above will become apparent by the following explanation of embodiments.

Brief Description of Drawings

[0016]

Fig. 1 is a block diagram illustrating a configuration example of a disclosure limited data centralized management system of the present invention;

Fig. 2 is a block diagram illustrating a configuration example of a data disclosure control means (a data disclosure control unit) and a storage means;

Fig. 3 is a table illustrating an OLAP cube data (a data warehouse);

Fig. 4 is a table illustrating a disclosure store number master;

Fig. 5 is a table illustrating a disclosure business category master;

Fig. 6 is a table illustrating a disclosure region master;

Fig. 7 is a table illustrating a disclosure enable/disable condition master;

Fig. 8 is a table illustrating a store master;

Fig. 9 is a table illustrating a disclosure master (detailed information/detailed data);

Fig. 10 is a table illustrating a disclosure master (statistical information/statistical data);

Fig. 11 is a flowchart illustrating a setting processing example of a disclosure ID of the disclosure enable/disable condition master shown in Fig. 7;

Fig. 12 is a flowchart illustrating a setting processing example of the disclosure master (statistical information/statistical data) shown in Fig. 10;

Fig. 13 is a flowchart illustrating a processing example with respect to a detailed data request;

Fig. 14 is a flowchart illustrating a processing example with respect to a data statistical processing request; and

Fig. 15 is a flowchart illustrating an example of adding a store ID enabled to be disclosed to a data user (the data receiver) to a store ID list, when creating the store ID list in Fig. 13.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017]

Hereinafter, embodiments will be explained with reference to the accompanying drawings.

[0018]

In the present embodiment:

(1) On a infrastructure system of an infrastructure provider, using a data transmitting/receiving function of transmitting and receiving data between a data provider (a service providing agent; a disclosure source store and the like) which provides data (original data) and a data receiver (a service receiving agent;

a disclosure destination store and the like) which receives the data, and a data disclosure control function of controlling the disclosure of the data from the data provider side to the data receiver side, the data is collected from the data provider side, reconfigured and accumulated in time series, then the accumulated data is tabulated and reconfigured into multi-dimension and multilevel to construct a data warehouse.

(2) The data warehouse includes "a set of OLAP cube", and all data provided from the data provider side is aggregated in the cube.

(3) A "disclosure ID" is applied to each data record of "the set of OLAP cube". By referring to "the disclosure ID", it becomes possible to discriminate whether the data is "disclosure-enabled", "disclosure-disabled", or "disclosure-enabled if sufficient statistical processing is performed".

(4) A side having the data disclosed, that is, the data receiver side could only refer to the record of the data disclosed from "the set of OLAP cube" to the data receiver itself. By accumulating (storing) the data in a shape of the OLAP cube, it becomes possible to obtain a data warehouse of data which is capable of being disclosed virtually.

(5) For example, in a case where a change such as an addition, an update or a deletion is made to the original data provided from the data provider side, just by performing maintenance of "the set of OLAP cube" once, each data receiver side may receive a disclosure-enabled analysis result based on latest data, by

requesting a data statistical processing or a detailed data with respect to the infrastructure provider side.

(6) Further, even if a data is “disclosure-disabled” at first, in a case where the data is deemed to be a data “disclosure-enabled if sufficient statistical processing is performed”, then it is possible to handle the same as the disclosure-enabled data. This case is enabled when it is defined preliminarily to what extent the data should be performed with statistical processing to be pertinent thereto.

[0019]

For example, in a case where a pub A in Gotanda area sets its sales data to be disclosure-disabled to a pub B in the same Gotanda area, but to be disclosure-enabled to an Italian restaurant C, the pub B cannot refer to the sales data of the pub A, but the Italian restaurant C can refer to the sales data of the pub A. On the other hand, if “sufficient statistical processing” is defined as “calculating a total of sales of 100 stores or more, in addition to the data receiver to which data is disclosed”, when the number of eating establishments excluding pubs in Gotanda area (stores to which the pub A discloses its data) as “all eating establishments in the same area (Gotanda)” is 100 stores or more, the pub B in Gotanda area may refer to the total value and use the same in statistics by programming so that the total value of the sales data of the pub A and the sales data of all eating establishments in Gotanda area could be calculated.

[0020]

Here, a data warehouse (DWH: Data WareHouse) is a decision-making support system which collects transaction (occurrence information such as occurrence time and date of each transaction or voucher) data and the like from a plurality of business systems, reconfigures and accumulates the same in time-series manner, and analyzing a relevancy between each item from the enormous volume of data.

[0021]

Further, "the set of OLAP cube" means a multidimensional data reference model created to be executed in an OLAP (Online Analytical Processing) as one type of analytical method by a database, and which tabulates data accumulated by data warehouse or data mining and the like, and which reconfigures the same into multi-dimensions and multilevels.

Examples

[0022]

Fig. 1 is a functional block diagram illustrating a configuration example of an infrastructure system having a data warehouse of the present invention.

[0023]

In the figure, a service infrastructure provider device 300 is composed of a server including an OLAP cube which constructs a data warehouse by aggregating all the data provided from a data providing agent device 100 (a disclosure source store and the like).

[0024]

The service infrastructure provider device (server) 300 has a function of setting a disclosure-enabled data (a disclosure status setting function) to a data receiving agent device 200 (for example, a disclose destination store as a data provider destination), from an OLAP data of the OLAP cube constructing the data warehouse by aggregating all the data of a data supplying agent device 100 (for example, a disclosure source store as a data provider source)

[0025]

The function of setting the disclosure-enabled data automatically reconfigures the disclosure-enabled data when the OLAP cube data is updated. Further, even if the data is the data disabled from disclosing the detailed data to the data receiving agent device 200 (the disclosure destination store and the like) at the time of setting the disclosure-enabled data, the service infrastructure provider device (server) 300 has a function of changing the disclosure-disabled data to the disclosure-enabled data, if the disclosure-disabled data thereafter becomes a data performed with statistical processing. The details of these functions will be explained later.

[0026]

Further, the service infrastructure provider device (server) 300 includes an input/output device 310, a storage device 320, and a control device 330.

[0027]

The input/output devices 310, 312 each include a data transmitting/receiving means including data transmission/reception units 3101, 3121. The data reception unit 3101 of the input/output device 310 receives data provided from the data providing agent device 100.

[0028]

The data transmission unit 3121 of the input/output device 312 transmits data provided from the data providing agent device 100 (a provision source store and the like) to the data receiving agent device 200 (the disclosure destination store and the like). As the data to be transmitted, the data of the data providing agent device 100 (the provision source store and the like) may be transmitted as it is, or may be transmitted after performing a desired analysis.

[0029]

The storage device 320 includes a storage means containing a data storage unit 3201 which stores the data, and a master storage unit 3202 which stores each master.

[0030]

The data storage unit 3201 is composed of, for example, a set of OLAP cube, and constructs a data warehouse (DWH) by aggregating all the data provided from the data providing agent device 100.

[0031]

The master storage unit 3202 stores a disclosure store number master, a disclosure business category master, a disclosure region

master, a disclosure enable/disable condition master, a store master, a disclosure master (detailed information), and a disclosure master (statistical information). The disclosure master stores a disclosure master information (including a disclosure ID) explained later.

[0032]

The disclosure master information contains a disclosure source store ID, a disclosure destination store ID, a disclosure business category ID, a disclosure region ID, and a disclosure ID (a disclosure status), and the like.

[0033]

The disclosure source indicates the data provider (the disclosure source store ID), and the disclosure destination indicates the data receiver (the disclosure destination store ID). The disclosure ID (the disclosure status) contains "1" indicating "disclosure-enabled" and "2" indicating "disclosure-disabled".

The detailed contents of each information of the data storage unit 3201 and the master storage unit 3202 will be explained later.

[0034]

The control device 330 includes a disclosure master control device (a disclosure status control means). The disclosure master control device (the disclosure status control means) controls whether to disclose the data of the disclosure source (the store of the data providing agent device and the like) to the disclosure destination (the store of the data receiving agent device and the

like) or not, based on the disclosure status (the disclosure ID) of the disclosure master.

[0035]

Further, the service infrastructure provider device (server) 300 includes a data analyzing means (a data analysis unit) 340, and a data statistical processing means (a data statistical processing unit) 350.

[0036]

The data analyzing means 340 analyzes the OLAP cube data provided via the input/output device 312. The data statistical processing means 350 performs statistical processing to the OLAP cube data, and reflects to the disclosure status of the disclosure master, as the disclosure ID "1" indicating "disclosure-enabled if sufficient statistical processing is performed".

[0037]

Fig. 2 is a block diagram illustrating a configuration example of the storage device (the storage means) 320 and the disclosure master control device (the disclosure status control means) 330.

[0038]

In the figure, the storage device (the storage means) 320 includes an OLAP cube 3201 and the master storage unit 3202.

[0039]

The OLAP cube 3201 constructs the data warehouse. The master storage unit 3202 includes a disclosure store number master DB 32021, a disclosure business category master DB 32022, a disclosure region

master DB 32023, a disclosure enable/disable condition master DB 32024, a store master DB 32025, a disclosure master DB (detailed information) 32026, a disclosure master DB (statistical information) 32027, and the like.

[0040]

A disclosure master control device (a disclosure status control means) 330 includes a disclosure ID (1 or 0)/disclosure status setting unit 3301, an OLAP cube search unit 3302, and a store ID list (ID lists (1) through (4) in Fig. 13, a disclosure-enabled store ID list) creating unit 3303.

[0041]

The disclosure ID/disclosure status setting unit 3301 sets the disclosure status/disclosure ID (0 or 1) indicating whether or not to disclose the data of the disclosure source to the disclosure destination.

[0042]

The store ID list creating unit 3303 creates the ID lists (1) through (4) of Fig. 4, and the ID list (the disclosure status) of the disclosure-enabled stores, as illustrated in Fig. 13 explained later.

[0043]

For example, when the server receives a request for data statistical processing or a detailed data request from the disclosure destination and performs the processing of the request, the OLAP cube search unit 3202 searches the OLAP cube data based

on the store ID list and the disclosure status list. The details thereof will be explained later.

[0044]

Fig. 3 is a table illustrating the OLAP cube data (the data warehouse).

In the figure, an OLAP cube data table T3 includes respective information of a data owner store ID (ID indicating the data disclosure source 1, 2, 3...) T31, an hour (0 o'clock, 1 o'clock, 2 o'clock, ...) T32, a location (Gotanda 1-1-1, Gotanda 1-1-3, Gotanda 1-1-2, ...) T33, a number of customers (12, 32, 14, ...) T34, and a sales amount (JPY 29,000, JPY 48,000, JPY 30,000, ...) T35.

[0045]

Fig. 4 is a table illustrating the disclosure store number master.

In the figure, a disclosure store number master table T4 includes respective information of a disclosure store number ID (1, 2, 3, 4, ...) T41, and a number of stores (all, 1 through 10, 11 through 20, 21 through 50, ...) T42.

[0046]

Fig. 5 is a table illustrating the disclosure business category master.

In the figure, a disclosure business category master table T5 includes each information of a disclosure business category ID (1, 2, 3, 4) T51, and a business category (all classifications, large classification, middle classification, small

classification) T52.

[0047]

Fig. 6 is a table illustrating the disclosure region master.

In the figure, a disclosure region master table T6 includes each information of a disclosure region ID (1, 2, 3, 4) T61, and a region (whole country, prefecture, municipality, region) T62.

[0048]

Fig. 7 is a table illustrating the disclosure enable/disable condition master.

In the figure, a disclosure enable/disable condition master table T7 includes respective information of the disclosure ID (0, 1) T71, and a disclosure status/disclosure enable/disable condition (no disclosure, disclosure) T72.

[0049]

Fig. 8 is a table illustrating the store master.

In the figure, a store master table T8 includes respective information of a store ID (1, 2, 3, 4, ...) T81, a store name (pub A, pub B, Italian C, pub D, ...) T82, an address (Gotanda 1-1-1, Gotanda 1-1-3, Gotanda 1-1-2, 1-1-1, Nishi-ku, Yokohama, ...) T83, a business category (1, 1, 3, 1, ...) T84, and an affiliation (0, 0, 0, 1, ...) T85.

[0050]

Fig. 9 is a table illustrating the disclosure master (detailed information/detailed data).

In the figure, a disclosure master (detailed

information/detailed data) table T9 includes respective information of the disclosure source store ID (1, 1, ...) T91 (corresponding to the store ID in Fig. 8), the disclosure destination store ID (2, 2, ...) T92 (corresponding to the store ID in Fig. 8), the disclosure business category ID (1, 1, ...) T93 (corresponding to the disclosure business category ID in Fig. 5), the disclosure region ID (1, 2, ...) T94 (corresponding to the disclosure region ID in Fig. 5), and the disclosure ID (0, 0, ...) T95 (corresponding to the disclosure ID in Fig. 7).

[0051]

Fig. 10 is a table illustrating the disclosure master (statistical information/statistical data). In the figure, a disclosure master (statistical information/statistical data) table T10 includes respective information of the disclosure source store ID (1, 1, ...) T11 (the disclosure source store ID in Fig. 9), the disclosure store number ID (1, 2, ...) T12 (corresponding to the disclosure store number ID of the disclosure store number master in Fig. 5), and the disclosure ID (0, 0, . . .) T13 (corresponding to the disclosure ID in Fig. 7).

[0052]

Fig. 11 is a flowchart illustrating a setting process of the disclosure enable/disable condition, that is, the disclosure status, corresponding to the disclosure ID of the disclosure enable/disable condition master in Fig. 7.

[0053]

In the figure, after the disclosure status setting processing is started in step S110, "the store ID" T81 is obtained from "the store master" in step S111, "the disclosure source store ID" and "the disclosure destination store ID" are represented by "the store ID" in step S112, and "the disclosure business category ID" T93 is obtained from "the disclosure business category master" in step S113.

[0054]

Subsequently, "the disclosure region ID" T61 is obtained from "the disclosure region master" in step S114, and by referring to "the disclosure enable/disable condition master", sets "non-disclosure (0)" or "disclosure (1)" to all the combinations of "the disclosure source store ID" T91, "the disclosure destination store ID" T92, "the disclosure business category ID" T93, and "the disclosure region ID" T94 in step S115. Subsequently, the processing ends in step S116.

[0055]

Fig. 12 is a flowchart illustrating a setting processing of the disclosure master (statistical information) in Fig. 10.

In the figure, after the disclosure master (statistical information) setting processing is started in step S120, "the store ID" T81 is obtained from "the store master" in step S121, and "the disclosure source store ID" T91 is obtained from "the disclosure store number master" in step S122.

[0056]

In step S123, by referring to "the disclosure enable/disable condition master", sets "non-disclosure (0)" or "disclosure (1)" to all the combinations of "the store ID" T81 and "the disclosure store number ID" T41. Subsequently, the processing ends in step S124.

[0057]

Fig. 13 is a flowchart illustrating a processing example with respect to the detailed data request.

In the figure, after the processing with respect to the detailed information (detailed data) request is started in step S130, a list of the store ID of which disclosure is enabled to the data user (the ID list (1)), and a list of the store ID of which disclosure is disabled (the ID list (2)), are created from "the store master", "the disclosure master (detailed information)", "the disclosure business category master", and "the disclosure region master" in step S131.

[0058]

Further, in step S132, the data of the OLAP cube is searched based on the ID list (1) and a list is created of a disclosure-enabled store ID (disclosure status) in which disclosure-enabled data exists.

[0059]

Thereafter, the data of the OLAP cube is searched based on the disclosure status and the search result data is transmitted to a detailed data requester side in step S133, and the processing

is ended in step S134.

[0060]

Fig. 14 is a flowchart illustrating a processing example with respect to a data statistical processing request.

In the figure, after the processing with respect to the data statistical processing request is started in step S140, a list of the store ID of which disclosure is enabled to the data user (the ID list (1)) and a list of the store ID of which disclosure is disabled (the ID list (2)) are created from "the store master", "the disclosure master (detailed information)", "the disclosure business category master" and "the disclosure region master" in step S141.

[0061]

Subsequently, the data of the OLAP cube is searched based on the ID list (1) and a list of the store ID in which disclose enabled data exists (the ID list (3)) is created in step S142.

[0062]

Further, by referring to "the disclosure master (statistical information)", if it is a statistical processing by data of equal to or more than the store number of the ID list (3), among the stores of the ID list (2), then a list of the store ID of which disclosure is enabled (the ID list (4)) is created in step S143.

[0063]

Further, the ID list (3) and the ID list (4) are merged, and a list of disclosure-enabled store ID (the disclosure status) is

created in step S144.

[0064]

Subsequently, the OLAP cube is searched based on the disclosure status, the processing according to the request (analysis and the like) is executed, and the processing result is transmitted with respect to the data statistical processing request in step S145, and the processing is ended in step S146.

[0065]

Fig. 15 is a flowchart illustrating an example of adding the store ID of which disclosure is enabled to the data user (the data receiver) to the store ID list, when creating the store ID list in step S131 in Fig. 13 (and step S141 in Fig. 14).

[0066]

In the figure, for example during the processing of step S131 in Fig. 13, the following steps are executed. That is, in a state where a list (1) is cleared in step S1310, the processing is repeated from the store number $i=1$ to Z in step S1311. Here, the ID of the data user (the data receiver) is set to p , and the overall registered store number is set to Z .

[0067]

Subsequently, in step S1312, it is determined whether disclosure is enabled in a business category agreement level (large, middle, and small classification) of the store of $ID=p$ and $ID=i$.

[0068]

As a result of determination in step S1312, when disclosure

is enabled (Y), then the process proceeds to step S1313, and whether disclosure is enabled in a region agreement level (prefecture, municipality, region) of the store of ID=p and ID=i is determined in the step.

[0069]

When disclosure is enabled (Y) in step S1313, then the ID=i is added to the list (1) in step S1314.

[0070]

As a result of determination in step S1312 and step S1313, when disclosure is disabled (N), then the process proceeds to step S1315, where the processing is repeated from step S1312 to step S1314 until the registered store number Z, and the process is ended in step S1316.

[0071]

According to the present example explained above, it becomes possible to construct the data warehouse by aggregating all the data collected at the infrastructure system side to "a set of OLAP cube". Therefore, even if there is a change in the data provided from the data provider side, it becomes possible for all the data receiver side to receive the analysis result based on the latest data, by changing "the set of OLAP cube" once.

[0072]

Further, with respect to the data which is "disclosure-enabled if sufficient statistical processing is performed", by preliminarily defining "sufficient statistical

processing", it becomes possible to automatically change the disclosure-disabled data to the disclosure-enabled data, so that it becomes possible to obtain a value with "sufficient statistical processing" performed by a program in a system, without the need to request the same to be performed a third party providing statistical processing.

[0073]

The present invention is not restricted to the above-explained embodiment, and includes various modifications. For example, detailed explanation has been given in the above-explained embodiment so as to help understand the present invention, and the present invention is not necessarily limited to the one including all of the explained configuration. Further, a part of the configuration of one embodiment may be substituted by the configuration of another embodiment, or the configuration of one embodiment may be added to the configuration of another embodiment. Still further, it is possible to add, delete, or substitute other configuration to a part of the configuration of each embodiment.

[0074]

Still further, a part or all of the respective configurations, functions, processing units and processing means explained above may be realized by hardwares such as designing the same with integrated circuits, for example. Further, the above-explained configurations, functions and the like may be realized by softwares,

from a processor reading the program realizing each function and executing the same. Information such as programs, tables, and files for realizing each function may be stored in a storage device such as memories and hard disks.

[0075]

Still further, only control lines and information lines that are conceived as being necessary for explanation are shown, and not necessarily all control lines and information lines required for fabrication are shown. In reality, it may be understood that almost all configurations are mutually connected.

[Explanation of References]

[0076]

100 Data providing agent device

200 Data receiving agent device

300 Service infrastructure provider device

310, 312 Input/output device (Data transmitting/receiving means)

320 Storage device

3201 Data storage unit of storage means (OLAP cube)

3202, 32021 - 32027 Master storage unit of storage means

330 Disclosure master control device (Disclosure status control means)

3301 Disclosure ID (1 or 0)/disclosure status setting unit

3302 OLAP cube search unit

3303 Store ID list creating unit

1. A data providing system comprising a service infrastructure provider device, which receives data from a plurality of data providing agent device sides, and which provides the data to a plurality of data receiving agent device sides,

wherein the service infrastructure provider device comprises a data receiving means which receives the data from the data providing agent device,

a storage means which includes an OLAP cube constructing a data warehouse by aggregating all the data received by the data receiving means, and a master storage unit which stores a disclosure master including a disclosure status which sets a disclosure enable/disable of the data to the data receiving agent device;

a data transmitting means which transmits an OLAP cube data of the storage means to the data receiving agent device; and

a data disclosure control means which controls the disclosure status of the disclosure master sets and controls the disclosure enable/disable of the disclosure of the data of the OLAP cube data to the data receiving agent device,

wherein the master storage unit of the storage means stores a disclosure store number master, a disclosure business category master, a disclosure region master, a disclosure enable/disable condition master, a store master, a disclosure master (detailed information), and a disclosure master (statistical information),

the data disclosure control means comprises a disclosure status setting unit which sets and controls the disclosure status of the disclosure master, a data search unit which searches the OLAP cube data, and a list creating unit which creates an agent ID list which specifies a disclosure source data providing agent (store and the like) and a disclosure destination data receiving agent (store and the like) of the data, and which specifies a disclosure-enabled data receiving agent, and

when the OLAP cube data is updated, the disclosure status setting the disclosure-enabled data is automatically reconfigured based on the agent ID list, and even in a case where a disclosure of a detailed data is disabled at a time of setting the disclosure status, the disclosure of the data is enabled in a case where the data is statistically processed thereafter.

2. The data providing system according to claim 1, wherein the service infrastructure provider device further comprises a means which searches the OLAP cube data, and which automatically reconfigures a disclosure-enabled data based on the disclosure status when the data is updated.

3. A disclosure status setting method in a data providing system, the data providing system comprising a service infrastructure provider device, a plurality of data providing agent devices, and a plurality of data receiving agent devices;

wherein the service infrastructure provider device comprises a data receiving means which receives the data from the data providing agent device;

a storage means which includes an OLAP cube constructing a data warehouse by aggregating all the data received by the data receiving means, and a master storage unit which stores a disclosure master including a disclosure status which sets a disclosure data of the data to the data receiving agent device;

a data transmitting means which transmits an OLAP cube data of the storage means to the data receiving agent device; and

a data disclosure control means which controls the disclosure status of the disclosure master sets and controls a disclosure enable/disable of the disclosure of the data of the OLAP cube data to the data receiving agent device;

the master storage unit of the storage means stores a disclosure store number master, a disclosure business category master, a disclosure region master, a disclosure enable/disable condition master, a store master, a disclosure master (detailed information), and a disclosure master (statistical information); and

the data disclosure control means comprises a disclosure status setting unit which sets and controls the disclosure status of the disclosure master, a data search unit which searches the OLAP cube data, and a list creating unit which creates a store ID list which specifies a store as a disclosure source data providing agent and a store as a disclosure destination data receiving agent

of the data, and which specifies a store of a disclosure-enabled data receiving agent; and

when the OLAP cube data is updated, the disclosure status setting the disclosure-enabled data is automatically reconfigured based on the store ID list, and even in a case where a disclosure of a detailed data is disabled at a time of setting the disclosure status, the disclosure of the data is enabled in a case where the data is statistically processed thereafter;

wherein the data disclosure control means obtains a store ID from the store master, represents a disclosure source store ID and a disclosure destination store ID with the store ID,

obtains a disclosure business category ID from the disclosure business category master,

obtains a disclosure region ID from the disclosure region master,

obtains a disclosure store number ID from the disclosure store number master, and

sets a non-disclosure (0) or a disclosure (1) with respect to all combinations of the store IDs and the disclosure store number IDs, by referring to the disclosure enable/disable condition master.

4. A disclosure status setting method in a data providing system, the data providing system comprising a service infrastructure provider device, a plurality of data providing agent devices, and a plurality of data receiving agent devices;

wherein the service infrastructure provider device comprises a data receiving means which receives the data from the data providing agent device;

a storage means which includes an OLAP cube constructing a data warehouse by aggregating all the data received by the data receiving means, and a master storage unit which stores a disclosure master including a disclosure status which sets a disclosure enable/disable of the data to the data receiving agent device;

a data transmitting means which transmits an OLAP cube data of the storage means to the data receiving agent device; and

a data disclosure control means which controls the disclosure status of the disclosure master sets and controls the disclosure enable/disable of the disclosure of the data of the OLAP cube data to the data receiving agent device;

the master storage unit of the storage means stores a disclosure store number master, a disclosure business category master, a disclosure region master, a disclosure enable/disable condition master, a store master, a disclosure master (detailed information), and a disclosure master (statistical information); and

the data disclosure control means comprises a disclosure status setting unit which sets and controls the disclosure status of the disclosure master, a data search unit which searches the OLAP cube data, and a list creating unit which creates a store ID list which specifies a store as a disclosure source data providing agent and a store as a disclosure destination data receiving agent of the data, and which specifies a store of a disclosure-enabled data receiving agent; and

when the OLAP cube data is updated, the disclosure status setting the disclosure-enabled data is automatically reconfigured based on the store ID list, and even in a case where a disclosure of a detailed data is disabled at a time of setting the disclosure status, the disclosure of the data is enabled in a case where the data is statistically processed thereafter;

wherein the data disclosure control means
obtains a store ID from the store master,
obtains a disclosure store number ID from the disclosure store number master, and

sets a non-disclosure (0) or a disclosure (1) with respect to all combinations of the store IDs and the disclosure store number IDs, by referring to the disclosure enable/disable condition master.