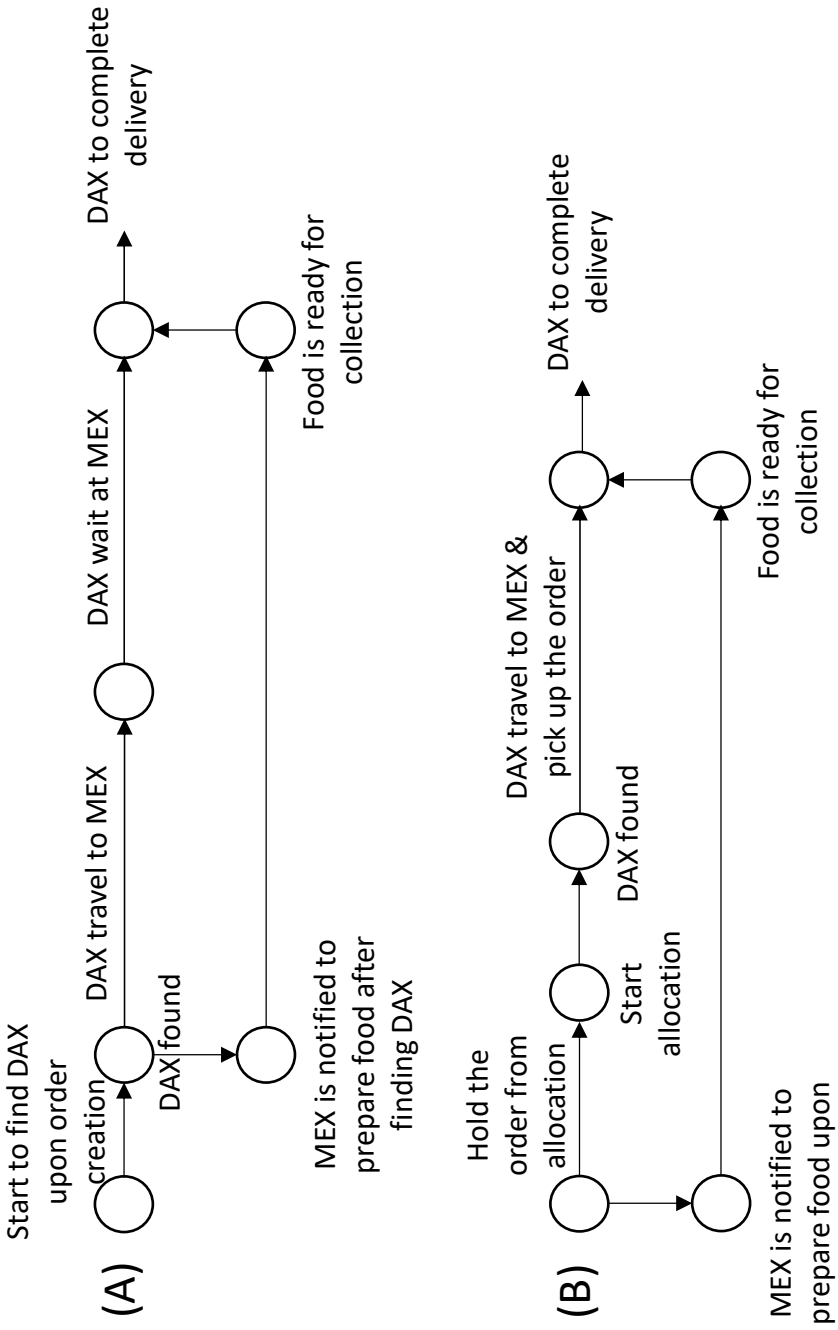

(A)
Start to find DAX upon order creation
DAX travel to MEX
DAX found
DAX wait at MEX
DAX to complete delivery
MEX is notified to prepare food after finding DAX
Food is ready for collection
(B)
Hold the order from allocation
Start allocation
DAX found
DAX travel to MEX & pick up the order
DAX to complete delivery
MEX is notified to prepare food upon order creation
Food is ready for collection

FIG. 1

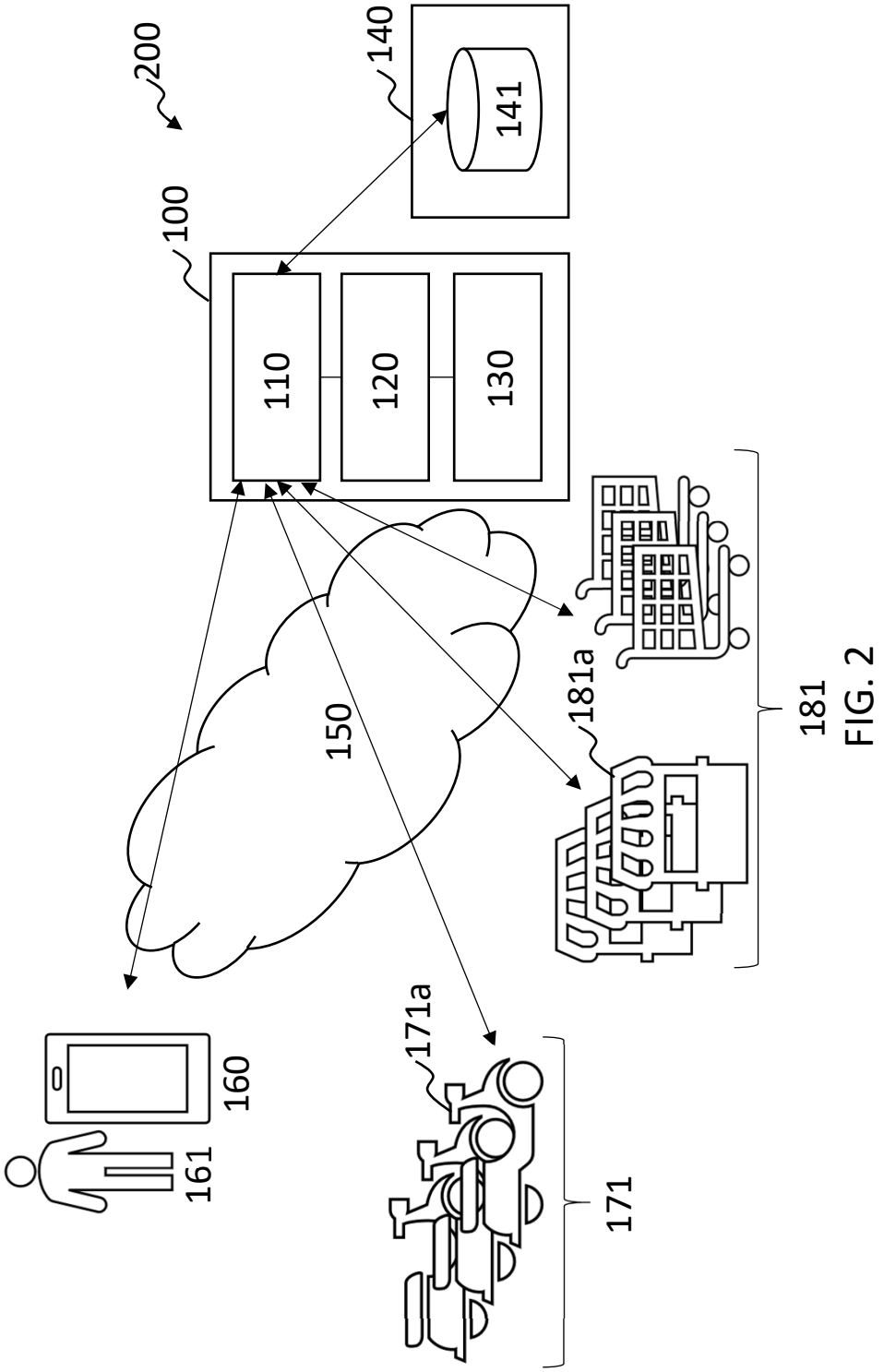


FIG. 2

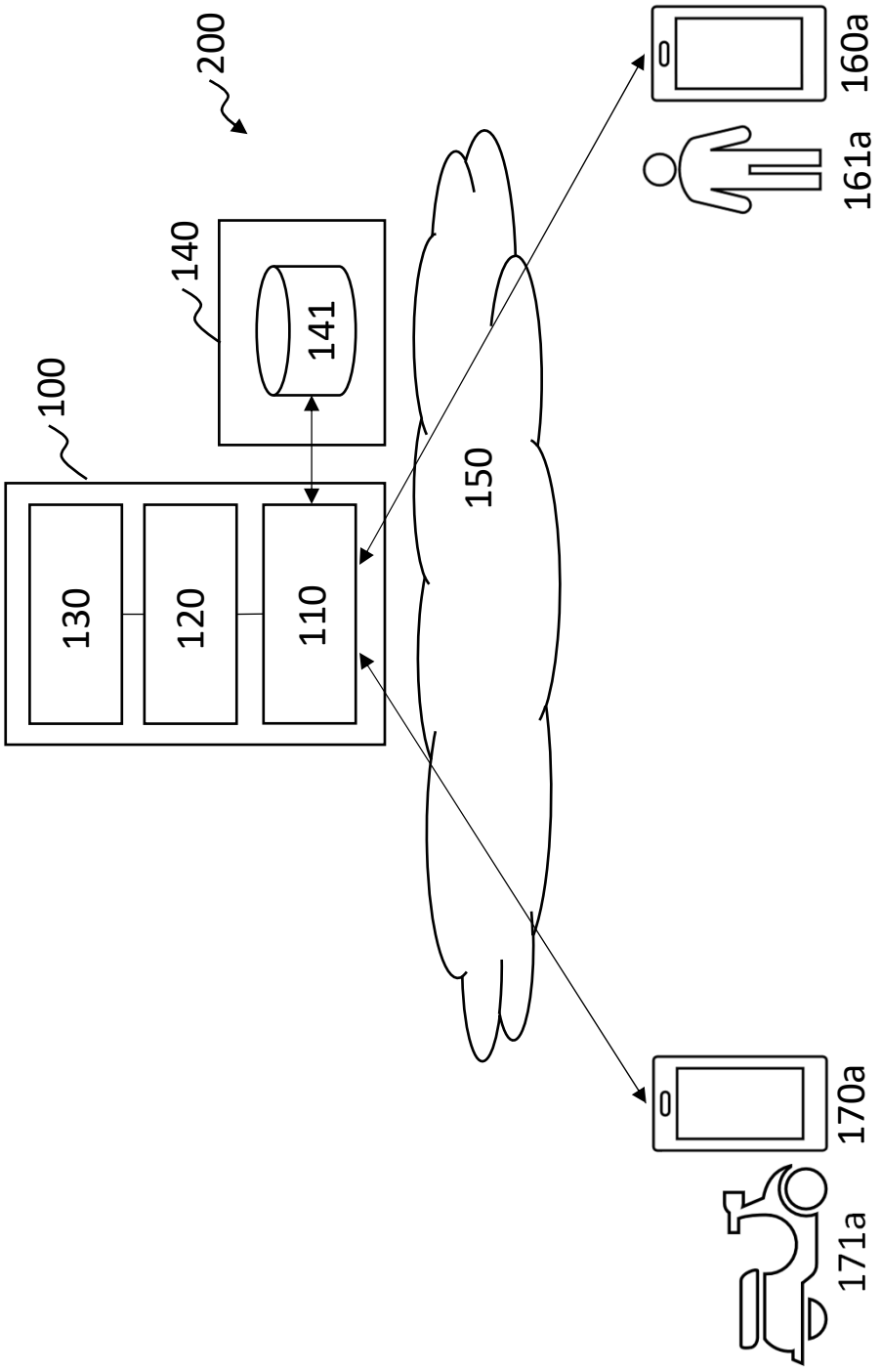


FIG. 3

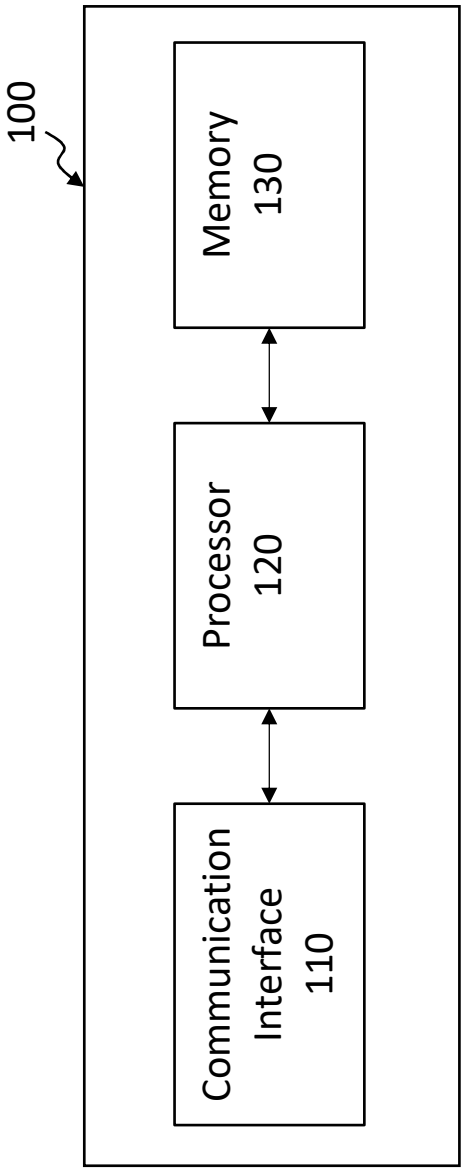


FIG. 4

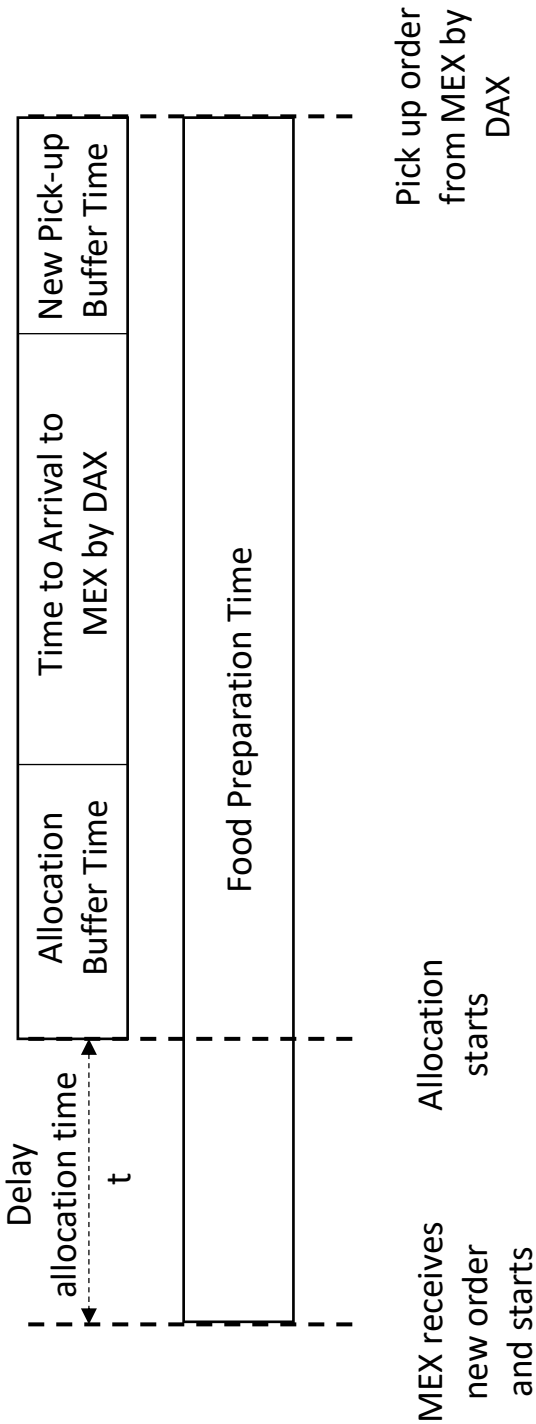

Delay
allocation time
t
Allocation
Buffer Time
Time to Arrival to
MEX by DAX
New Pick-up
Buffer Time
Food Preparation Time
MEX receives
new order
and starts
preparing
Allocation
starts
Pick up order
from MEX by
DAX

FIG. 5

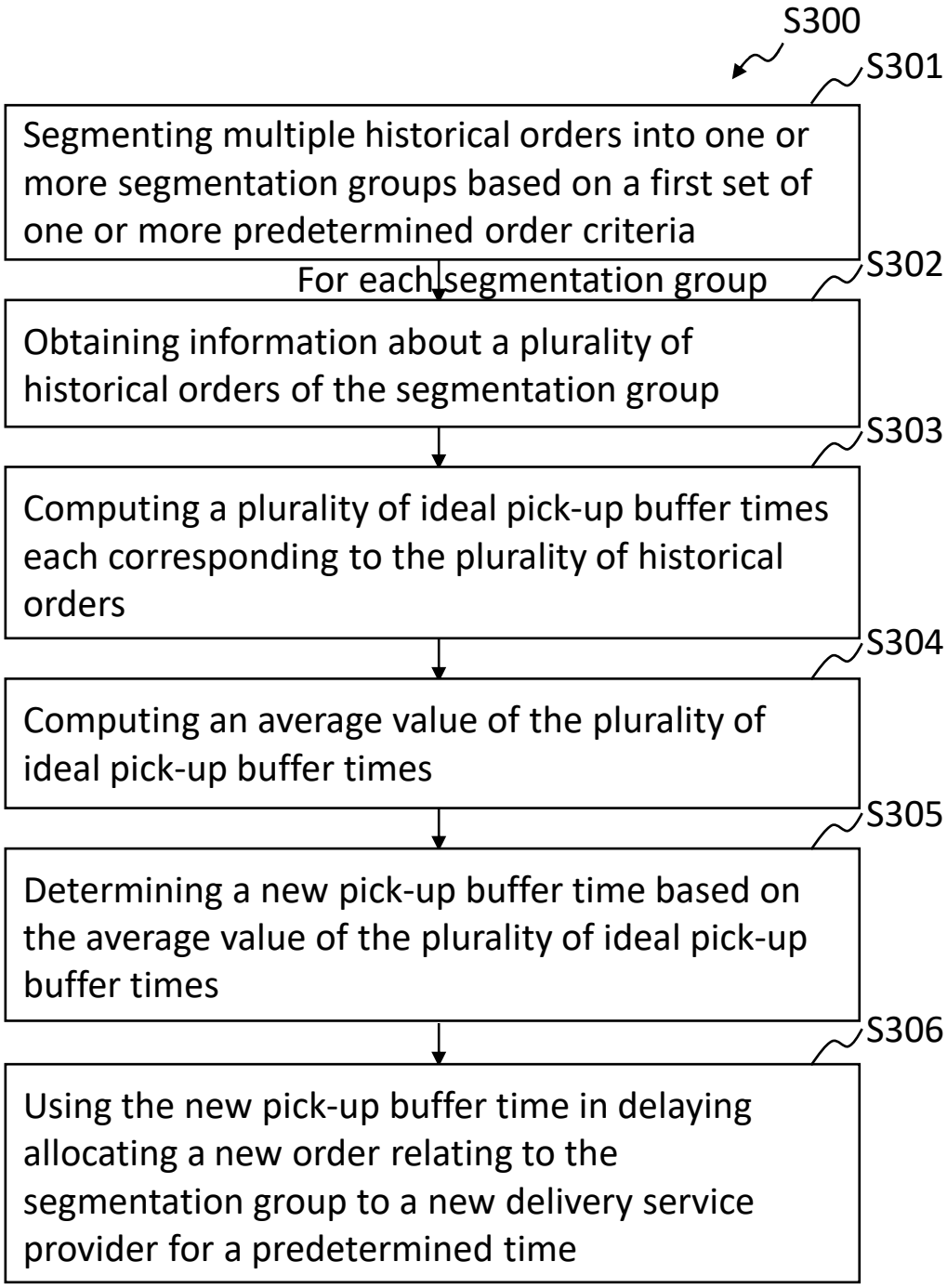

S300
S301
Segmenting multiple historical orders into one or more segmentation groups based on a first set of one or more predetermined order criteria
For each segmentation group
S302
Obtaining information about a plurality of historical orders of the segmentation group
S303
Computing a plurality of ideal pick-up buffer times each corresponding to the plurality of historical orders
S304
Computing an average value of the plurality of ideal pick-up buffer times
S305
Determining a new pick-up buffer time based on the average value of the plurality of ideal pick-up buffer times
S306
Using the new pick-up buffer time in delaying allocating a new order relating to the segmentation group to a new delivery service provider for a predetermined time

FIG. 6

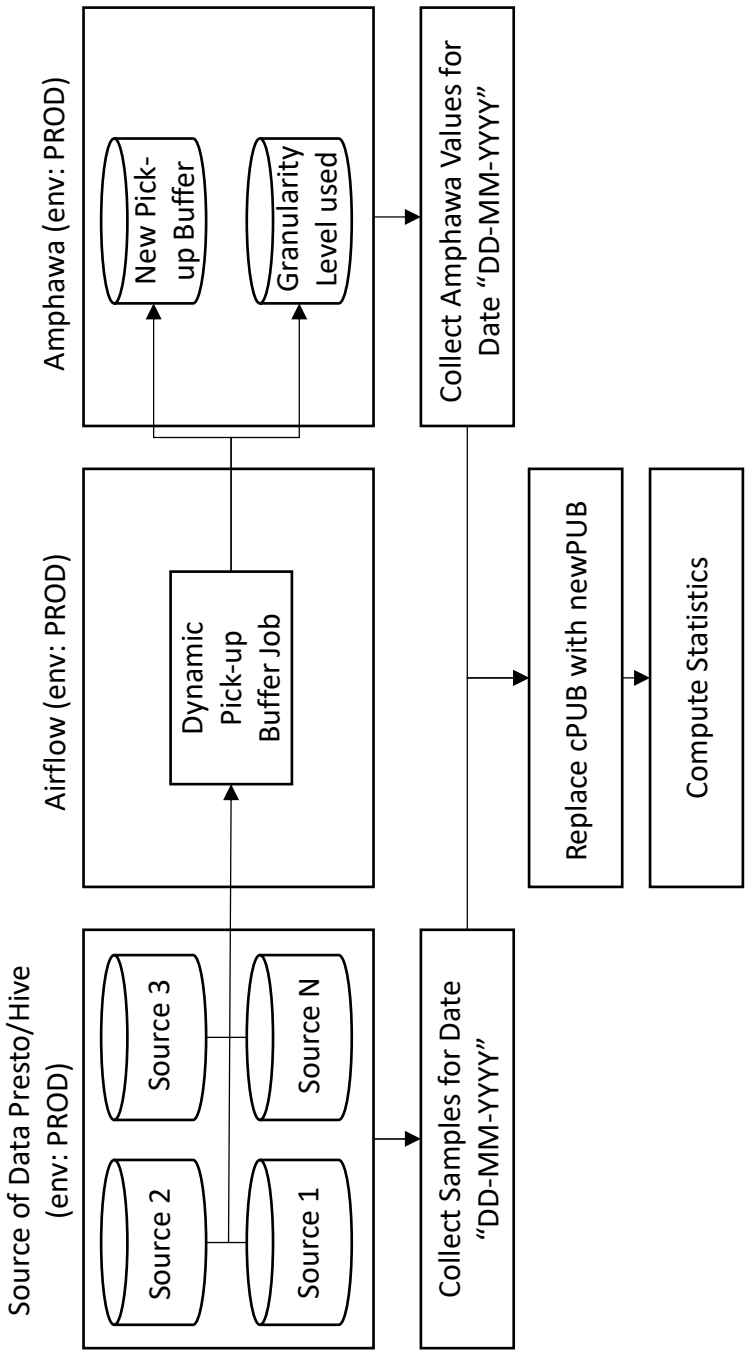

Source of Data Presto/Hive
(env: PROD)
Source 2
Source 3
Source 1
Source N
Airflow (env: PROD)
Dynamic
Pick-up
Buffer Job
Amphawa (env: PROD)
New Pick-
up Buffer
Granularity
Level used
Collect Samples for Date
"DD-MM-YYYY"
Collect Amphawa Values for
Date "DD-MM-YYYY"
Replace cPUB with newPUB
Compute Statistics

FIG. 7

Granularity	Country	City_id	No. of Groups	Coverage
GeoHash6 → Merchant → Hour	ID	10 (JK)	333,183	12.5508%
	MY	1 (KV)	270,990	19.5970%
		2 (JB)	58,376	16.7466%
	PH	4 (MM)	263,587	16.1283%
GeoHash6 → Merchant	ID	10 (JK)	31,636	70.3344%
	MY	1 (KV)	32,643	55.6873%
		2 (JB)	7,994	48.0736%
	PH	4 (MM)	26,021	57.4459%
GeoHash6 → Hour	ID	10 (JK)	49,784	45.4805%
	MY	1 (KV)	30,834	52.3383%
		2 (JB)	8,883	53.3716%
	PH	4 (MM)	26,751	50.1028%
GeoHash6	ID	10 (JK)	3,127	85.4813%
	MY	1 (KV)	2,222	78.8929%
		2 (JB)	626	83.8658%
	PH	4 (MM)	1,703	73.5760%

FIG. 8

Granularity Level	Country	City_id	Groups to be covered	Accumulated Coverage	Groups unable to cover
L1 (GeoHash6 → Merchant → Hour)	ID	10 (JK)	333,183	12.5508%	N/A
	MY	1 (KV)	270,990	19.5970%	
		2 (JB)	58,376	16.7466%	
	PH	4 (MM)	263,587	16.1283%	
L2 (GeoHash6 → Merchant)	ID	10 (JK)	333,183	83.9425%	
	MY	1 (KV)	270,990	90.1757%	
		2 (JB)	58,376	87.2653%	
	PH	4 (MM)	263,587	90.5200%	
L3 (GeoHash6)	ID	10 (JK)	333,183	99.1356%	2,880
	MY	1 (KV)	270,990	99.0771%	2,501
		2 (JB)	58,376	99.0835%	535
	PH	4 (MM)	263,587	99.9465%	2,777

FIG. 9