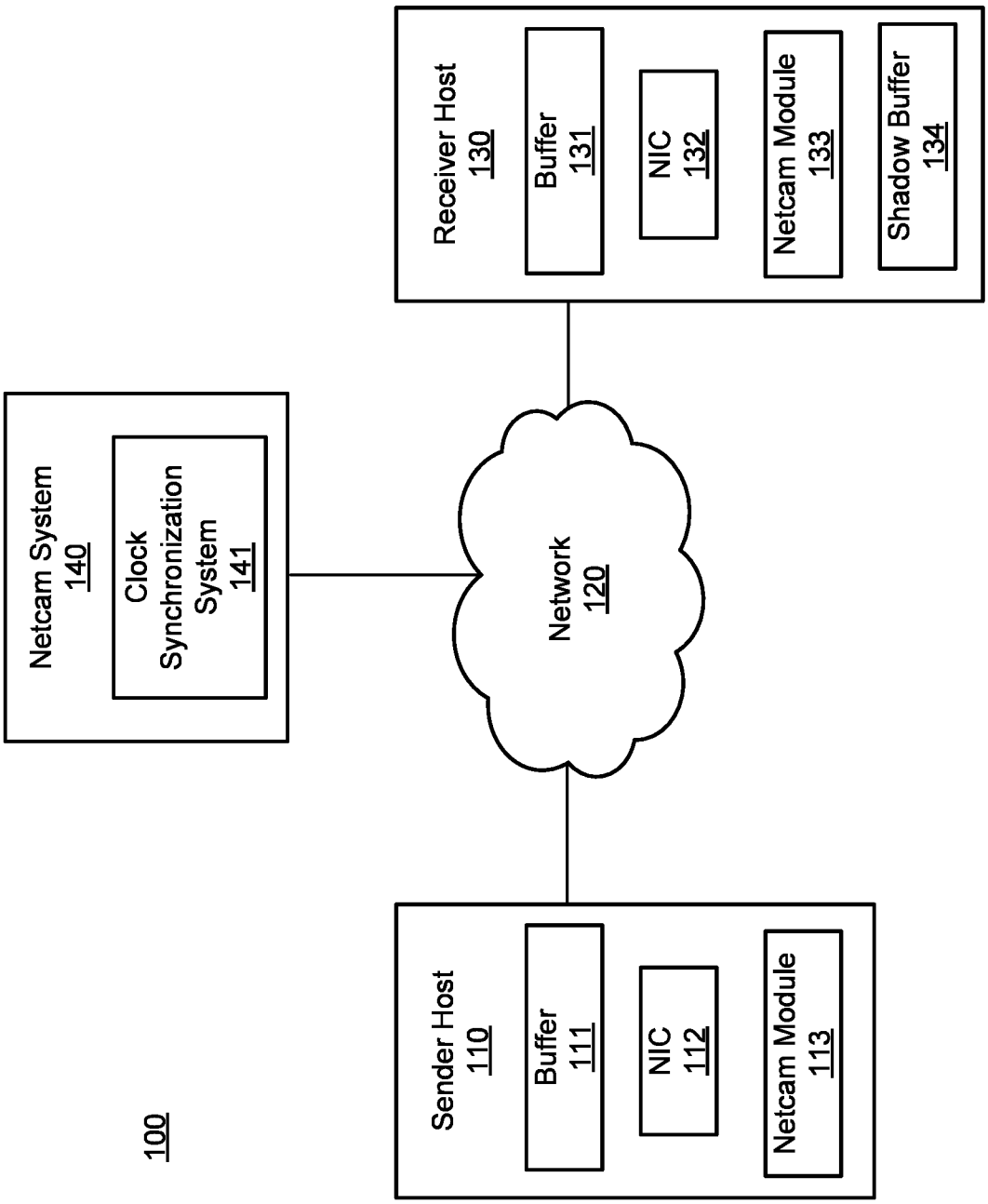

100
Sender Host
110
Buffer
111
NIC
112
Netcam Module
113
Network
120
Netcam System
140
Clock Synchronization System
141
Receiver Host
130
Buffer
131
NIC
132
Netcam Module
133
Shadow Buffer
134

FIG. 1

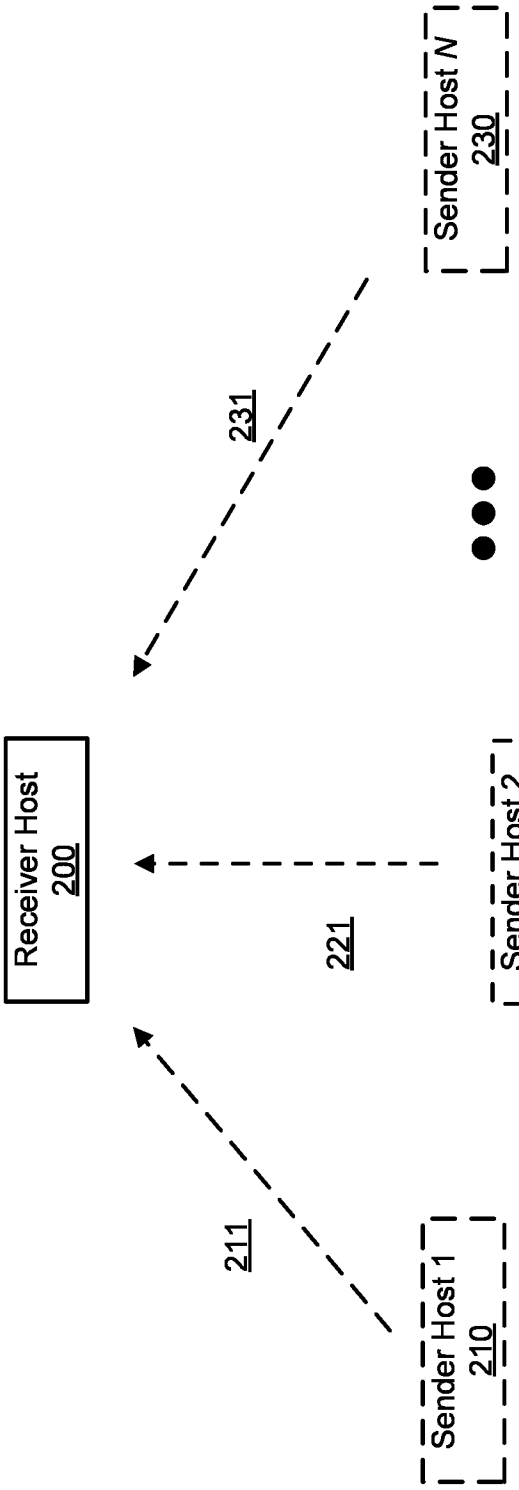

Receiver Host
200
Sender Host 1
210
Sender Host 2
220
Sender Host N
230
211
221
231

FIG. 2

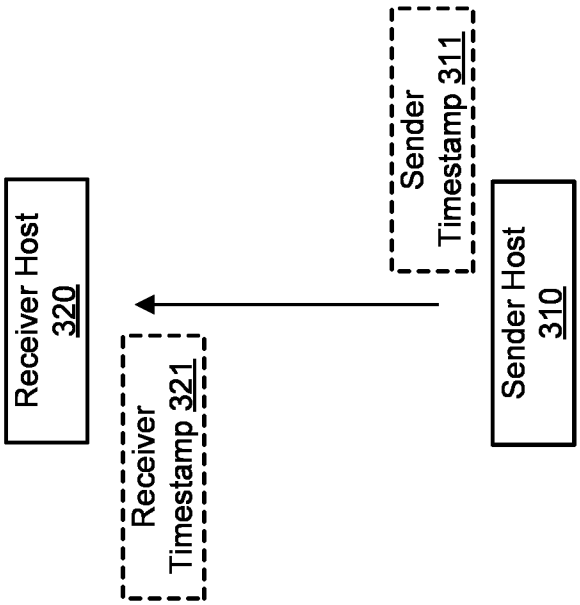

Receiver Host
320
Receiver
Timestamp 321
Sender
Timestamp 311
Sender Host
310

FIG. 3

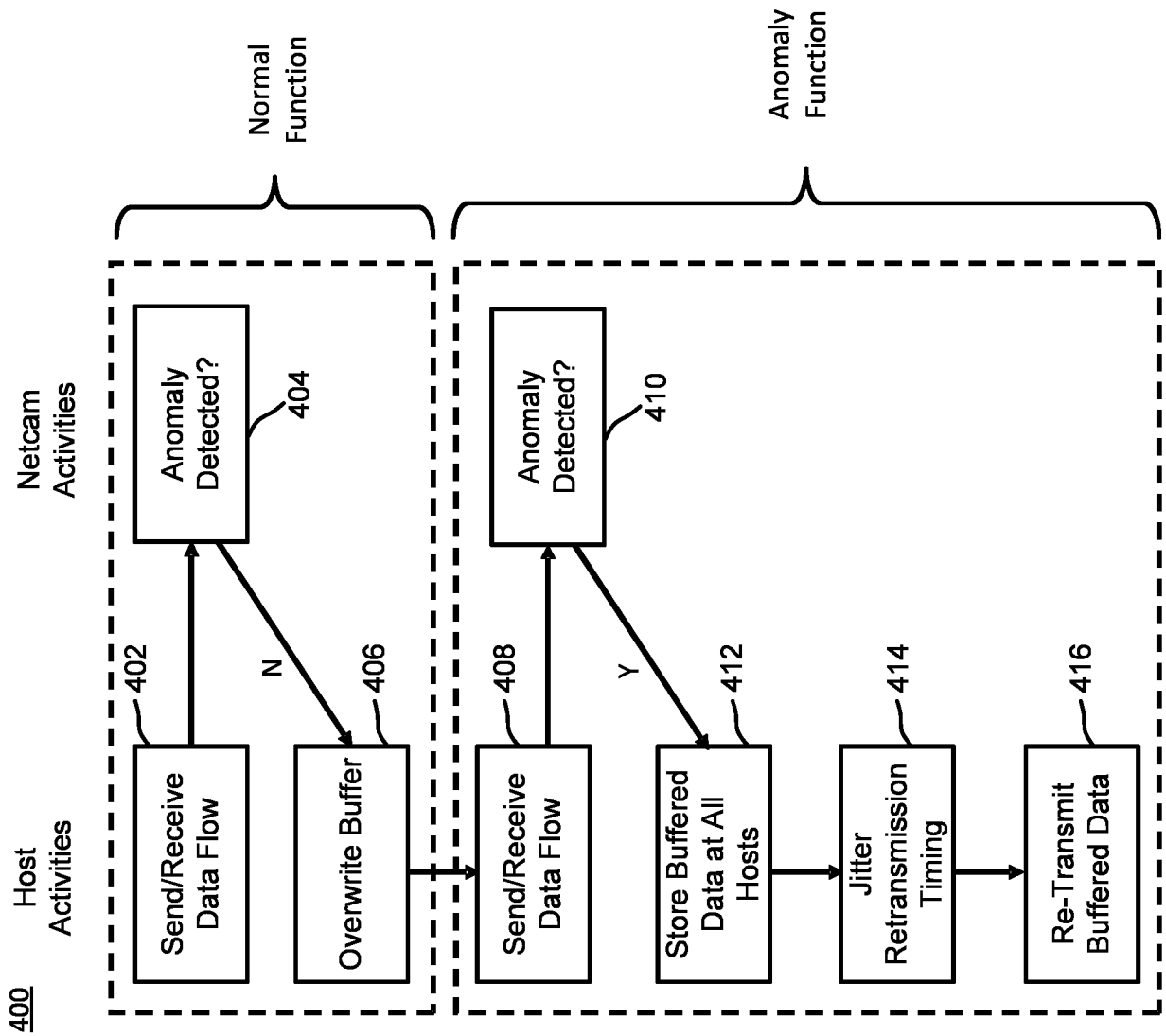

400
Host Activities
Netcam Activities
Normal Function
Anomaly Function
Send/Receive Data Flow
402
Anomaly Detected?
404
N
Overwrite Buffer
406
Send/Receive Data Flow
408
Anomaly Detected?
410
Y
Store Buffered Data at All Hosts
412
Jitter Retransmission Timing
414
Re-Transmit Buffered Data
416

FIG. 4

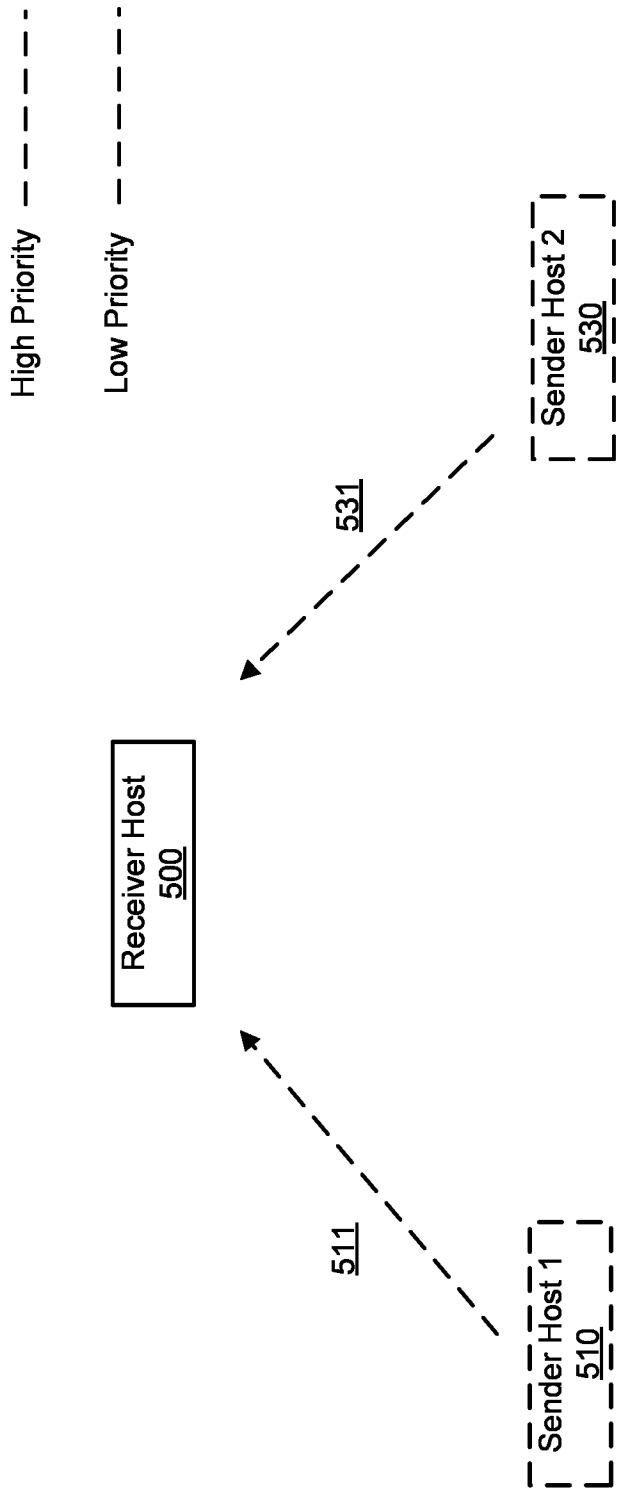

High Priority
Low Priority
Sender Host 2
530
531
Receiver Host
500
511
Sender Host 1
510

FIG. 5

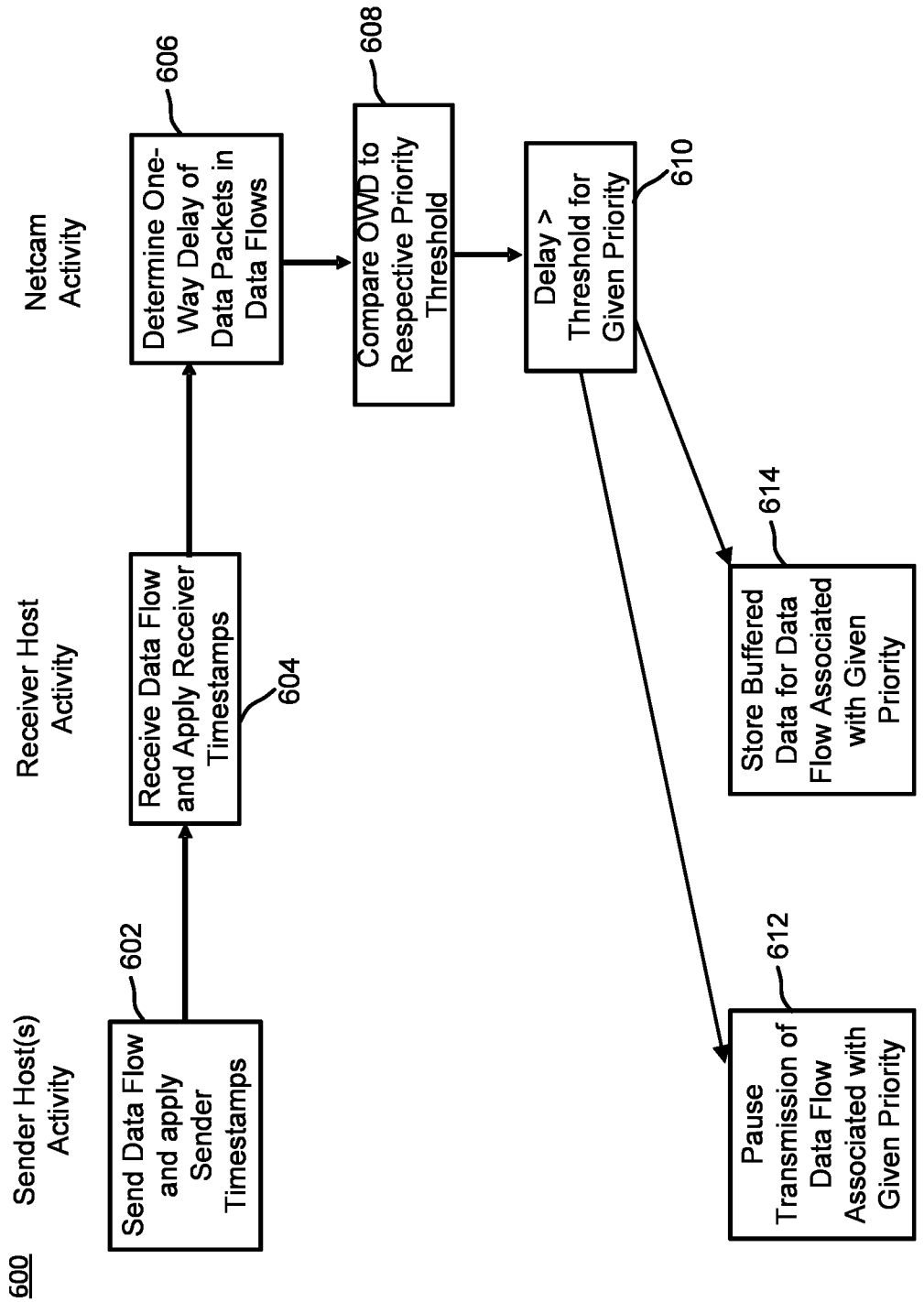

600
Sender Host(s) Activity
Receiver Host Activity
Netcam Activity
Send Data Flow and apply Sender Timestamps
602
Receive Data Flow and Apply Receiver Timestamps
604
Determine One-Way Delay of Data Packets in Data Flows
606
Compare OWD to Respective Priority Threshold
608
Delay > Threshold for Given Priority
610
Pause Transmission of Data Flow Associated with Given Priority
612
Store Buffered Data for Data Flow Associated with Given Priority
614

FIG. 6

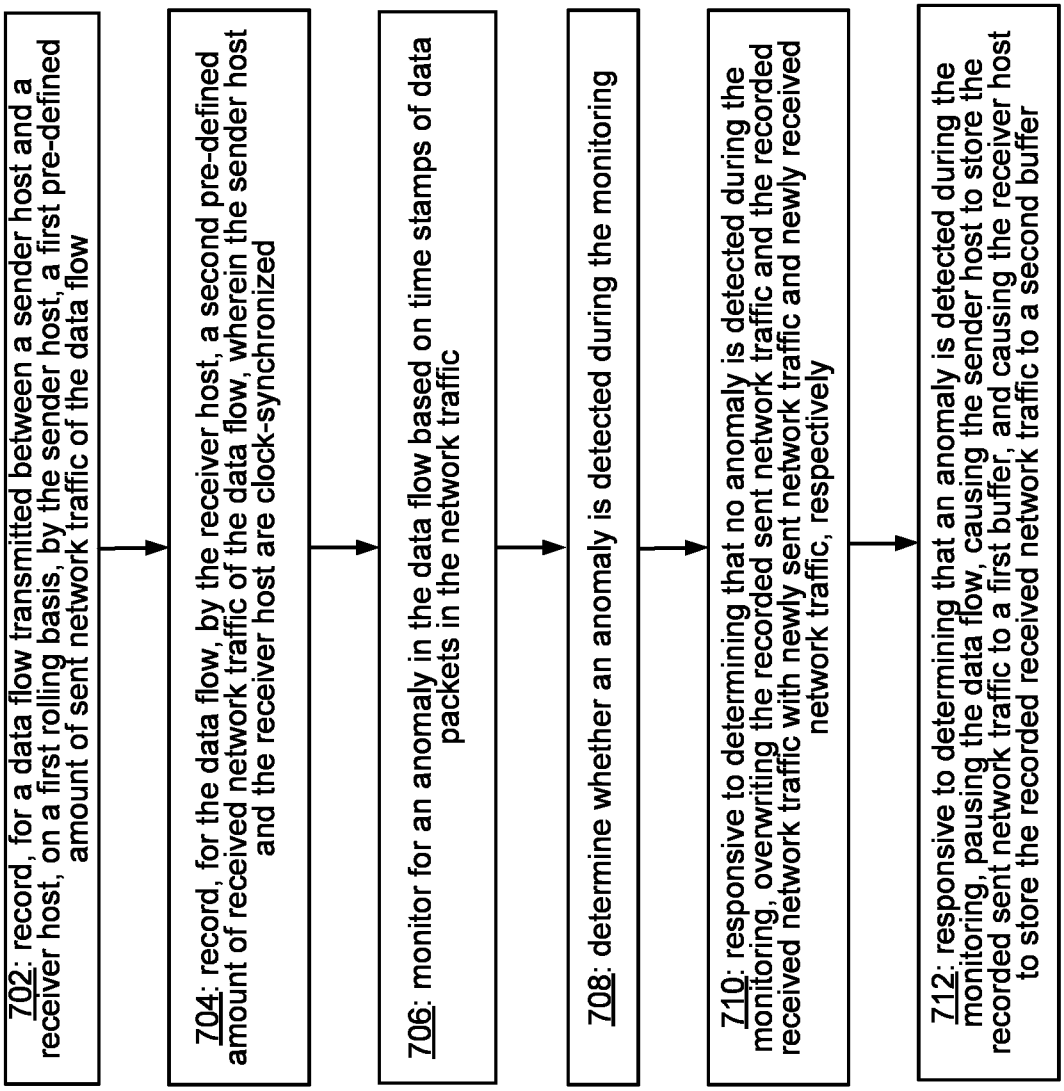

700:
702: record, for a data flow transmitted between a sender host and a receiver host, on a first rolling basis, by the sender host, a first pre-defined amount of sent network traffic of the data flow
704: record, for the data flow, by the receiver host, a second pre-defined amount of received network traffic of the data flow, wherein the sender host and the receiver host are clock-synchronized
706: monitor for an anomaly in the data flow based on time stamps of data packets in the network traffic
708: determine whether an anomaly is detected during the monitoring
710: responsive to determining that no anomaly is detected during the monitoring, overwriting the recorded sent network traffic and the recorded received network traffic with newly sent network traffic and newly received network traffic, respectively
712: responsive to determining that an anomaly is detected during the monitoring, pausing the data flow, causing the sender host to store the recorded sent network traffic to a first buffer, and causing the receiver host to store the recorded received network traffic to a second buffer

FIG. 7

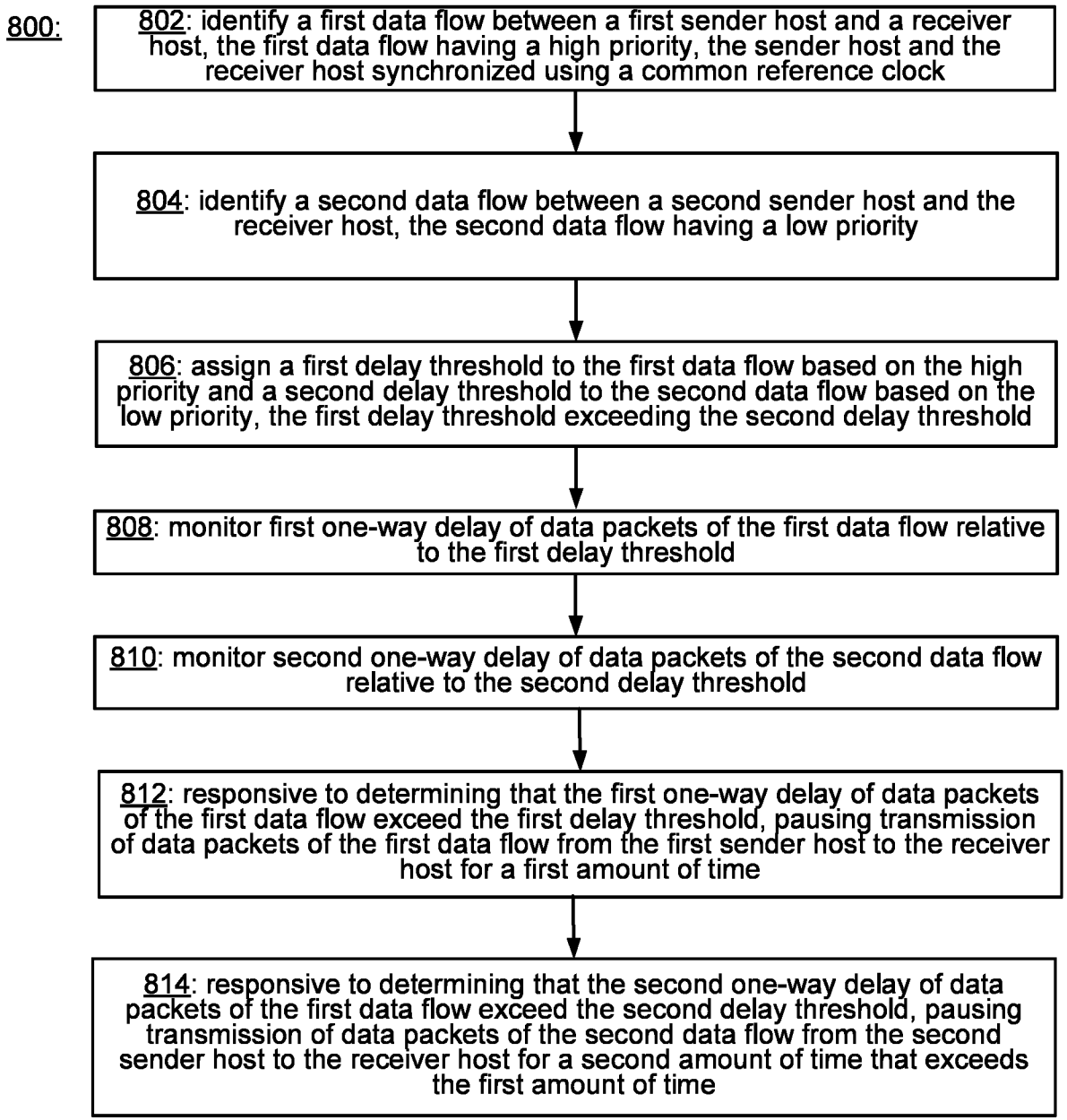

800:
802: identify a first data flow between a first sender host and a receiver host, the first data flow having a high priority, the sender host and the receiver host synchronized using a common reference clock
804: identify a second data flow between a second sender host and the receiver host, the second data flow having a low priority
806: assign a first delay threshold to the first data flow based on the high priority and a second delay threshold to the second data flow based on the low priority, the first delay threshold exceeding the second delay threshold
808: monitor first one-way delay of data packets of the first data flow relative to the first delay threshold
810: monitor second one-way delay of data packets of the second data flow relative to the second delay threshold
812: responsive to determining that the first one-way delay of data packets of the first data flow exceed the first delay threshold, pausing transmission of data packets of the first data flow from the first sender host to the receiver host for a first amount of time
814: responsive to determining that the second one-way delay of data packets of the first data flow exceed the second delay threshold, pausing transmission of data packets of the second data flow from the second sender host to the receiver host for a second amount of time that exceeds the first amount of time

FIG. 8

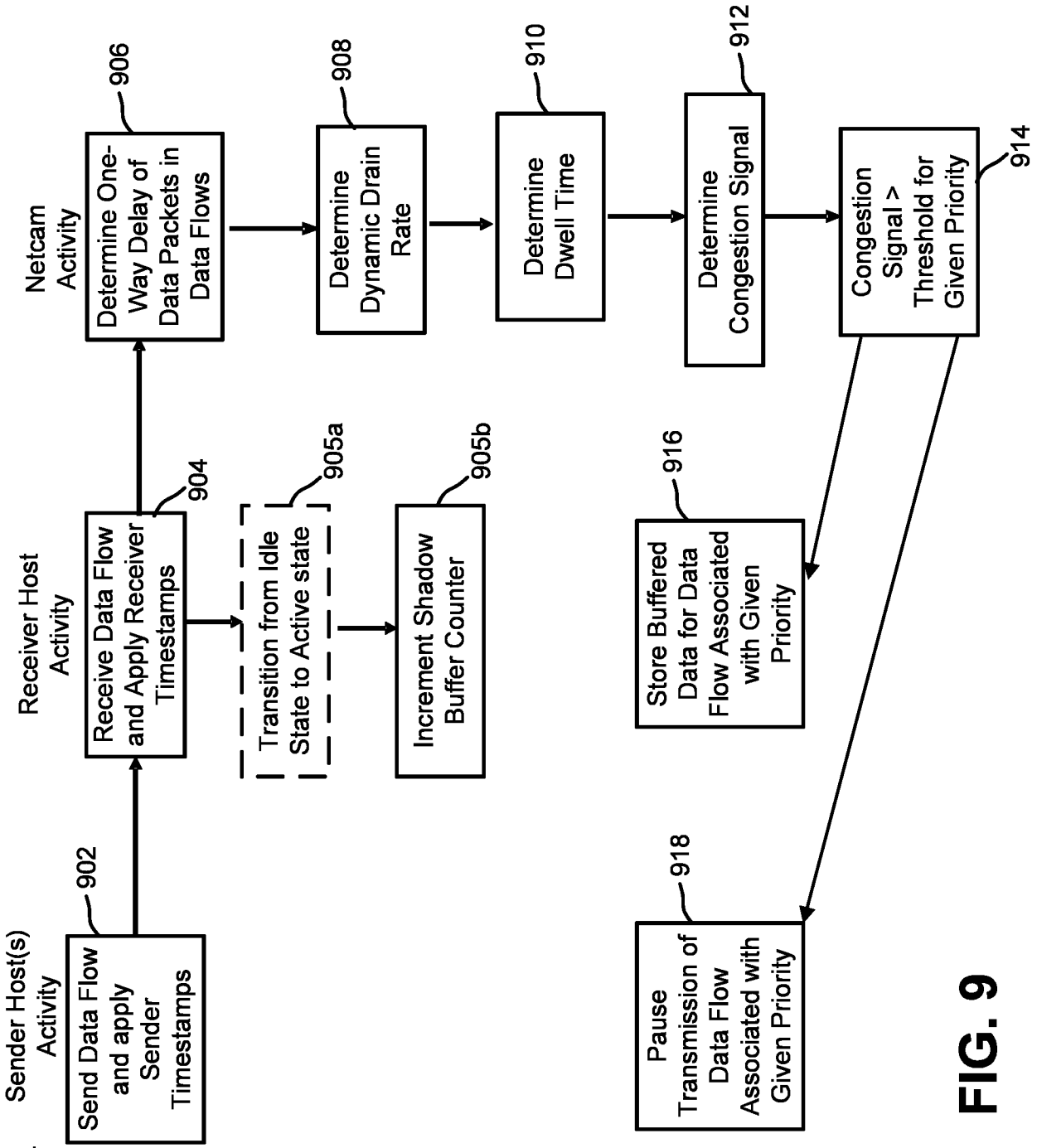

900
Sender Host(s) Activity
Send Data Flow and apply Sender Timestamps
902
Receiver Host Activity
Receive Data Flow and Apply Receiver Timestamps
904
Transition from Idle State to Active state
905a
Increment Shadow Buffer Counter
905b
Netcam Activity
Determine One-Way Delay of Data Packets in Data Flows
906
Determine Dynamic Drain Rate
908
Determine Dwell Time
910
Determine Congestion Signal
912
Congestion Signal > Threshold for Given Priority
914
Store Buffered Data for Data Flow Associated with Given Priority
916
Pause Transmission of Data Flow Associated with Given Priority
918

FIG. 9

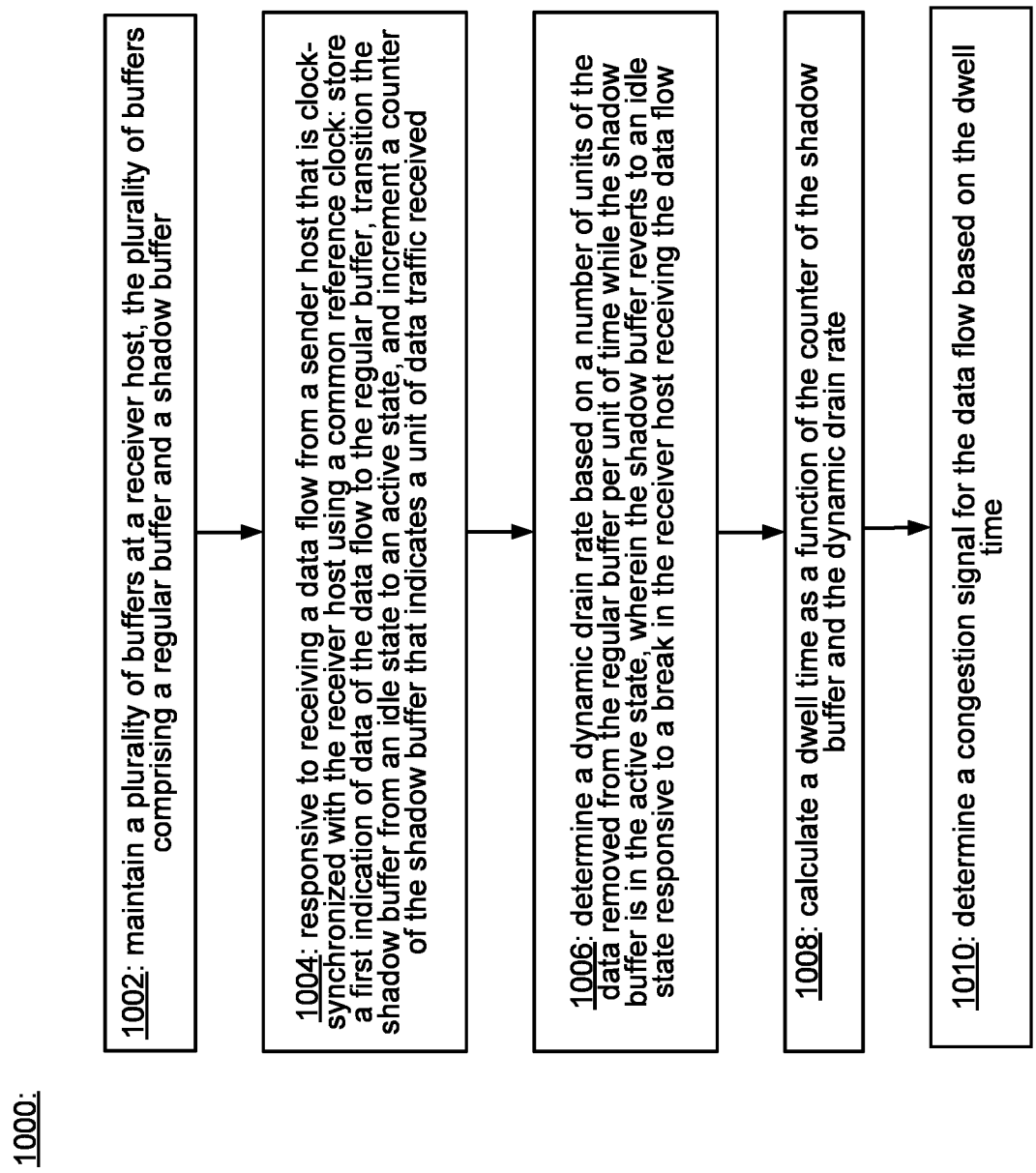

1000:
1002: maintain a plurality of buffers at a receiver host, the plurality of buffers comprising a regular buffer and a shadow buffer
1004: responsive to receiving a data flow from a sender host that is clock-synchronized with the receiver host using a common reference clock: store a first indication of data of the data flow to the regular buffer, transition the shadow buffer from an idle state to an active state, and increment a counter of the shadow buffer that indicates a unit of data traffic received
1006: determine a dynamic drain rate based on a number of units of the data removed from the regular buffer per unit of time while the shadow buffer is in the active state, wherein the shadow buffer reverts to an idle state responsive to a break in the receiver host receiving the data flow
1008: calculate a dwell time as a function of the counter of the shadow buffer and the dynamic drain rate
1010: determine a congestion signal for the data flow based on the dwell time

FIG. 10