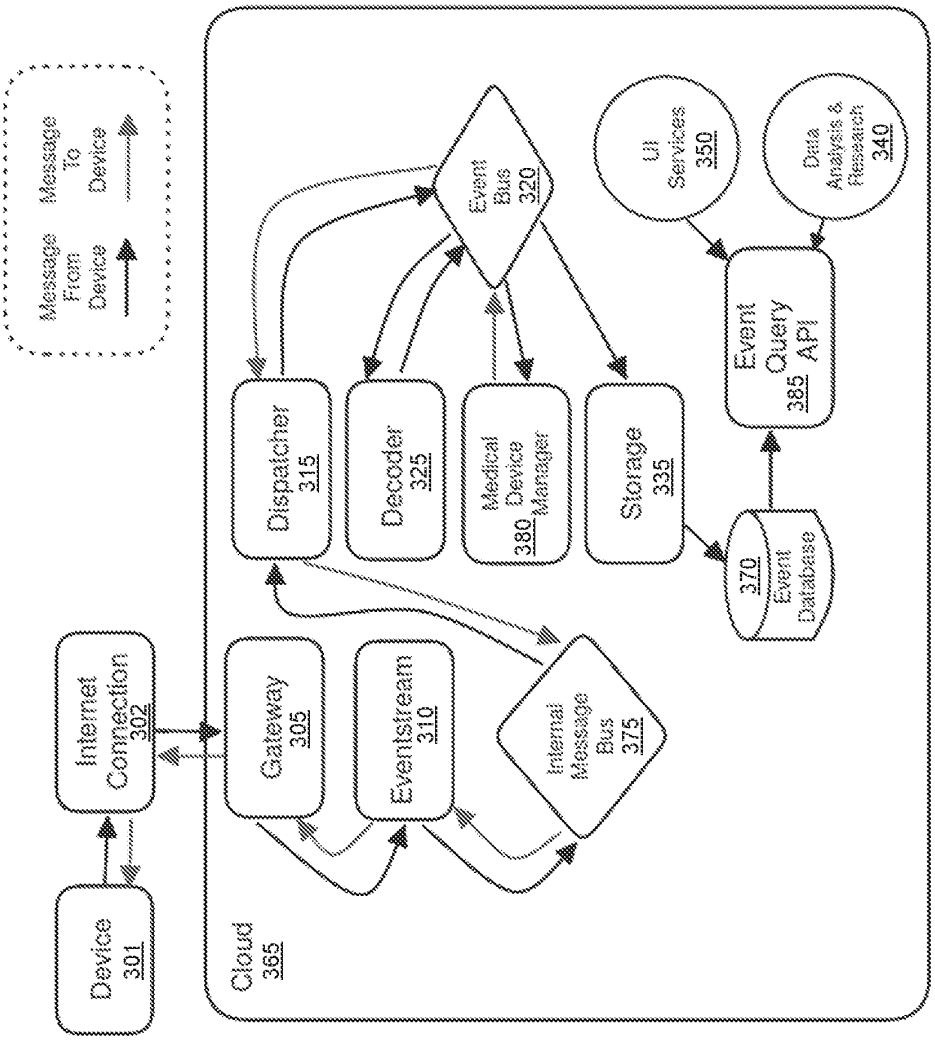

Message From Device
Message To Device
Device 301
Internet Connection 302
Cloud 365
Gateway 305
Eventstream 310
Internal Message Bus 375
Dispatcher 315
Decoder 325
Event Bus 320
Medical Device Manager 380
Storage 335
370 Event Database
Event Query API 385
UI Services 350
Data Analysis & Research 340

300

FIG. 1

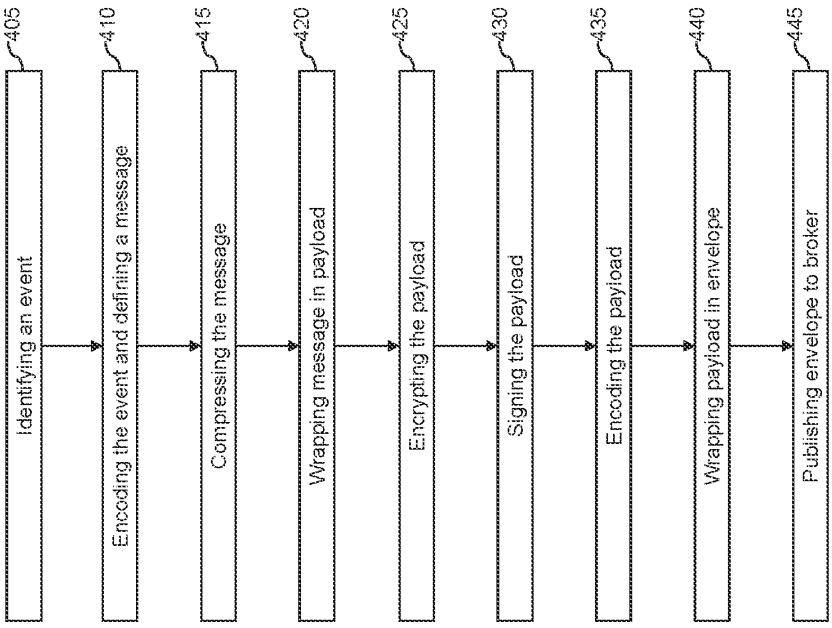

405
Identifying an event
410
Encoding the event and defining a message
415
Compressing the message
420
Wrapping message in payload
425
Encrypting the payload
430
Signing the payload
435
Encoding the payload
440
Wrapping payload in envelope
445
Publishing envelope to broker
400

FIG. 2

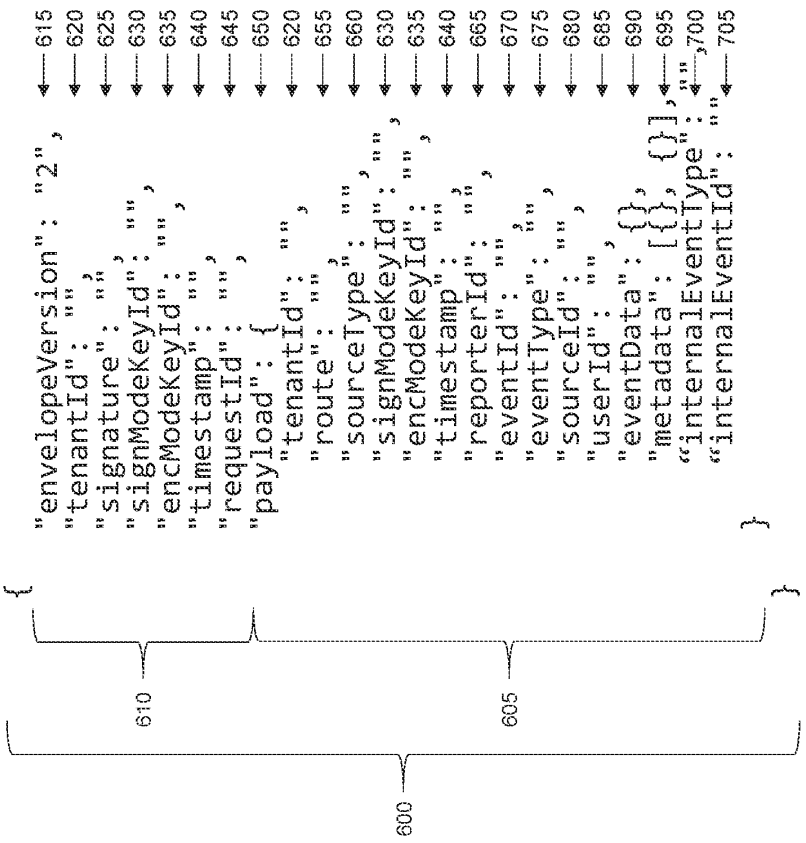

{
"envelopeVersion": "2",
"tenantId": "",
"signature": "",
"signModeKeyId": "",
"encModeKeyId": "",
"timestamp": "",
"requestId": "",
"payload": {
"tenantId": "",
"route": "",
"sourceType": "",
"signModeKeyId": "",
"encModeKeyId": "",
"timestamp": "",
"reporterId": "",
"eventId": "",
"eventType": "",
"sourceId": "",
"userId": "",
"eventData": {},
"metadata": [{}, {}],
"internalEventType": "",
"internalEventId": ""
}
}
610
605
600
615
620
625
630
635
640
645
650
620
655
660
630
635
640
665
670
675
680
685
690
695
700
705

FIG. 3

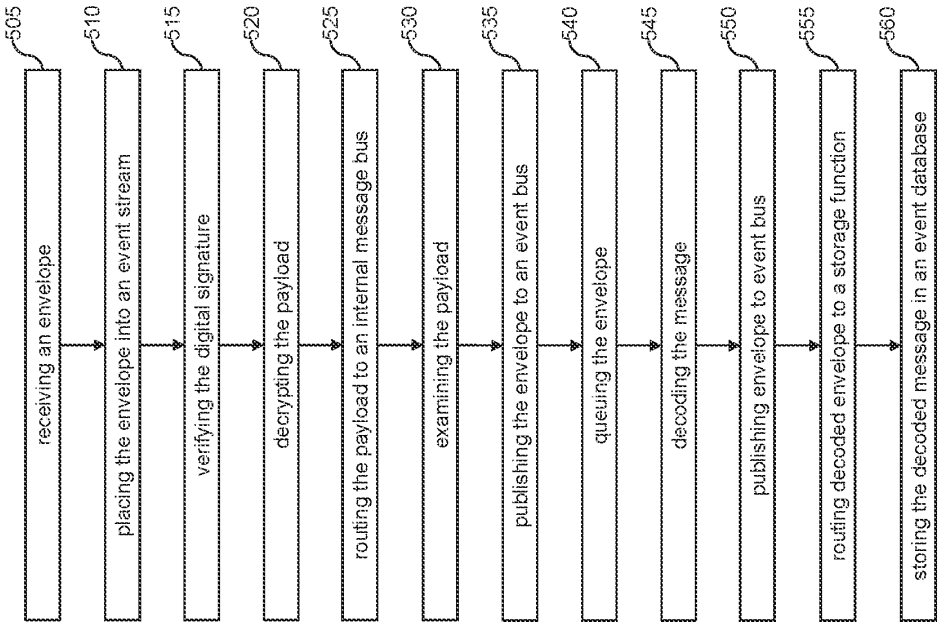

500
505
receiving an envelope
510
placing the envelope into an event stream
515
verifying the digital signature
520
decrypting the payload
525
routing the payload to an internal message bus
530
examining the payload
535
publishing the envelope to an event bus
540
queuing the envelope
545
decoding the message
550
publishing envelope to event bus
555
routing decoded envelope to a storage function
560
storing the decoded message in an event database

FIG. 4