SUMMARY

According to a first aspect of the present disclosure, there is provided a method for adaptively processing a request for data, comprising: comparing, by a processor, a first time range with a second time range, the first time range being based on a start time and an end time indicated in a request for data associated with the start time and the end time, and the second time range being associated with a first database or a second database; determining, by the processor, one or more sub time ranges for retrieving the data, the one or more sub time ranges being based on the first time range and the comparison; assessing, by the processor, whether to retrieve data associated with each of the one or more sub time ranges from the first database or the second database based on the comparison; and retrieving the data based on the assessment; wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the method further comprising: retrieving data associated with the first sub time range from the first database and retrieving data associated with the second sub time range from the second database based on the comparison when the first time range is a subtraction of the second sub time range from the first sub time range; and subtracting the data retrieved from the second database from the data retrieved from the first database.

According to a second aspect of the present disclosure, there is provided a system for identifying a match with a product, comprising: at least one processor; and at least one memory including computer program code; the at least one memory and the computer program code configured to, with the at least one processor, cause the system at least to: compare, by a processor, a first time range with a second time range, the first time range being based on a start time and an end time indicated in a request for data associated with the start time and the end time, and the second time range being associated with a first database or a second database; determine, by the processor, one or more sub time ranges for retrieving the data, the one or more sub time ranges being based on the first time range and the comparison; and assess, by the processor, whether to retrieve data associated with each of the one or more sub time ranges from the first database or the second database based on the comparison; and retrieving the data based on the

assessment; wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the system further configured to: retrieve data associated with the first sub time range from the first database and retrieving data associated with the second sub time range from the second database based on the comparison when the first time range is a subtraction of the second sub time range from the first sub time range; and subtracting the data retrieved from the second database from the data retrieved from the first database.

CLAIMS

What is claimed is:

1. A method for adaptively processing a request for data, comprising:

comparing, by a processor, a first time range with a second time range, the first time range being based on a start time and an end time indicated in a request for data associated with the start time and the end time, and the second time range being associated with a first database or a second database, the first database storing aggregated data and the second database storing raw data;

determining, by the processor, one or more sub time ranges for retrieving the data, the one or more sub time ranges being based on the first time range and the comparison;

assessing, by the processor, whether to retrieve data associated with each of the one or more sub time ranges from the first database or the second database based on the comparison; and

retrieving the data based on the assessment;

wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the method further comprising:

retrieving data associated with the first sub time range from the first database and retrieving data associated with the second sub time range from the second database based on the comparison when the first time range is a subtraction of the second sub time range from the first sub time range; and subtracting the data retrieved from the second database from the data retrieved from the first database.

2. The method of claim 1, wherein the second database stores data in one or more segments, each segment comprising data within a predetermined time range, wherein the first time range starts from the start time to a current time at which the comparison is made and the second time range is the predetermined time range of the second database,

wherein determining the one or more sub time ranges comprises determining a sub time range that starts from the start time to the end time if the first time range is shorter than the second time range, and

wherein assessing whether to retrieve data associated with each of the one or more sub time ranges from the first database or the second database further comprises determining that the data associated with the sub time range is to be retrieved from the second database.

3. The method of claim 1, wherein the second database stores data in one or more segments, each segment comprising data within a predetermined time range, wherein the first time range starts from the start time to a current time at which the comparison is made and is shorter than the predetermined time range of the second database, and the second time range is an amount of time in which data is kept in the first database before being deleted from the first database, wherein determining the one or more sub time ranges further comprises determining whether the first time range is ~~shorter~~ longer than the second time range.

4. The method of claim 1, wherein the first time range starts from the start time to a current time at which the comparison is made and the second time range is a first amount of time in which data is kept in the first database before being deleted from the first database, wherein comparing the first time range with the second time range further comprises:

comparing the first time range with a third time range if the first time range is longer than the second time range, wherein the third time range is a second amount of time in which data is kept in the first database before being deleted from the first database, the third time range being longer than the second time range; and

determining the one or more sub time ranges based on the comparison.

5. The method of claim 1, ~~wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the first time range being an addition of the first sub time range with the second sub time range, the method~~ further comprising:

retrieving data associated with each of the first and second sub time range from the first database or second database based on the comparison; and

adding the retrieved data together when the first time range is an addition of the first sub time range with the second sub time range.

~~6. The method of claim 1, wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the first time range being a subtraction of the second sub time range from the first sub time range, the method further comprising:~~

~~retrieving data associated with the first sub time range from the first database, and retrieving data associated with the second sub time range from the second database based on the comparison; and~~

~~subtracting the data retrieved from the second database from the data retrieved from the first database.~~

~~7~~6. The method of claim ~~6~~1, wherein the first database stores aggregated data comprising a plurality of datapoints, each datapoint comprising information that is aggregated for a predetermined time range, wherein

retrieving data associated with the first sub time range from the first database comprises retrieving a plurality of datapoints associated with the first sub time range from the first database, and retrieving data associated with the second sub time range from the second database comprises retrieving raw data associated with the second sub time range from the second database; wherein

subtracting the data retrieved from the second database from the data retrieved from the first database further comprises:

processing the raw data retrieved from the second database into one or more datapoints comprising information that is aggregated for the second sub time range; and

subtracting the one or more datapoints processed from raw data retrieved from the second database from the plurality of datapoints associated with the first sub time range.

~~8~~7. A system for adaptively processing a request for data, comprising:

at least one processor; and

at least one memory including computer program code;

the at least one memory and the computer program code configured to, with the at least one processor, cause the system at least to:

compare, by a processor, a first time range with a second time range, the first time range being based on a start time and an end time indicated in a request for data associated with the start time and the end time, and the second time range being associated with a first database or a second database, the first database storing aggregated data and the second database storing raw data;

determine, by the processor, one or more sub time ranges for retrieving the data, the one or more sub time ranges being based on the first time range and the comparison;

assess, by the processor, whether to retrieve data associated with each of the one or more sub time ranges from the first database or the second database based on the comparison; and

retrieve the data based on the assessment;

wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the system further configured to:

retrieve data associated with the first sub time range from the first database and retrieving data associated with the second sub time range from the second database based on the comparison when the first time range is a subtraction of the second sub time range from the first sub time range; and subtracting the data retrieved from the second database from the data retrieved from the first database.

~~9~~8. The system of claim ~~8~~7, wherein the second database stores data in one or more segments, each segment comprising data within a predetermined time range, wherein the first time range starts from the start time to a current time at which the comparison is made and the second time range is the predetermined time range of the second database, wherein

determining the one or more sub time ranges comprises determining a sub time range that starts from the start time to the end time if the first time range is shorter than the second time range, and wherein

assessing whether to retrieve data associated with each of the one or more sub time ranges from the first database or the second database further comprises determining that the data associated with the sub time range is to be retrieved from the second database.

~~10~~9. The system of claim ~~8~~7, wherein the second database stores data in one or more segments, each segment comprising data within a predetermined time range, wherein the first time range starts from the start time to a current time at which the comparison is made and is shorter than the predetermined time range of the second database, and the second time range is an amount of time in which data is kept in the first database before being deleted from the first database, wherein determining the one or more sub time ranges further comprises determining whether the first-time range is ~~shorter~~ longer than the second time range.

~~11~~10. The system of claim ~~8~~7, wherein the first time range starts from the start time to a current time at which the comparison is made and the second time range is a first amount of time in which data is kept in the first database before being deleted from the first database, wherein comparing the first time range with the second time range further comprises:

comparing the first time range with a third time range if the first time range is longer than the second time range, wherein the third time range is a second amount of time in which data is kept in the first database before being deleted from the first database, the third time range being longer than the second time range; and

determining the one or more sub time ranges based on the comparison.

~~12~~11. The system of claim ~~8~~7, ~~wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the first time range being an addition of the first sub time range with the second sub time range, the system~~ further configured to:

retrieve data associated with each of the first and second sub time range from the first database or second database based on the comparison; and

add the retrieved data together when the first time range is an addition of the first sub time range with the second sub time range.

~~13. The system of claim 8, wherein determining the one or more sub time ranges further comprises determining a first sub time range and a second sub time range, the first time range being a subtraction of the second sub time range from the first sub time range, the system further configured to:~~

~~retrieve data associated with the first sub time range from the first database, and retrieve data associated with the second sub time range from the second database based on the comparison; and~~

~~subtract the data retrieved from the second database from the data retrieved from the first database.~~

~~14~~12. The system of claim 1~~3~~, wherein the first database stores data comprising a plurality of datapoints, each datapoint comprising information that is aggregated for an associated time range, and the second database stores raw data, wherein

retrieving data associated with the first sub time range from the first database comprises retrieving a plurality of datapoints associated with the first sub time range from

the first database, and retrieving data associated with the second sub time range from the second database comprises retrieving raw data associated with the second sub time range from the second database; wherein

subtracting the data retrieved from the second database from the data retrieved from the first database further comprises:

processing the raw data retrieved from the second database into one or more datapoints comprising information that is aggregated for the second sub time range; and

subtracting the one or more datapoints processed from raw data retrieved from the second database from the plurality of datapoints associated with the first sub time range.