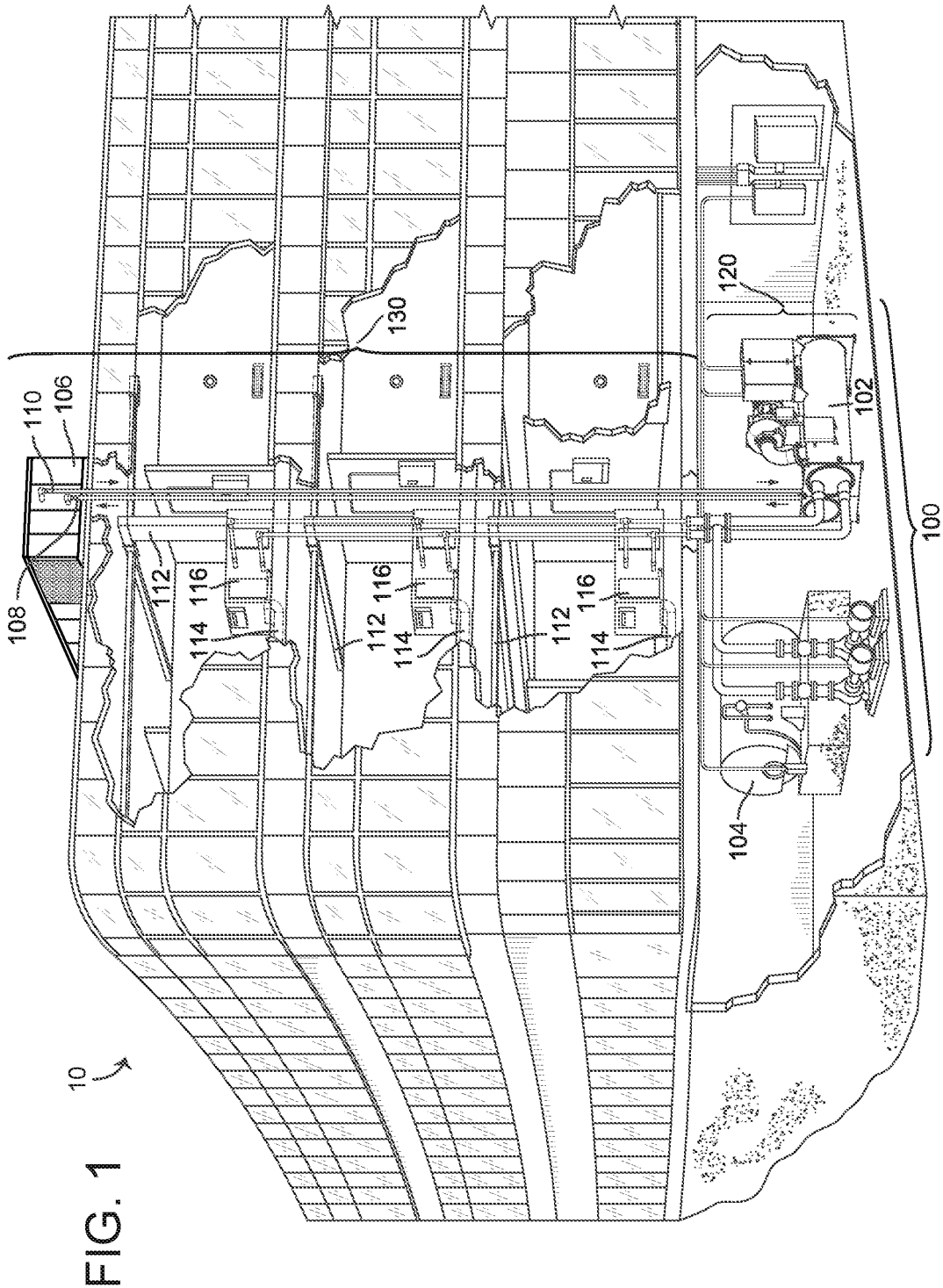




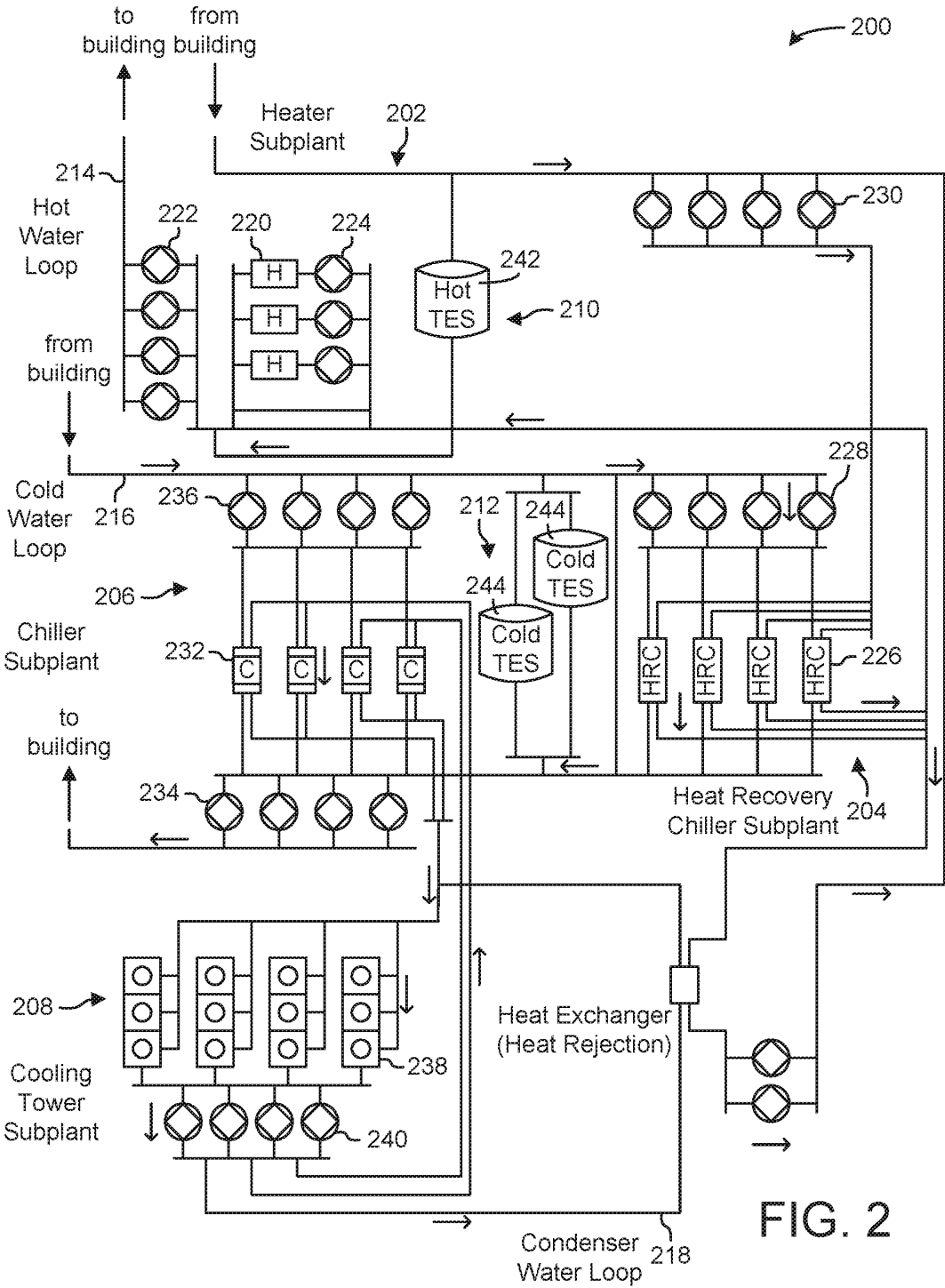


FIG. 2

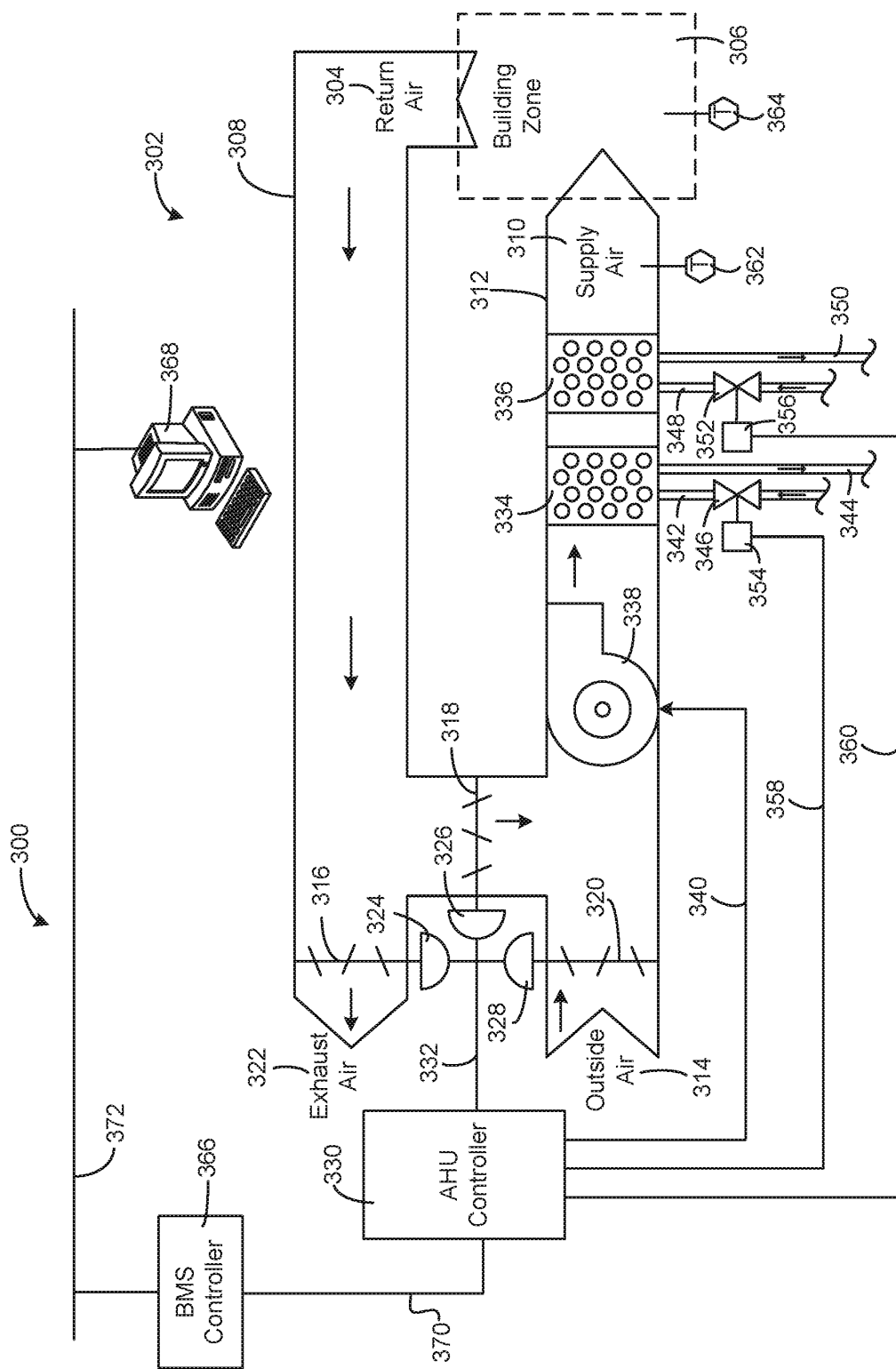
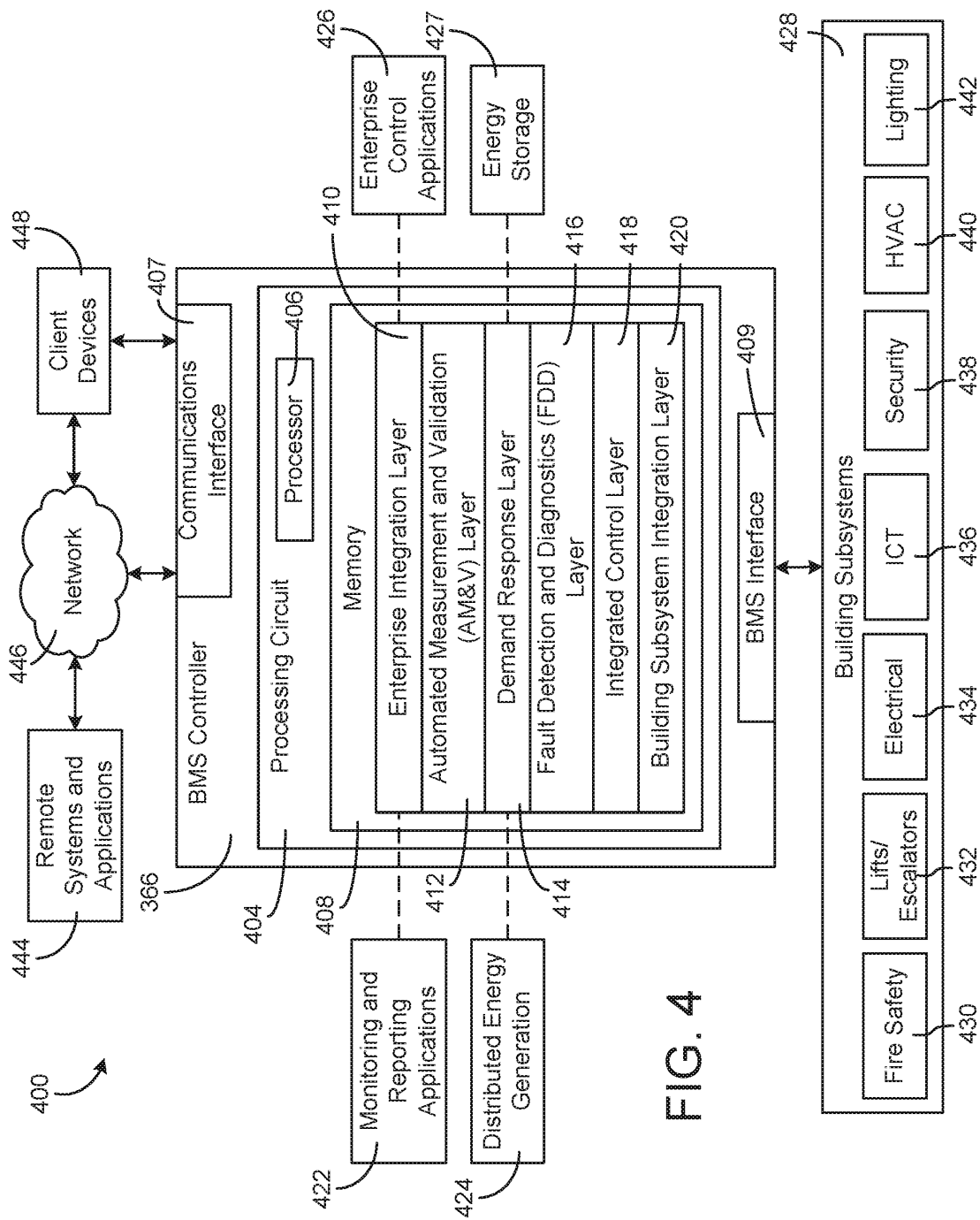
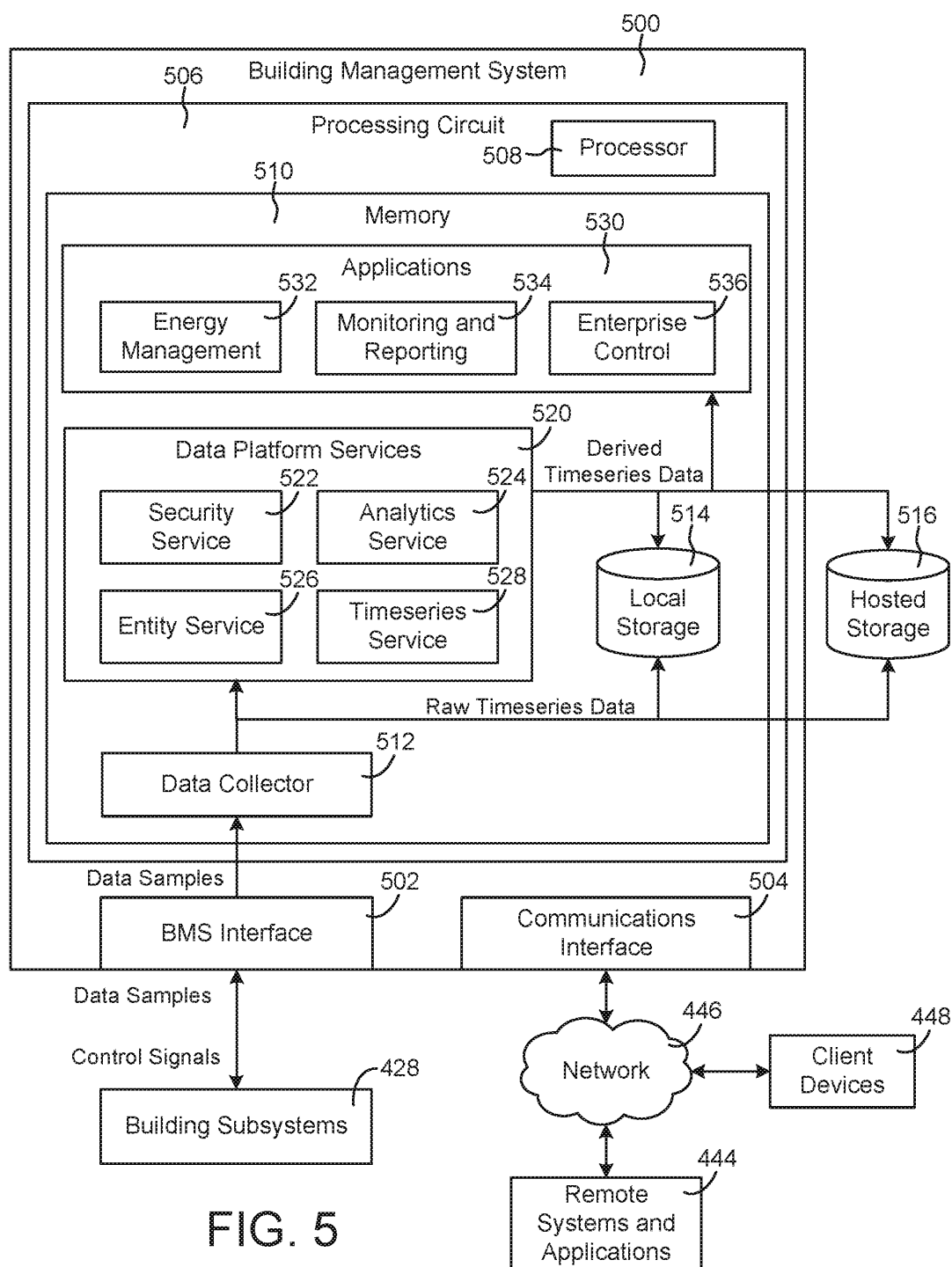


FIG. 3



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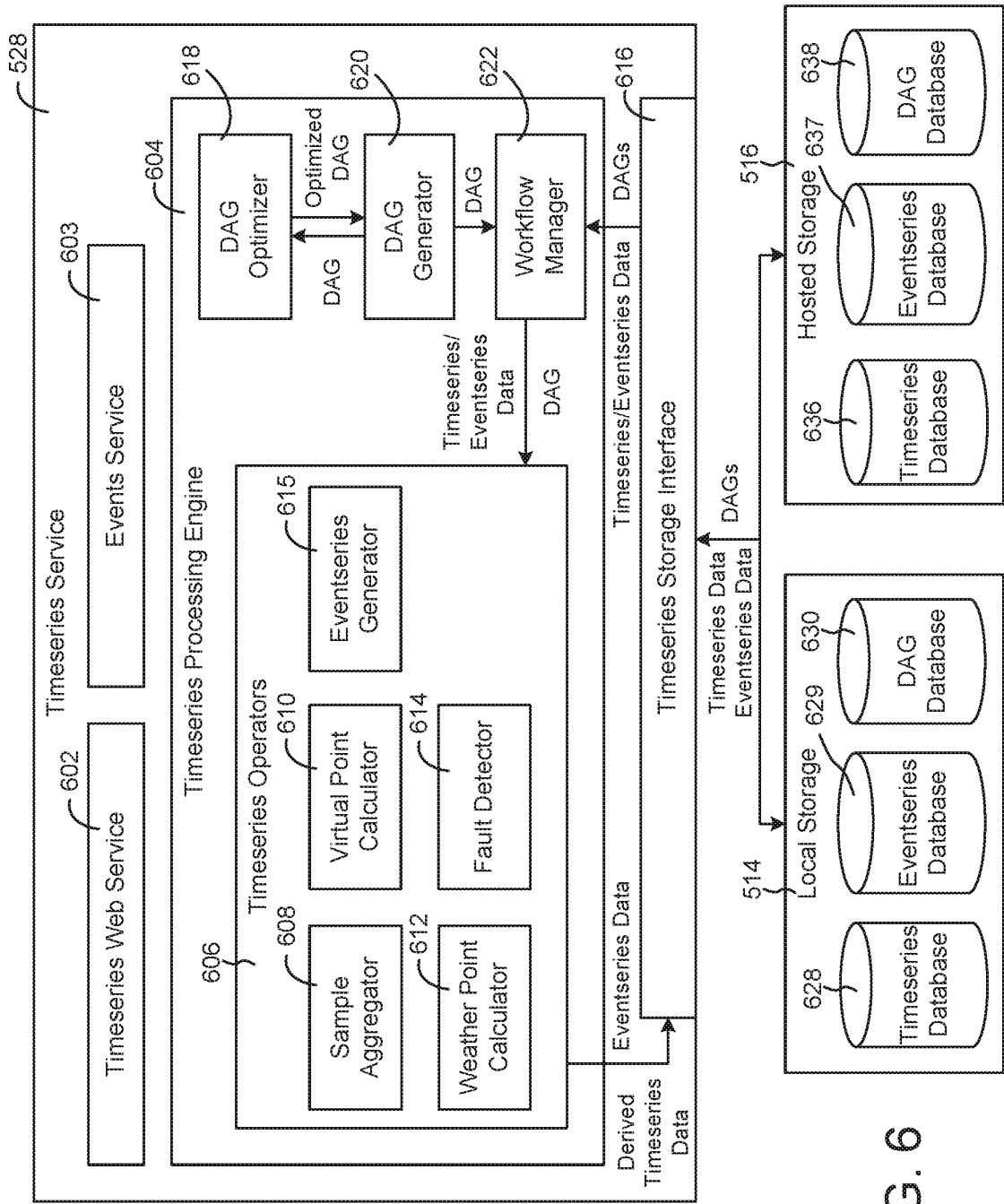
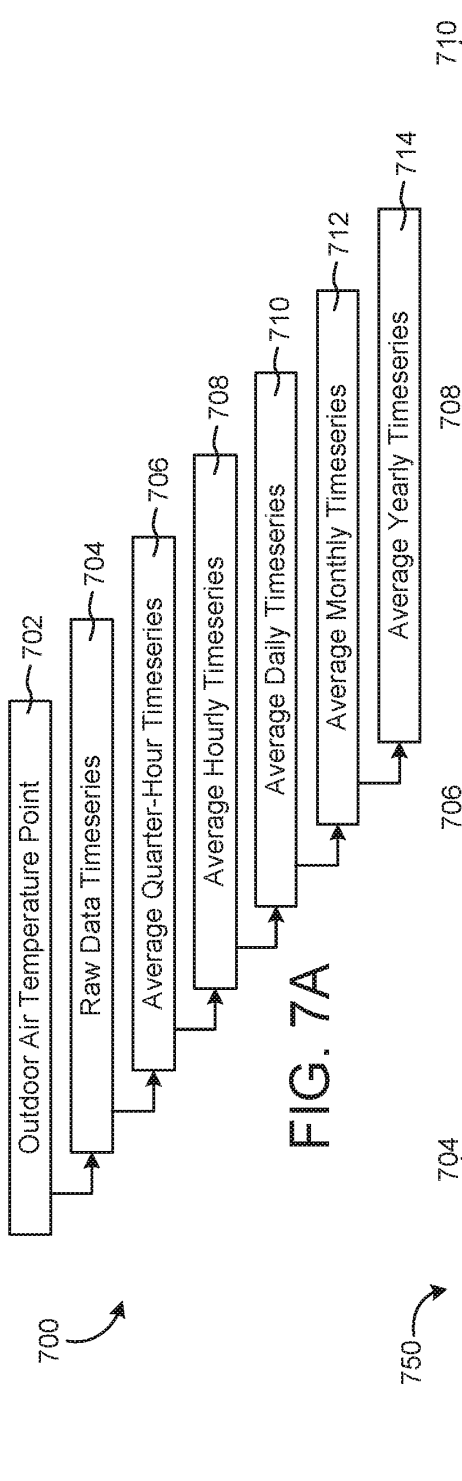


FIG. 6

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| Raw Data Timeseries |       | Average Quarter-Hour Timeseries |       | Average Hourly Timeseries |       | Average Daily Timeseries |       |
|---------------------|-------|---------------------------------|-------|---------------------------|-------|--------------------------|-------|
| Timestamp           | Value | Timestamp                       | Value | Timestamp                 | Value | Timestamp                | Value |
| 2015-12-31T23:10:00 | 10    | 2015-12-31T23:00:00             | 10    | 2015-12-31T23:00:00       | 28.8  | 2015-12-31T23:00:00      | 28.8  |
| 2015-12-31T23:20:01 | 20    | 2015-12-31T23:15:00             | 20    |                           |       |                          |       |
| 2015-12-31T23:30:02 | 30    | 2015-12-31T23:30:00             | 35    |                           |       |                          |       |
| 2015-12-31T23:40:03 | 40    |                                 |       |                           |       |                          |       |
| 2015-12-31T23:50:04 | 50    | 2015-12-31T23:45:00             | 50    |                           |       |                          |       |
| 2016-01-01T00:00:05 | 60    | 2016-01-01T00:00:00             | 65    | 2016-01-01T00:00:00       | 87.5  | 2016-01-01T00:00:00      | 87.5  |
| 2016-01-01T00:10:06 | 70    |                                 |       |                           |       |                          |       |
| 2016-01-01T00:20:07 | 80    | 2016-01-01T00:15:00             | 80    |                           |       |                          |       |
| 2016-01-01T00:30:08 | 90    | 2016-01-01T00:30:00             | 95    |                           |       |                          |       |
| 2016-01-01T00:40:09 | 100   |                                 |       |                           |       |                          |       |
| 2016-01-01T00:50:10 | 110   | 2016-01-01T00:45:00             | 110   |                           |       |                          |       |

FIG. 7B

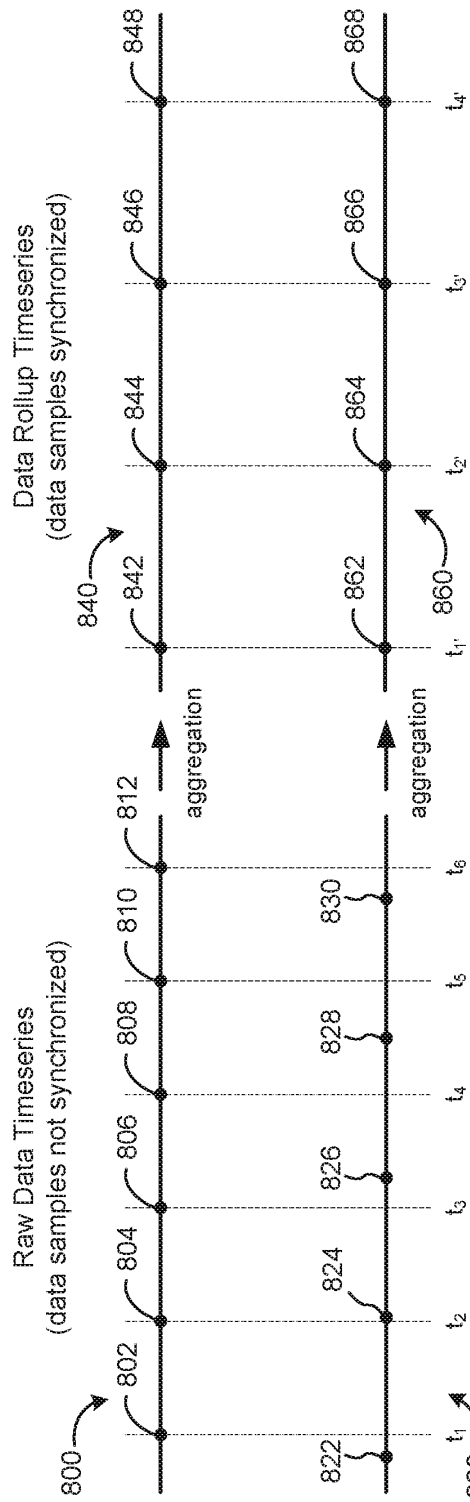


FIG. 8

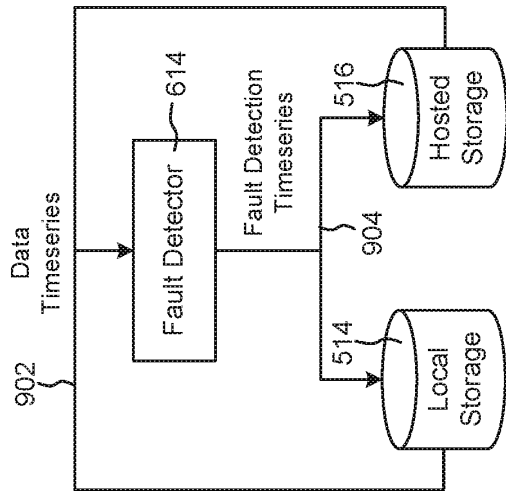


FIG. 9A

| Data Timeseries     |       | Fault Detection Timeseries |              |
|---------------------|-------|----------------------------|--------------|
| Timestamp           | Value | Timestamp                  | Value        |
| 2015-12-31T23:10:00 | 65    | 2015-12-31T23:10:00        | Not in Fault |
| 2015-12-31T23:20:00 | 65    | 2015-12-31T23:20:00        | Not in Fault |
| 2015-12-31T23:30:00 | 42    | 2015-12-31T23:30:00        | Fault        |
| 2015-12-31T23:40:00 | 66    | 2015-12-31T23:40:00        | Not in Fault |
| 2015-12-31T23:50:00 | 42    | 2015-12-31T23:50:00        | Fault        |
| 2016-01-01T00:00:00 | 42    | 2016-01-01T00:00:00        | Fault        |
| 2016-01-01T00:10:00 | 66    | 2016-01-01T00:10:00        | Not in Fault |
| 2016-01-01T00:20:00 | 66    | 2016-01-01T00:20:00        | Not in Fault |

FIG. 9B

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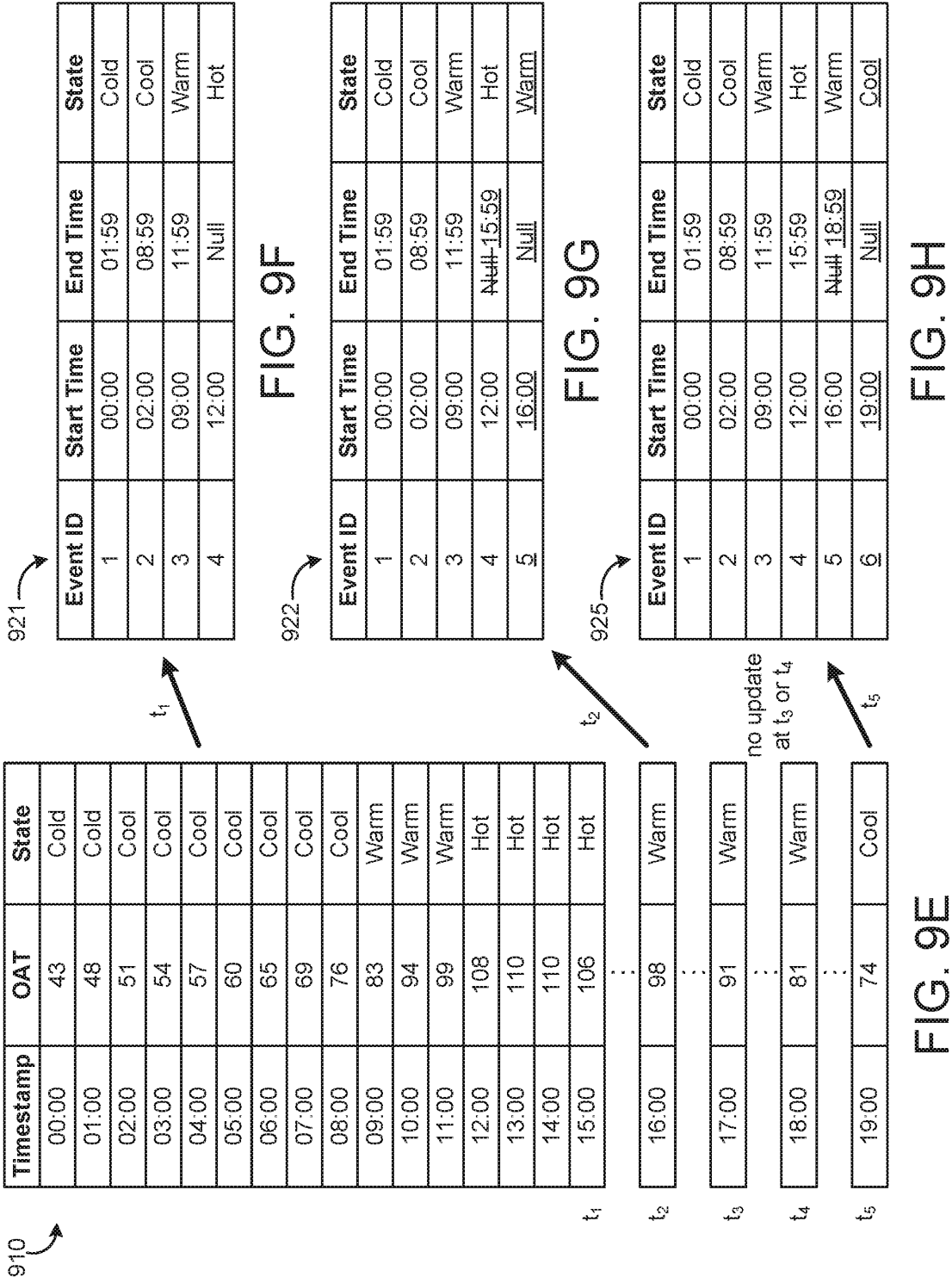
| Timestamp | OAT | State |
|-----------|-----|-------|
| 00:00     | 43  | Cold  |
| 01:00     | 48  | Cold  |
| 02:00     | 51  | Cool  |
| 03:00     | 54  | Cool  |
| 04:00     | 57  | Cool  |
| 05:00     | 60  | Cool  |
| 06:00     | 65  | Cool  |
| 07:00     | 69  | Cool  |
| 08:00     | 76  | Cool  |
| 09:00     | 83  | Warm  |
| 10:00     | 94  | Warm  |
| 11:00     | 99  | Warm  |
| 12:00     | 108 | Hot   |
| 13:00     | 110 | Hot   |
| 14:00     | 110 | Hot   |
| 15:00     | 106 | Hot   |
| 16:00     | 98  | Warm  |
| 17:00     | 91  | Warm  |
| 18:00     | 81  | Warm  |
| 19:00     | 74  | Cool  |
| 20:00     | 65  | Cool  |
| 21:00     | 54  | Cool  |
| 22:00     | 48  | Cold  |
| 23:00     | 44  | Cold  |

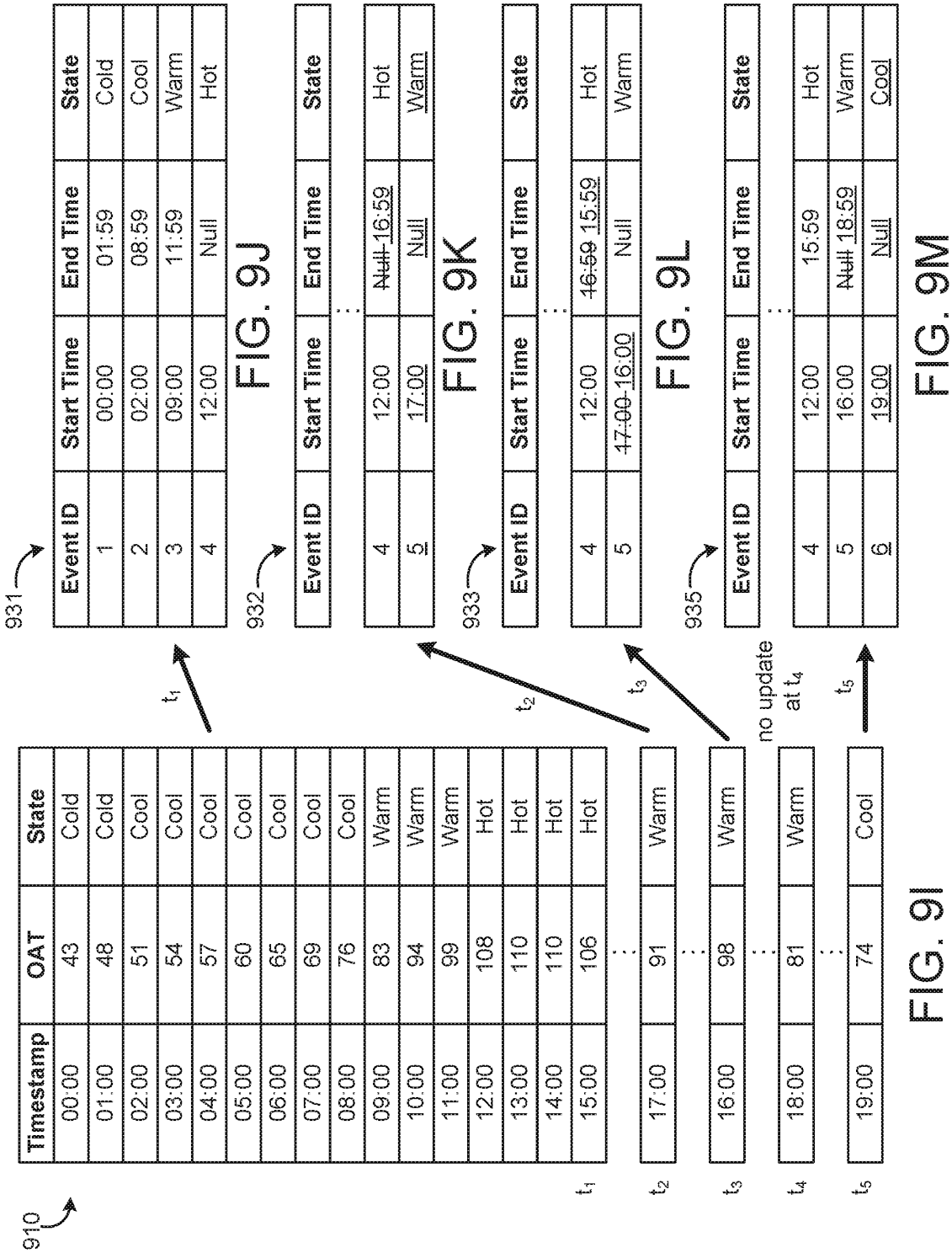
FIG. 9C

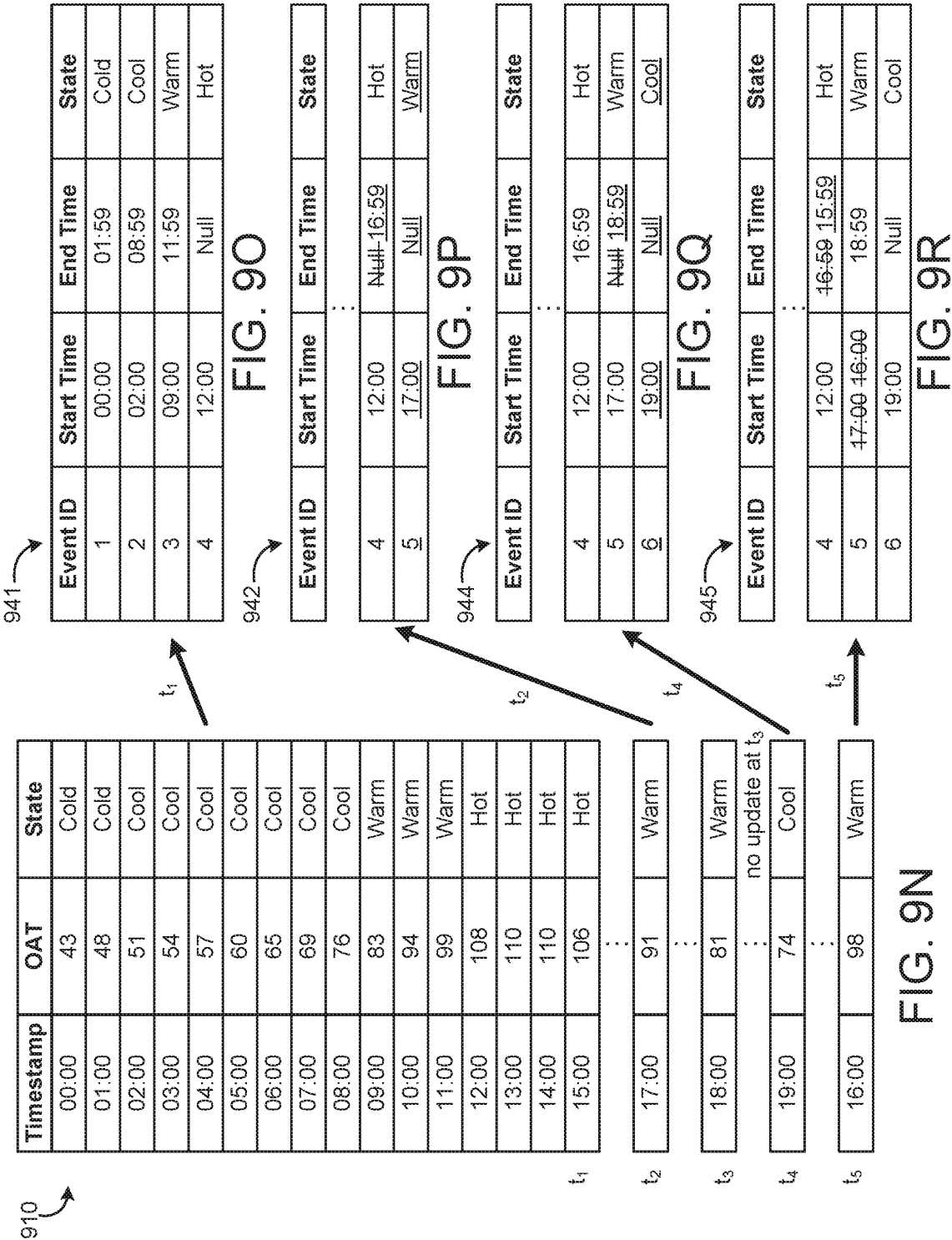
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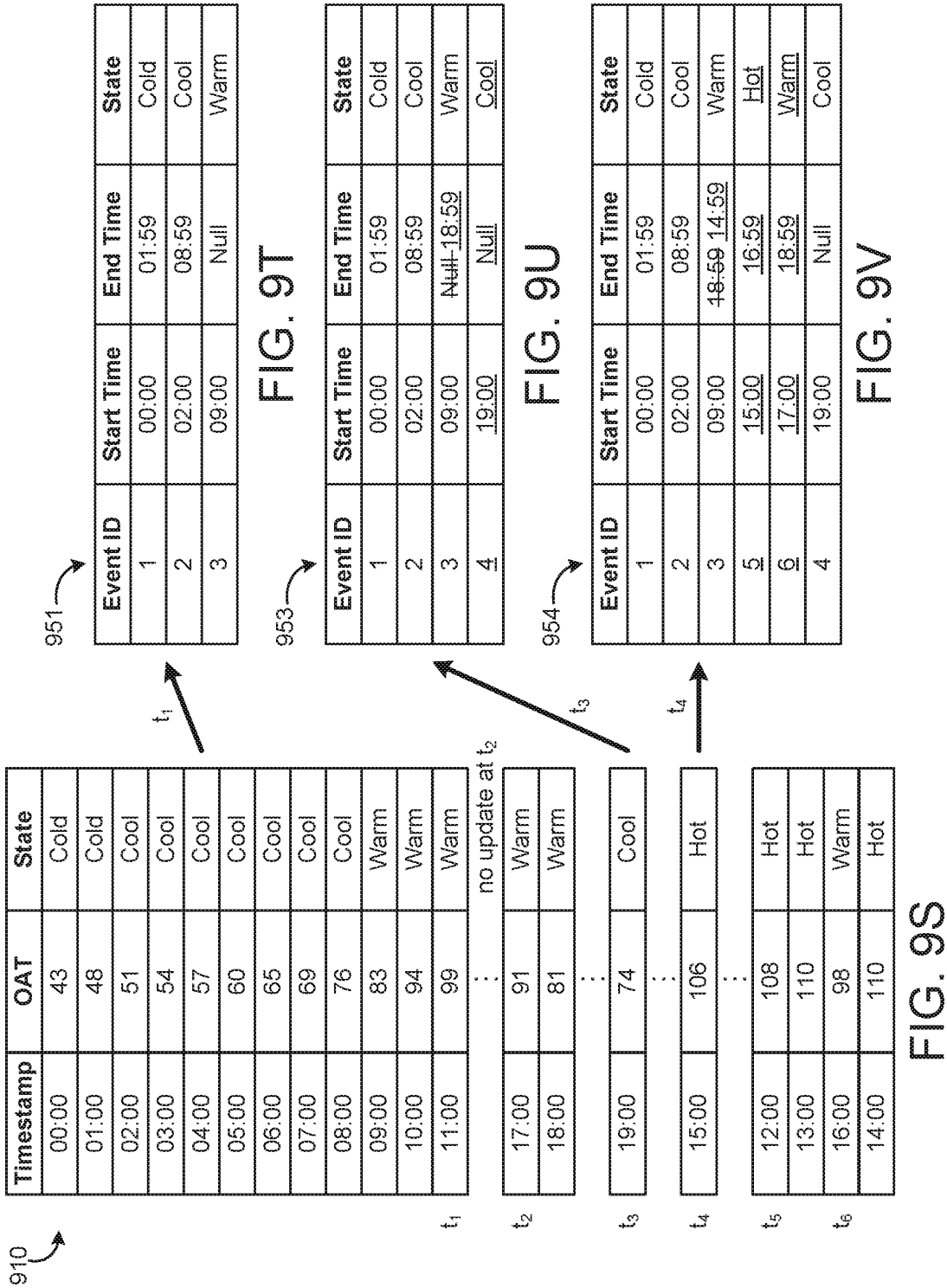
| Event ID | Start Time | End Time | State |
|----------|------------|----------|-------|
| 1        | 00:00      | 01:59    | Cold  |
| 2        | 02:00      | 08:59    | Cool  |
| 3        | 09:00      | 11:59    | Warm  |
| 4        | 12:00      | 15:59    | Hot   |
| 5        | 16:00      | 18:59    | Warm  |
| 6        | 19:00      | 21:59    | Cool  |
| 7        | 22:00      | 23:59    | Cold  |

FIG. 9D



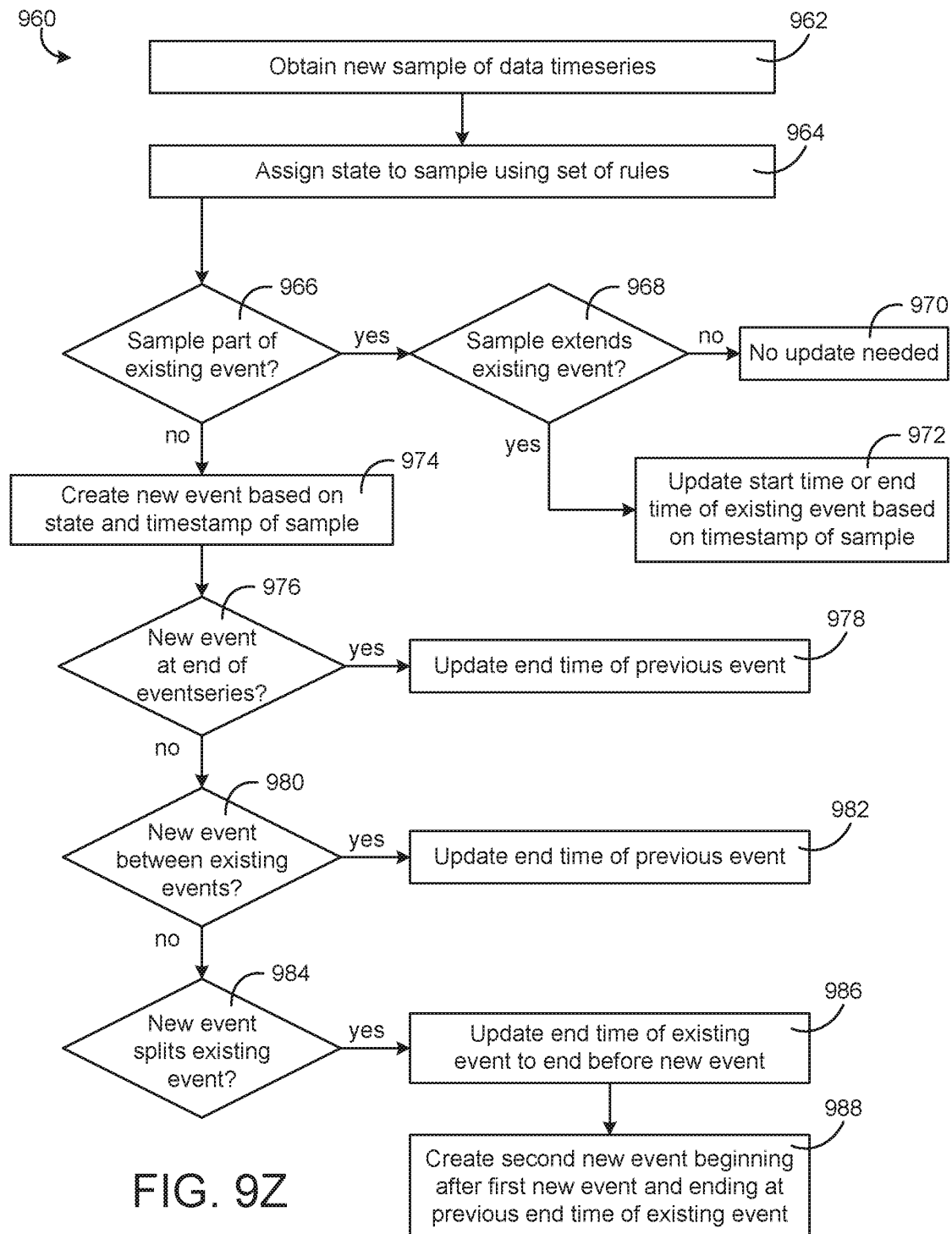


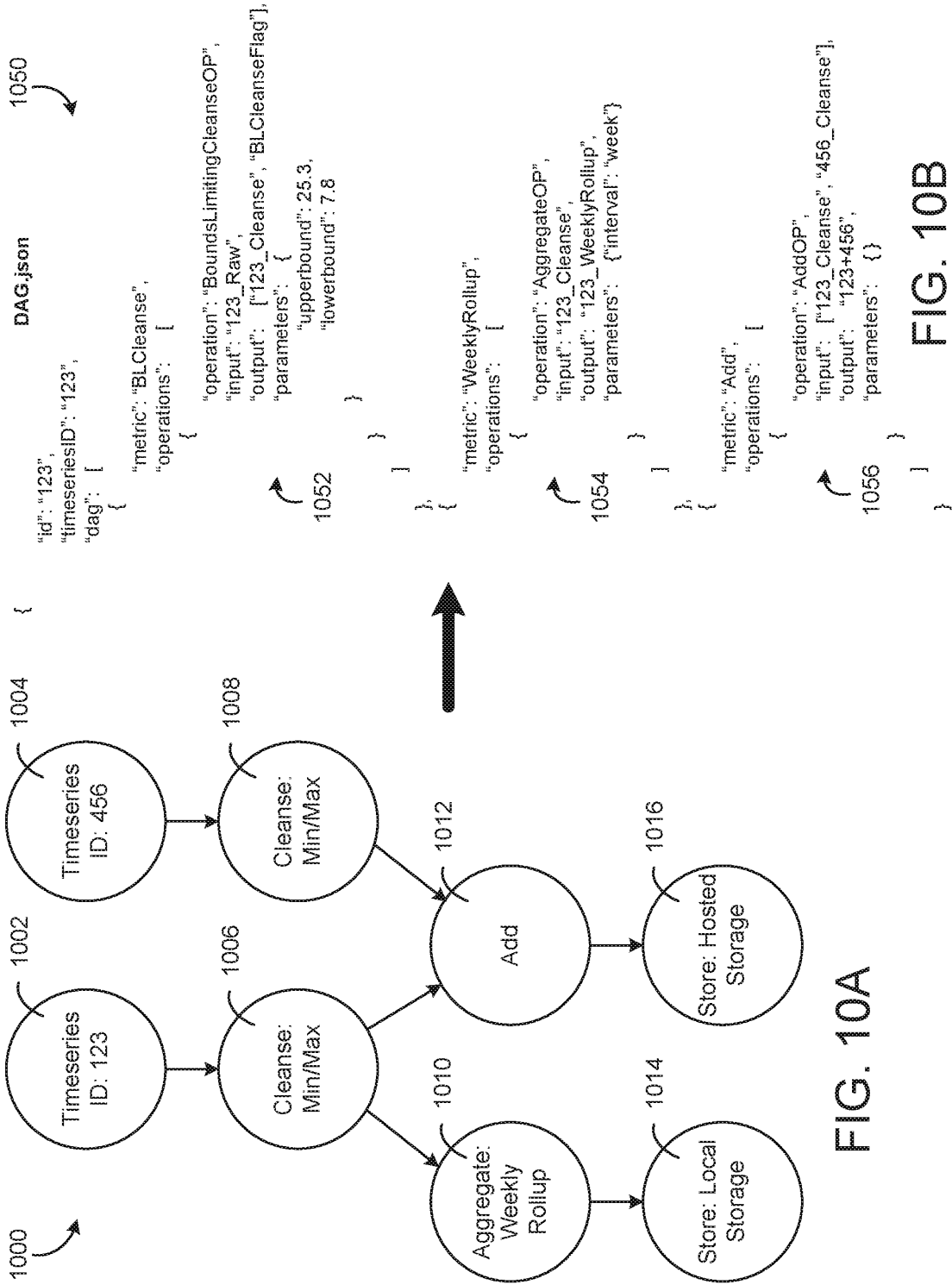






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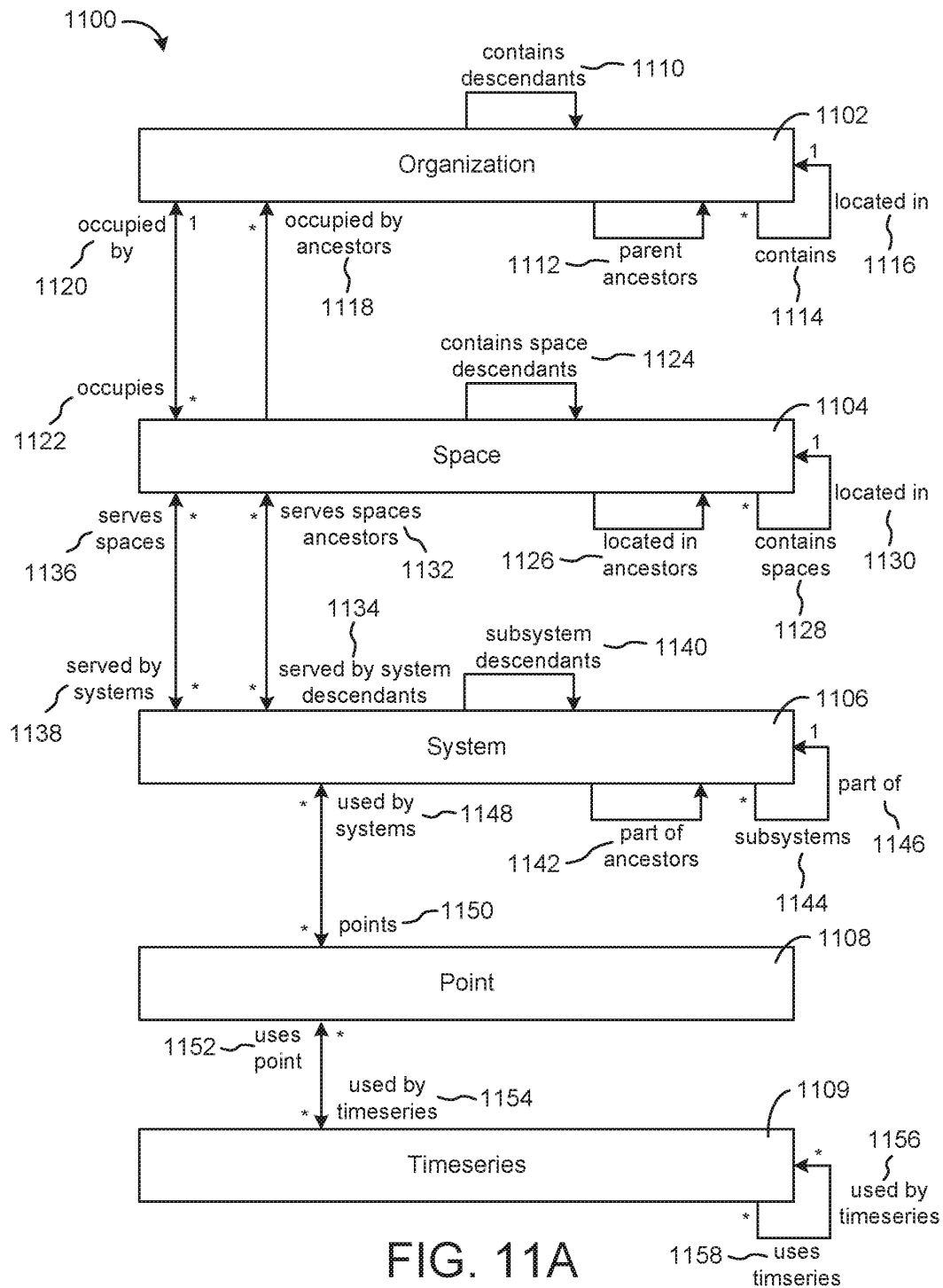


FIG. 11A

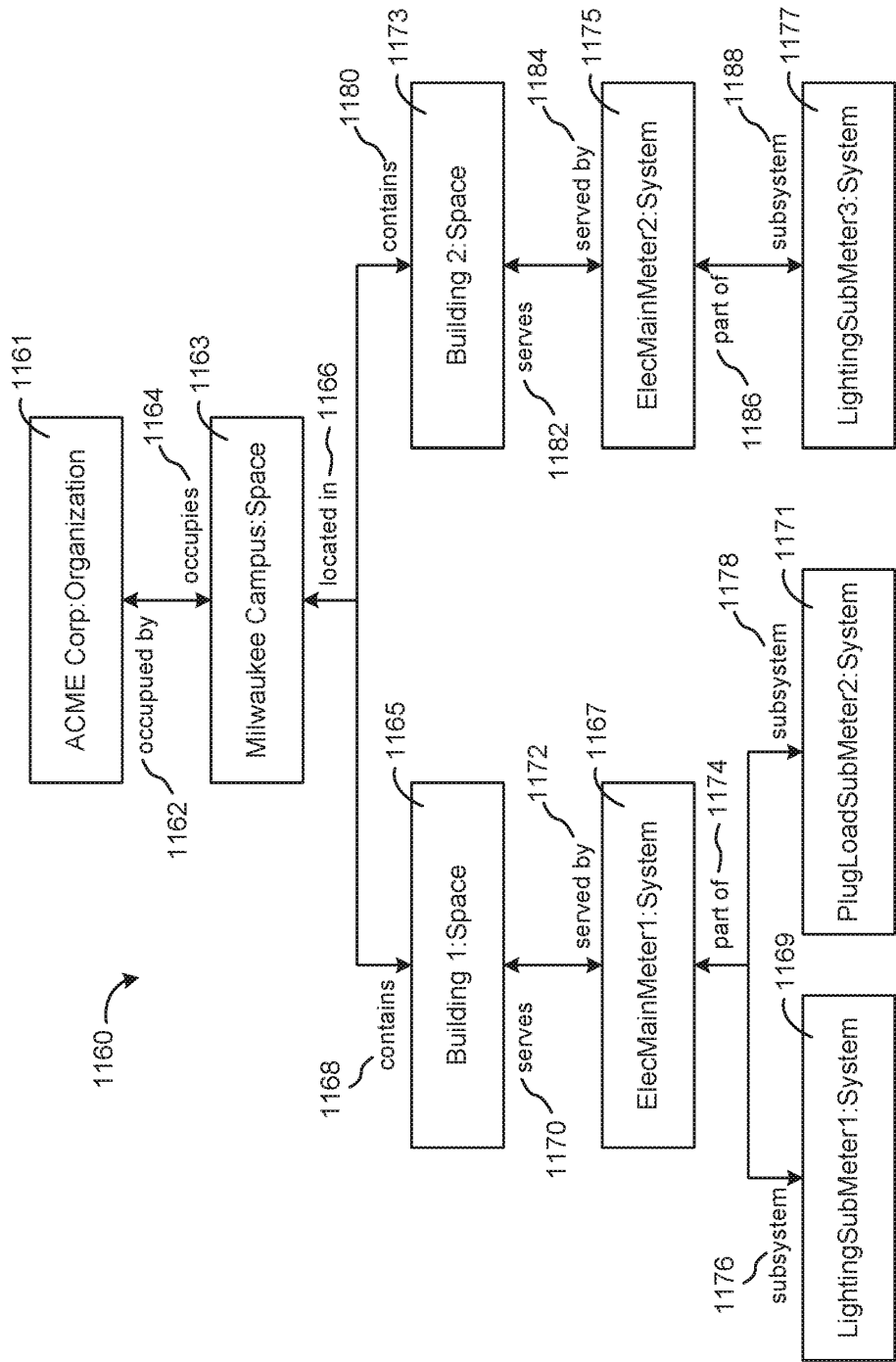


FIG. 11B

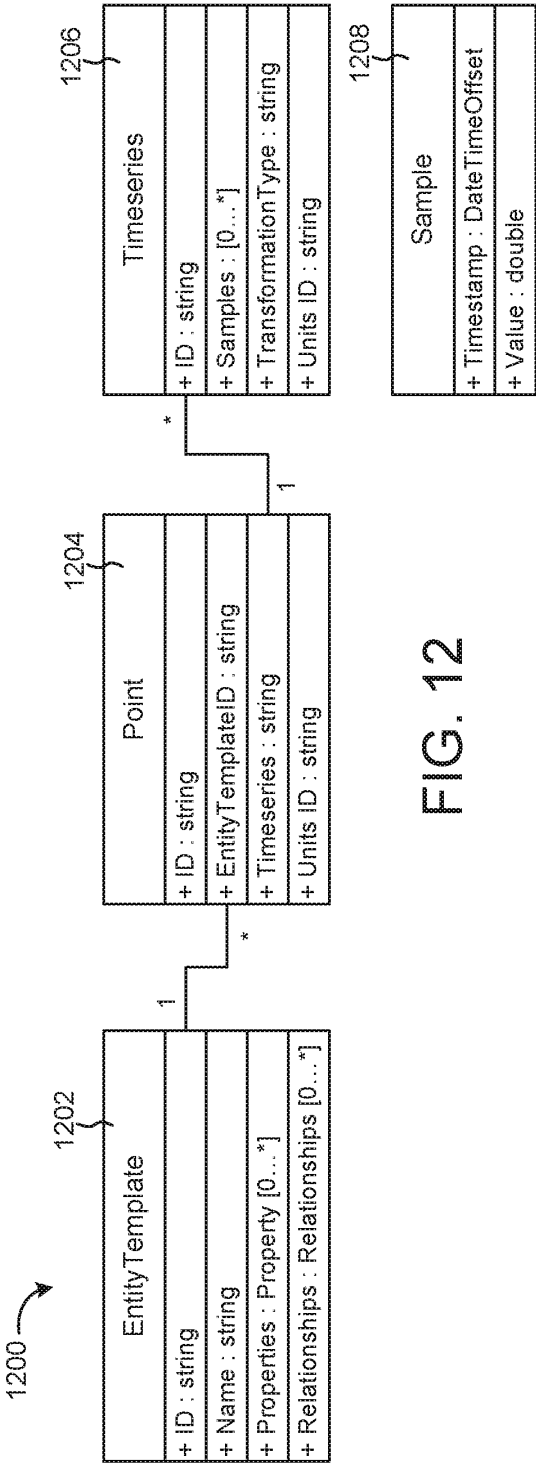


FIG. 12

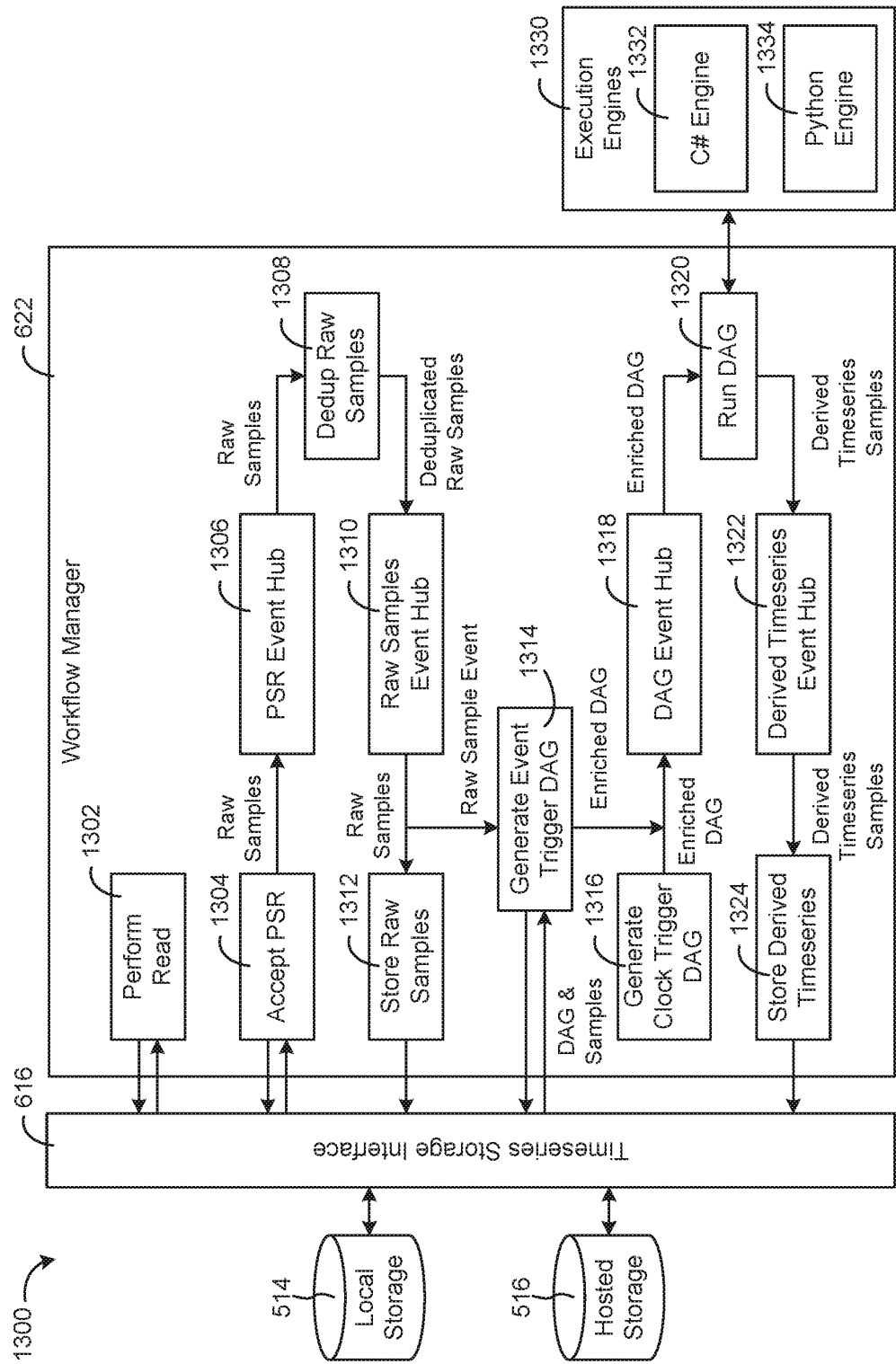


FIG. 13A

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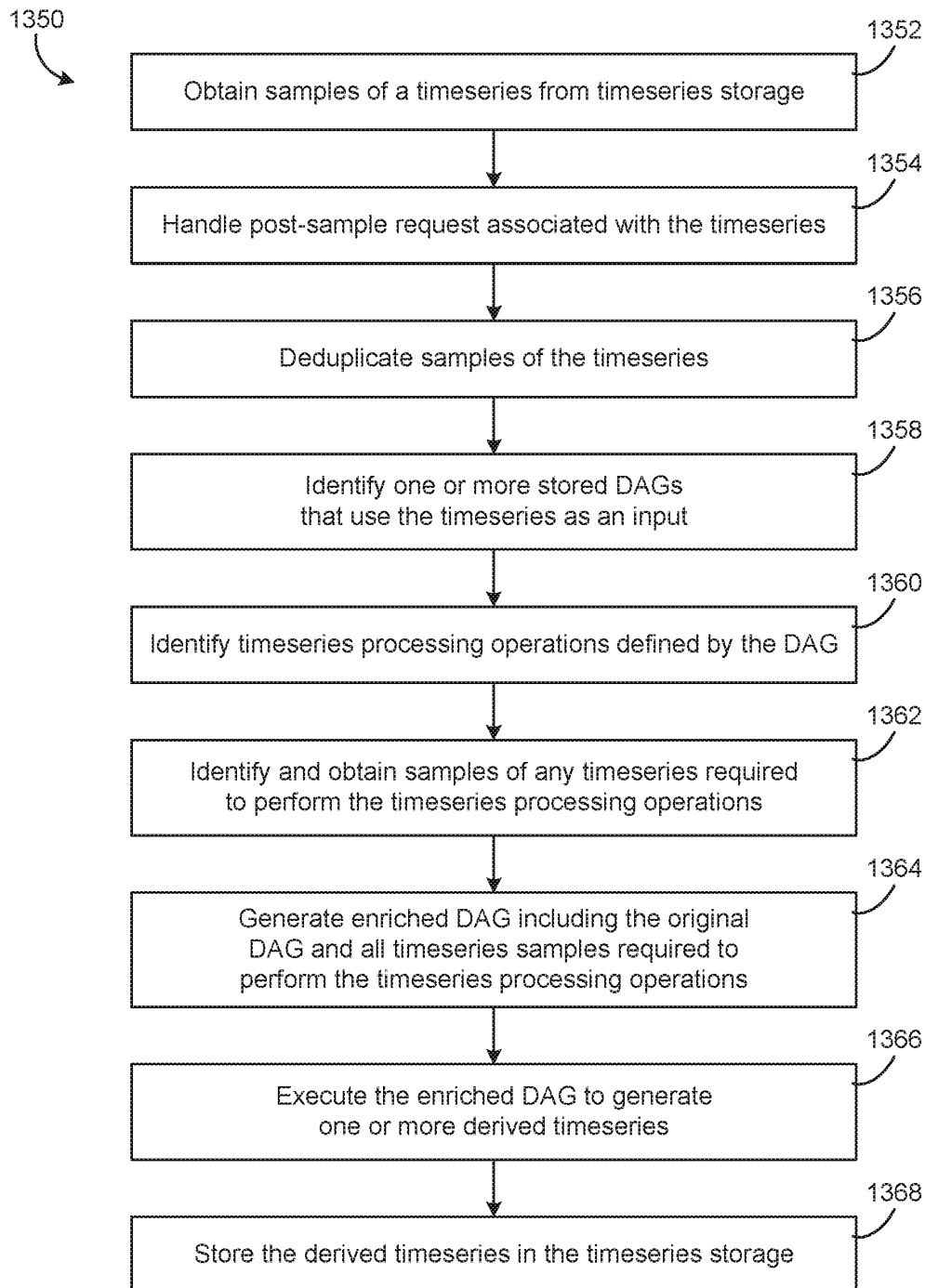


FIG. 13B

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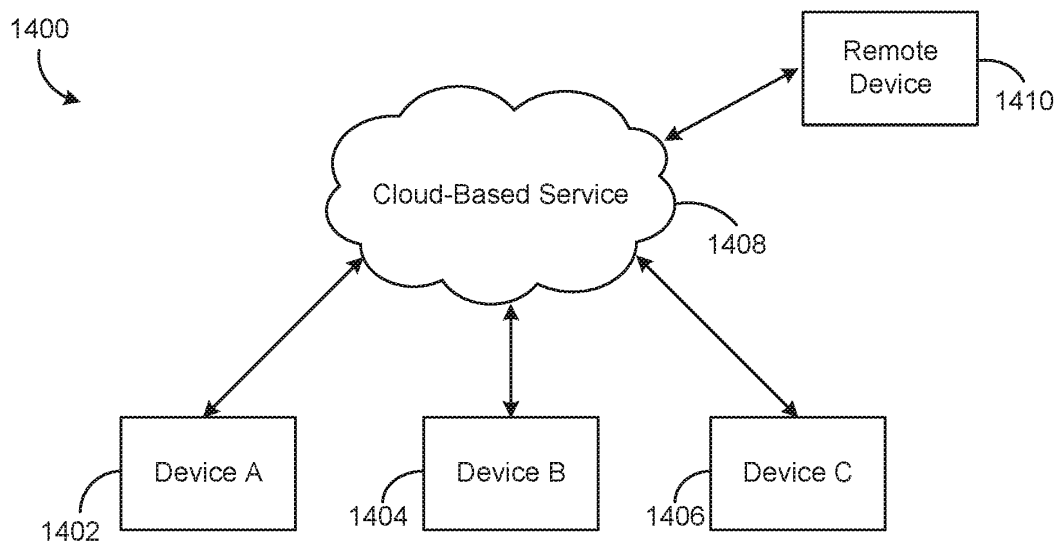


FIG. 14

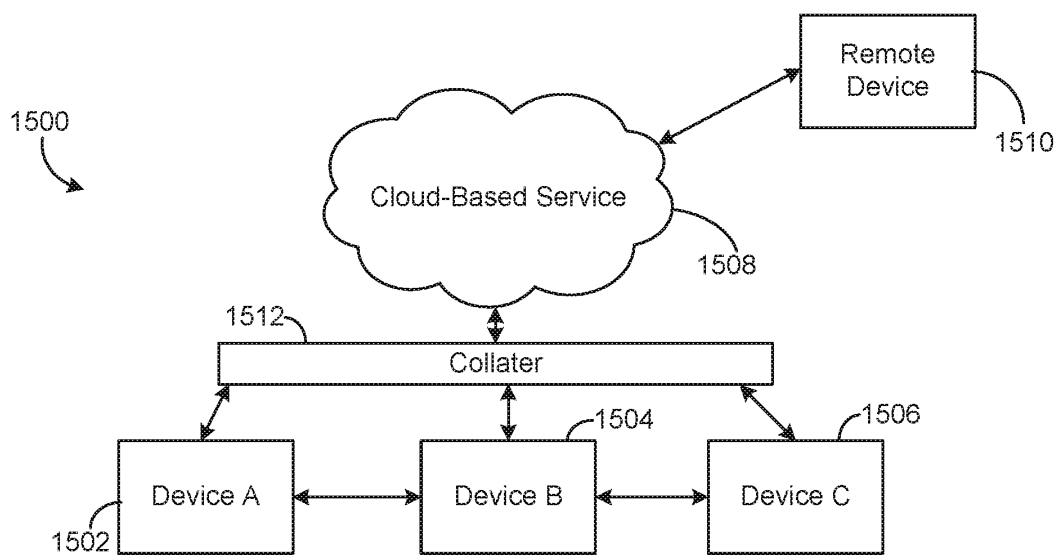


FIG. 15

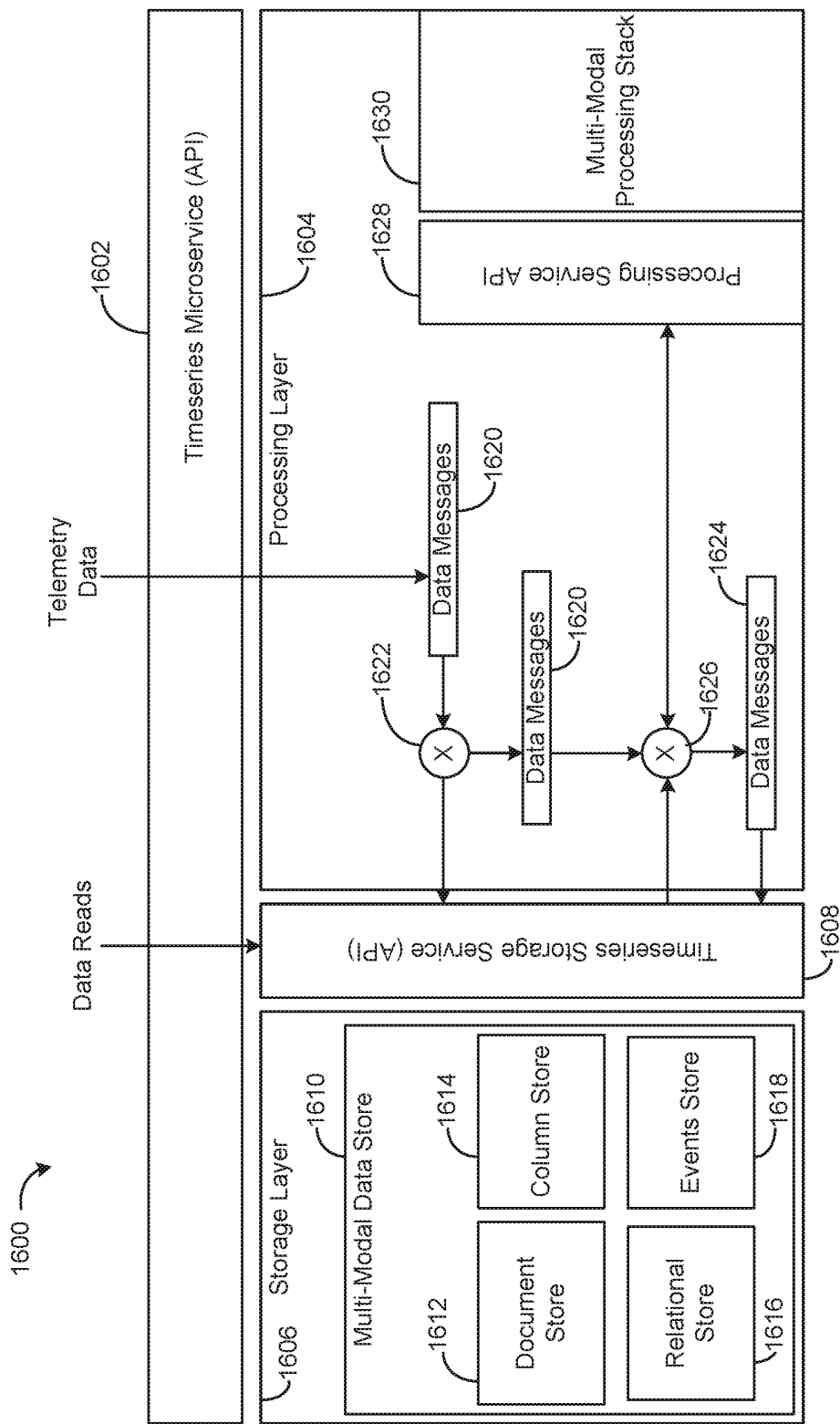


FIG. 16

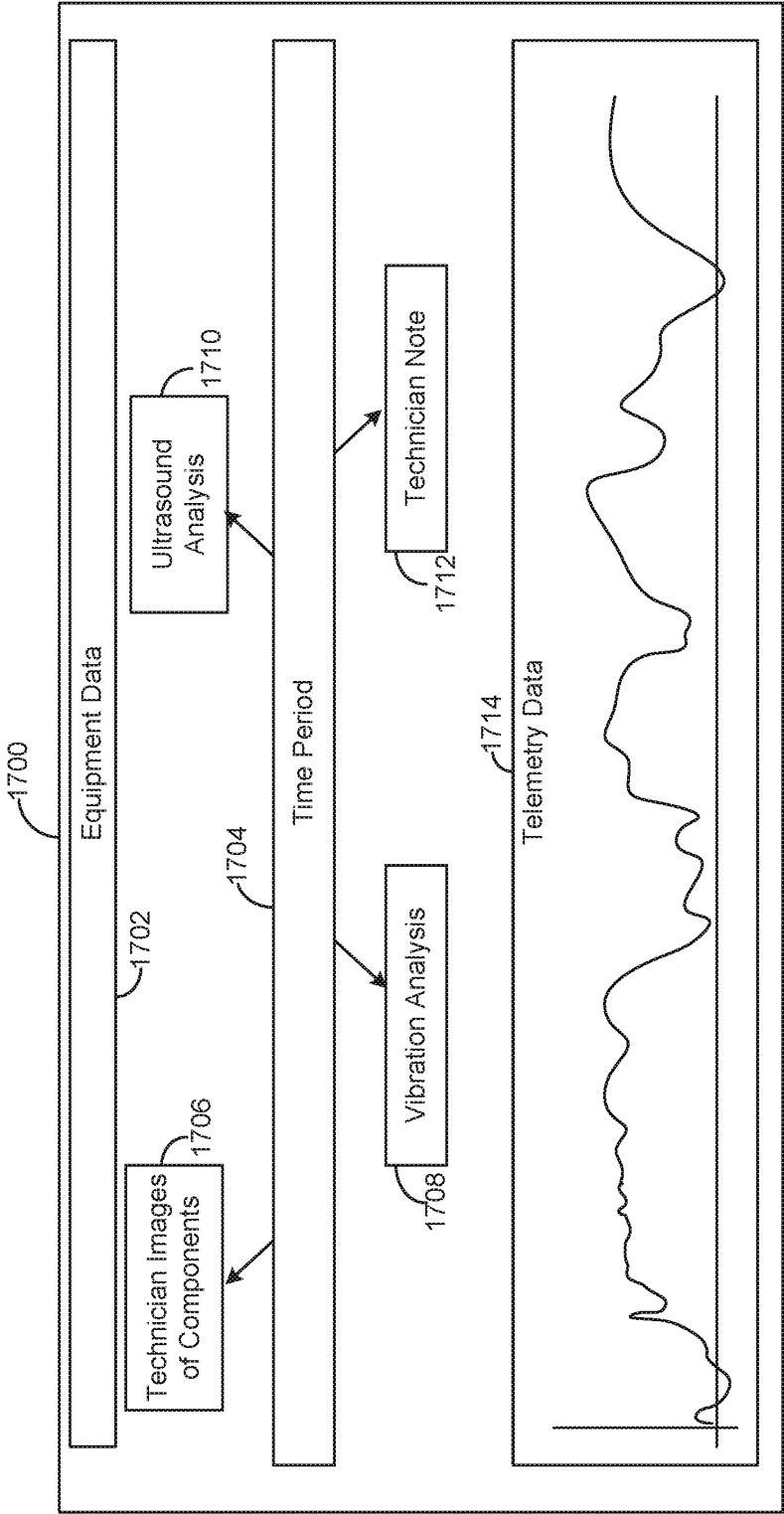


FIG. 17

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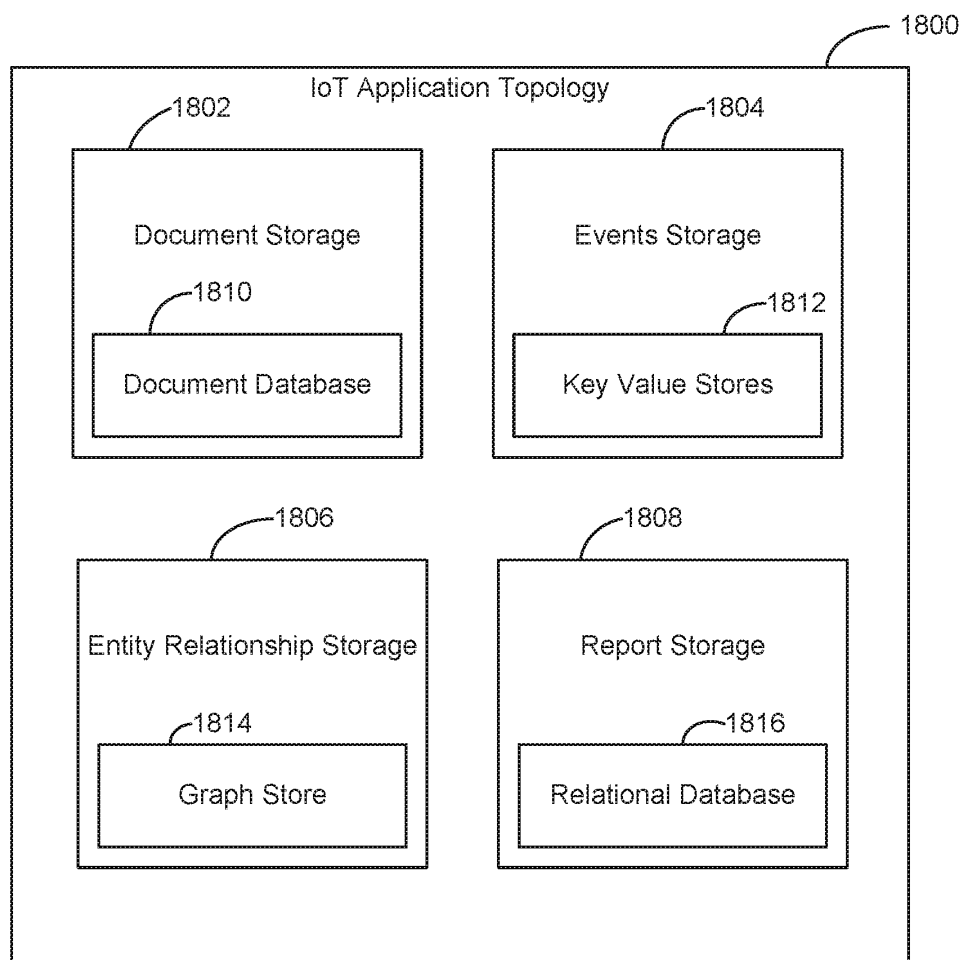


FIG. 18

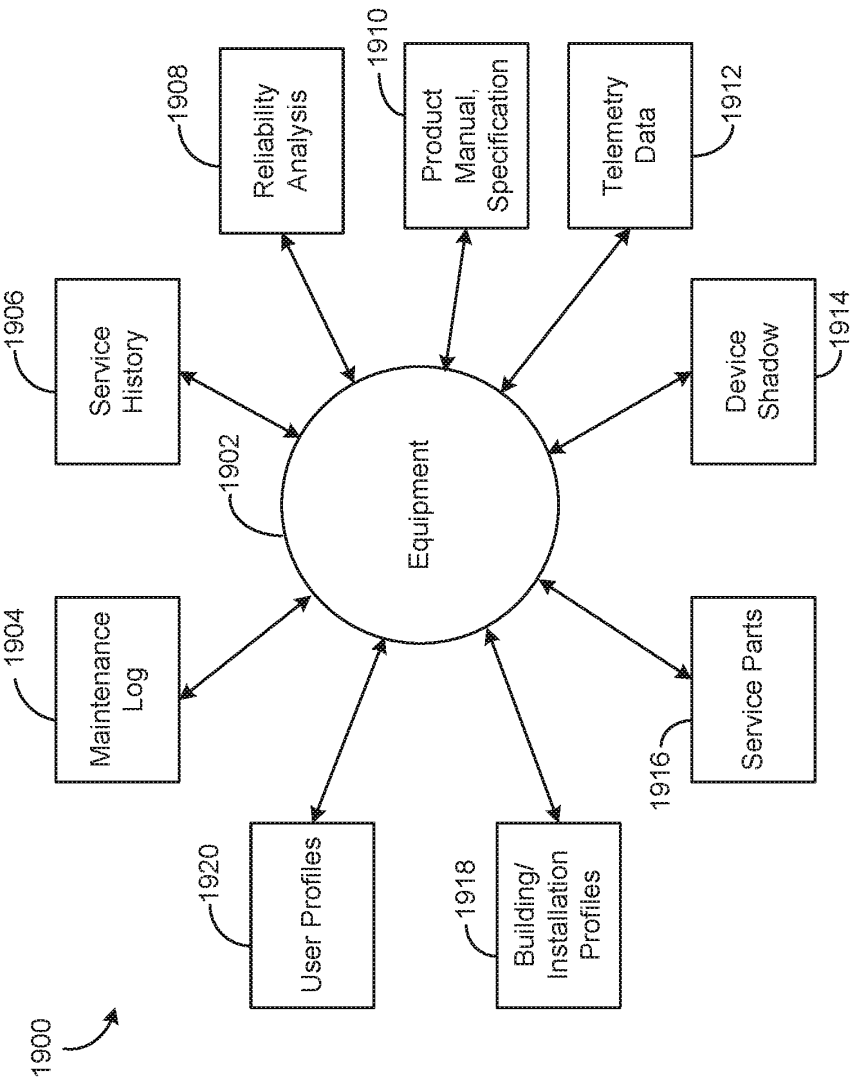


FIG. 19

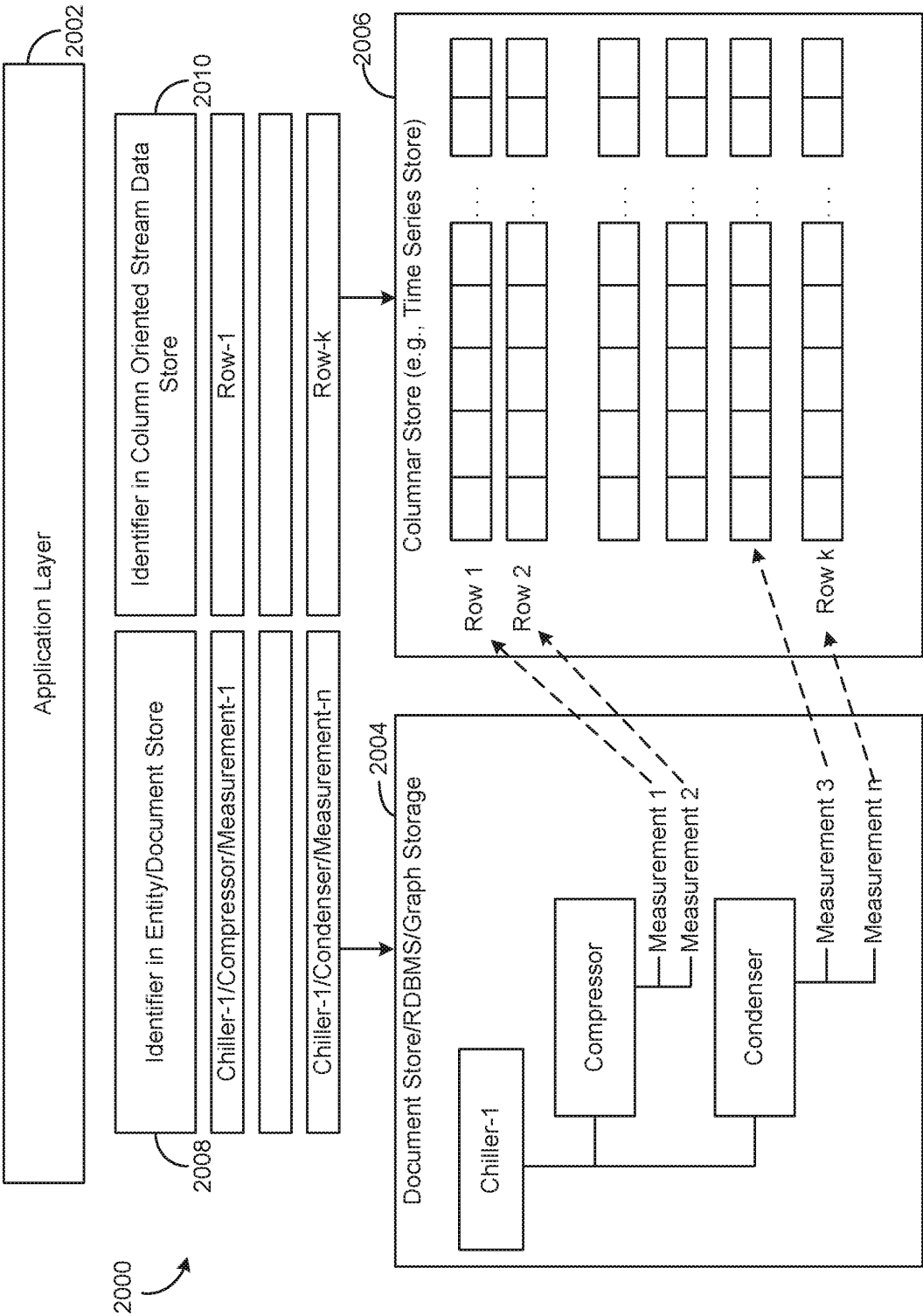


FIG. 20

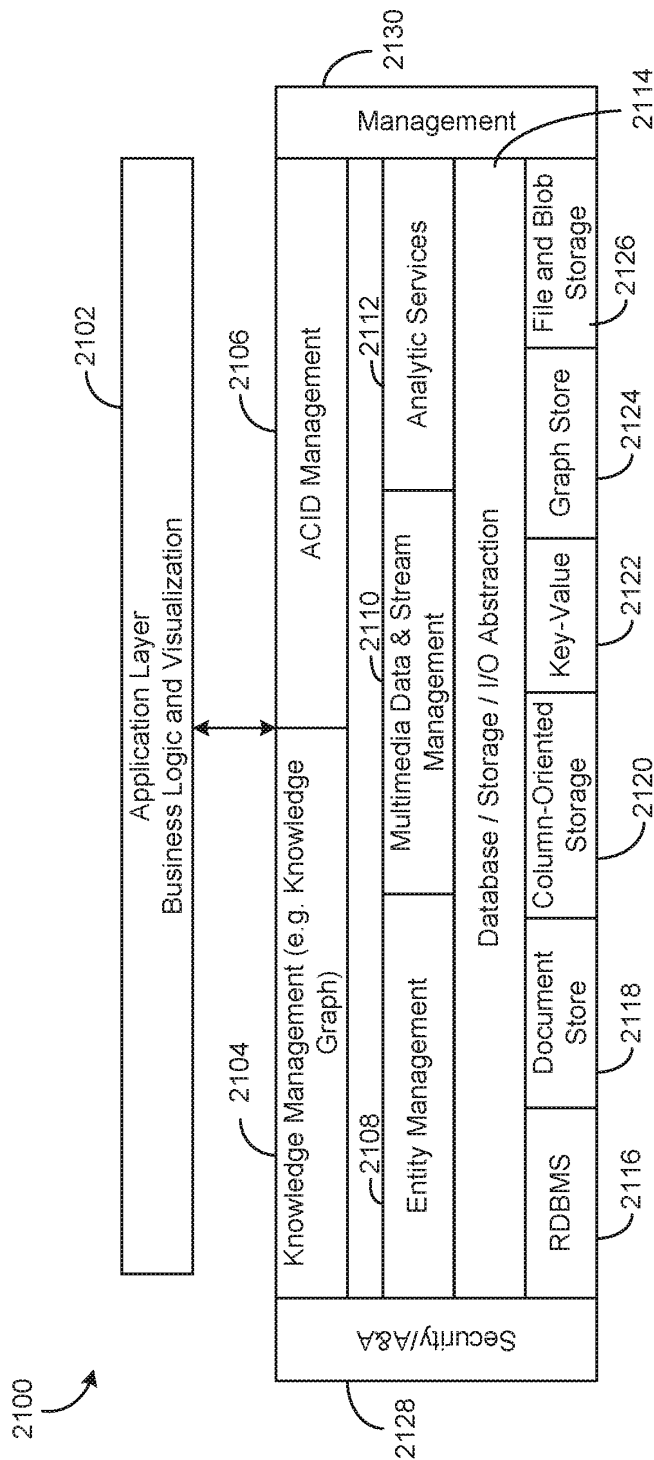


FIG. 21

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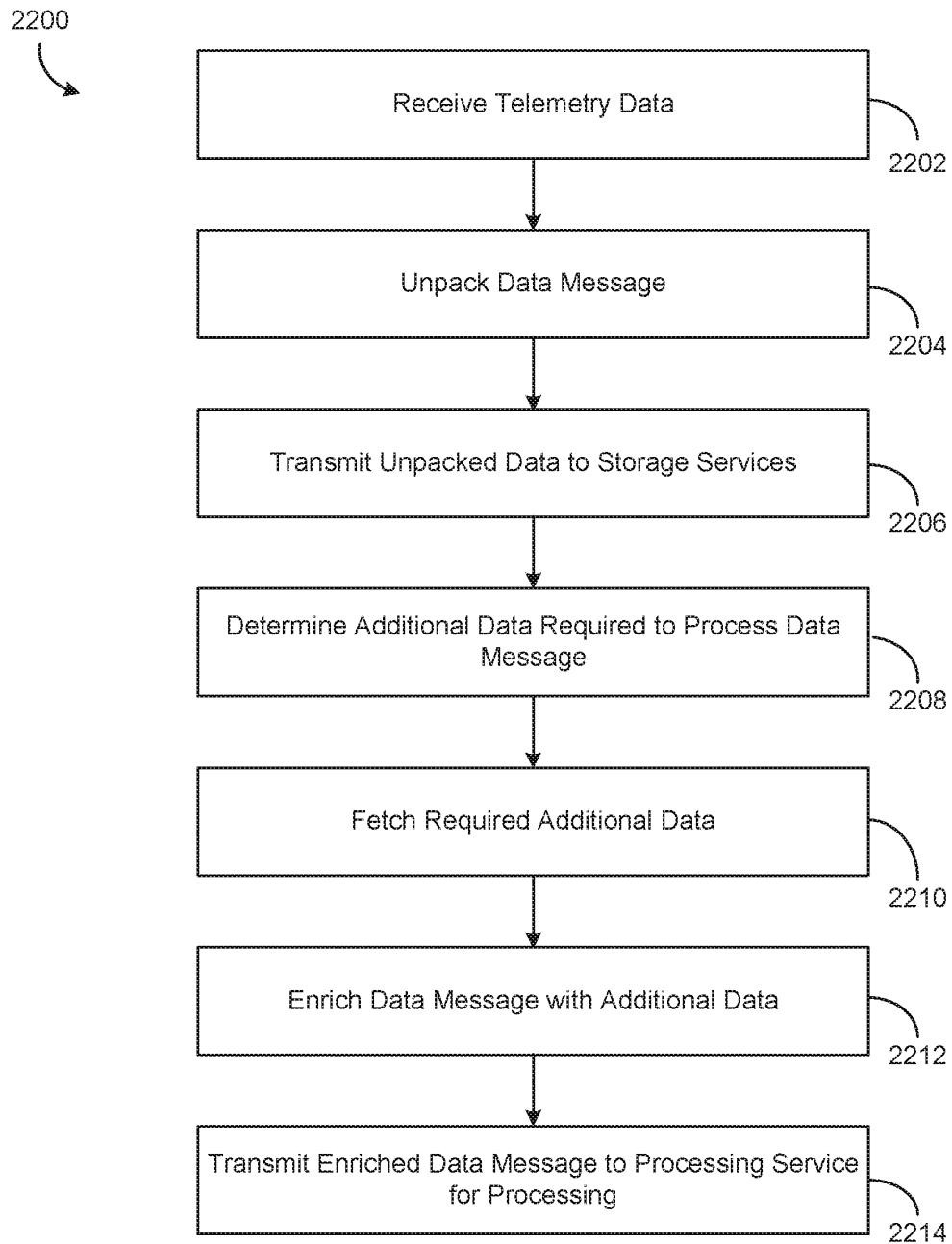


FIG. 22