Figure 1

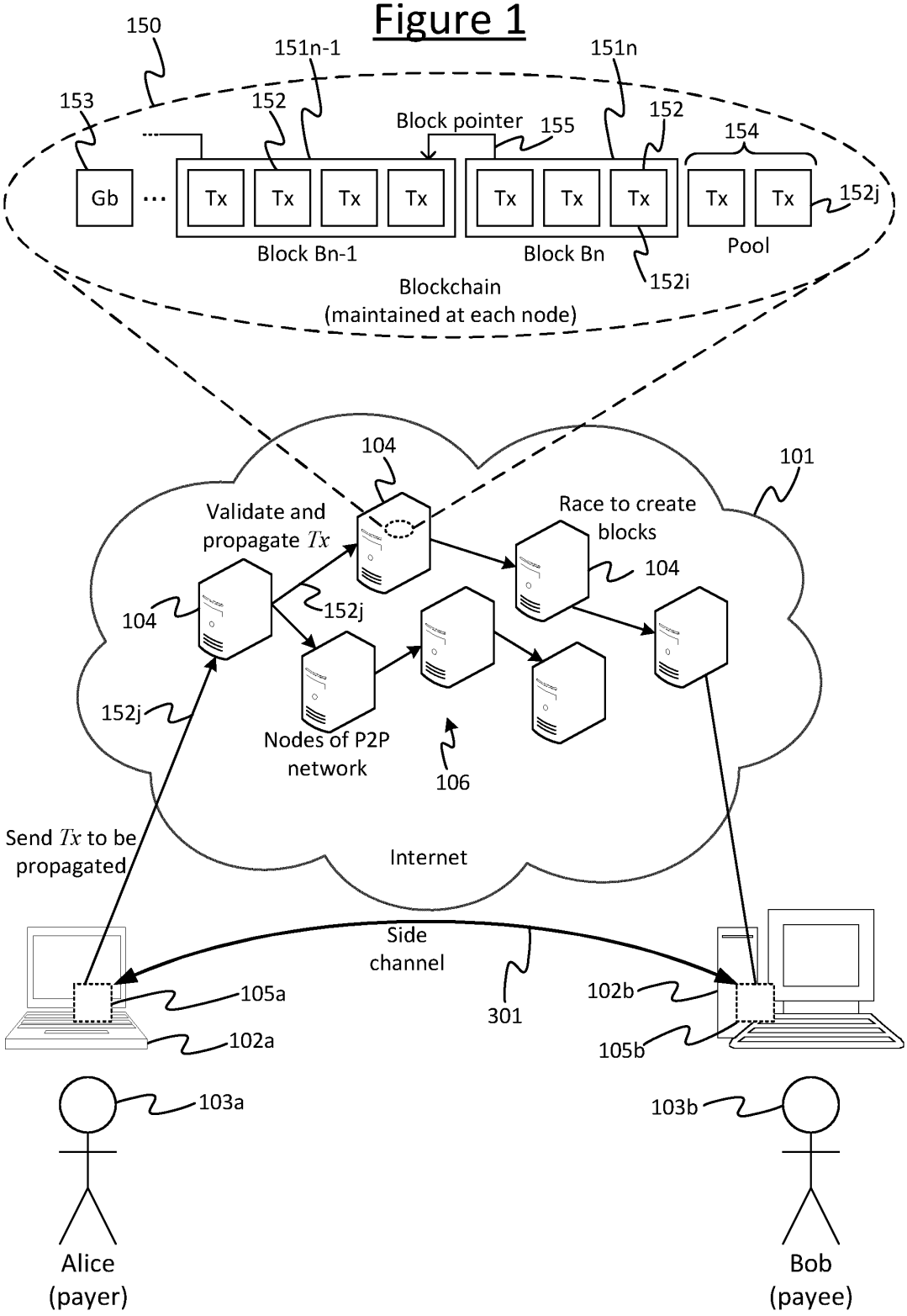
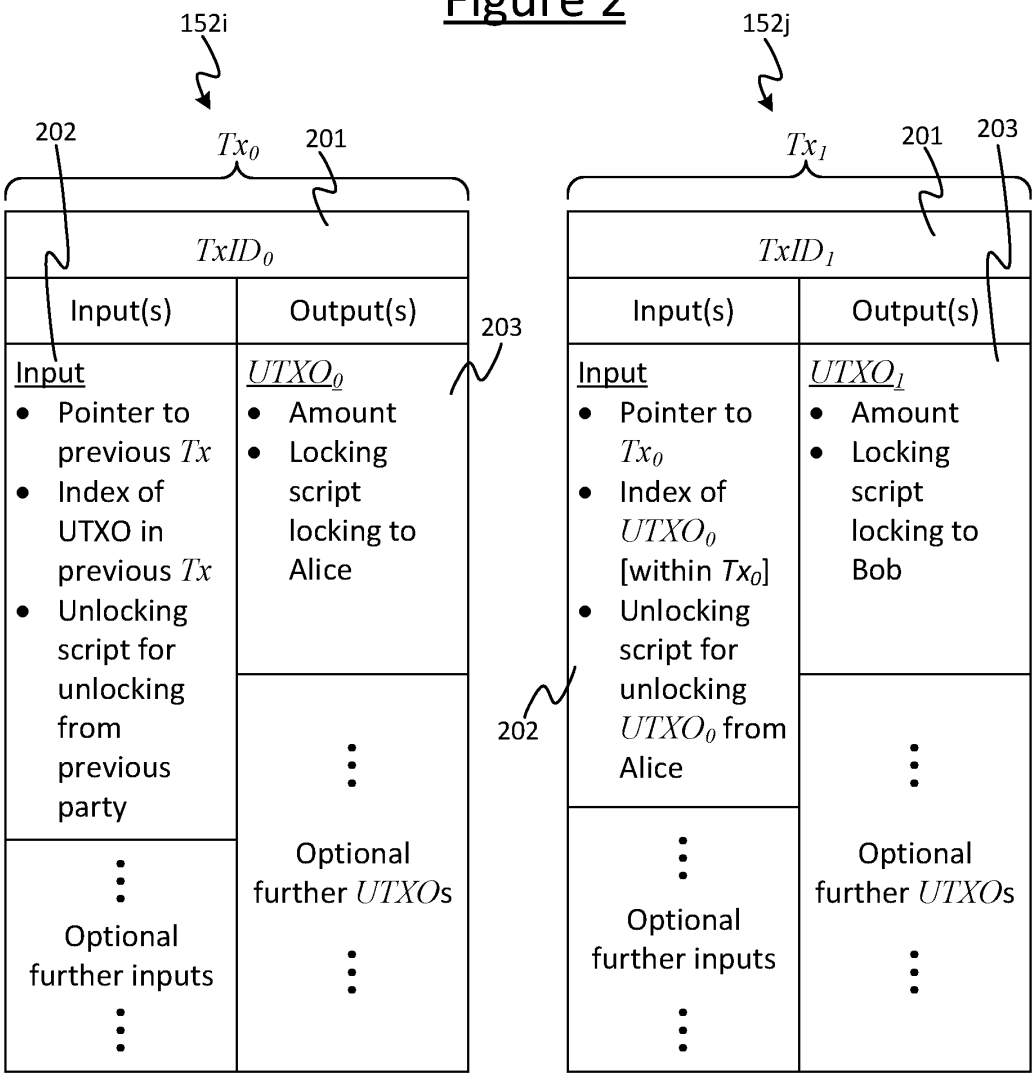

150
151n-1
151n
153
152
Block pointer
155
152
154
Gb
Tx
Tx
Tx
Tx
Tx
Tx
Tx
Tx
Tx
152j
Block Bn-1
Block Bn
Pool
152i
Blockchain
(maintained at each node)
104
101
Validate and
propagate Tx
Race to create
blocks
104
104
152j
152j
Nodes of P2P
network
106
Internet
Send Tx to be
propagated
Side
channel
301
105a
102a
102b
105b
103a
103b
Alice
(payer)
Bob
(payee)

Figure 2



Transaction from Alice to Bob

Validated by running: Alice's locking script (from output of Tx_0), together with Bob's unlocking script (as input to Tx_1). This checks that Bob's unlocking script in Tx_1 meets the condition(s) defined in Alice's locking script in Tx_0.

Figure 3A

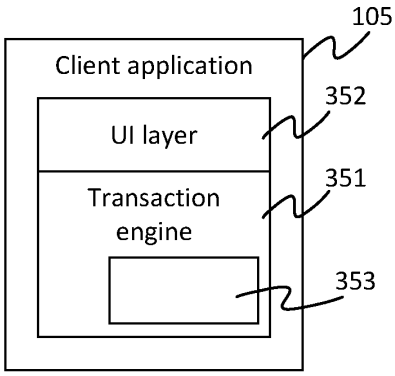


Figure 3B

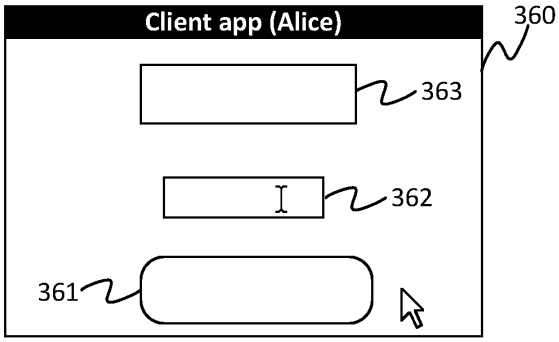


Figure 4

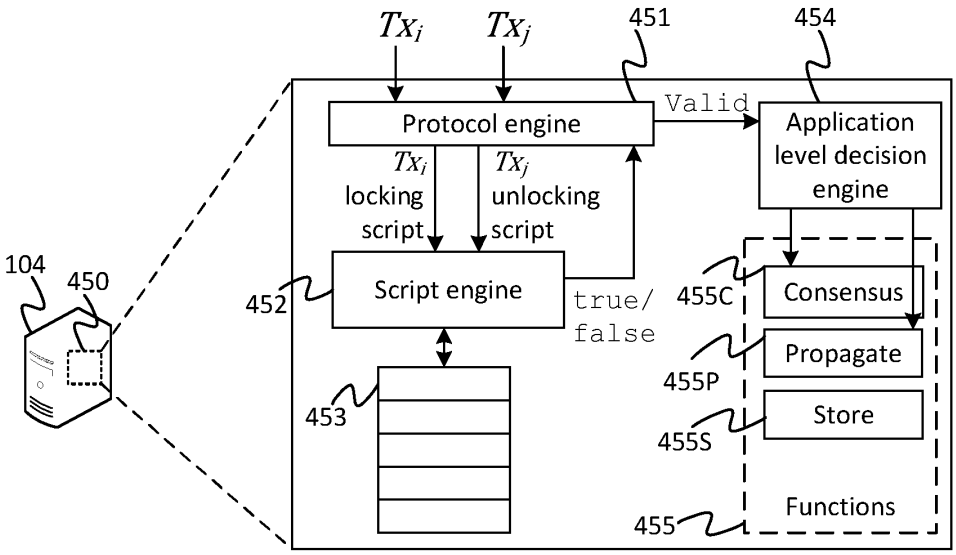

Tx_i
Tx_j
451
454
Protocol engine
Valid
Application level decision engine
Tx_i locking script
Tx_j unlocking script
104
450
452
Script engine
true/ false
455C
Consensus
Propagate
455P
Store
455S
453
Functions
455

Figure 5

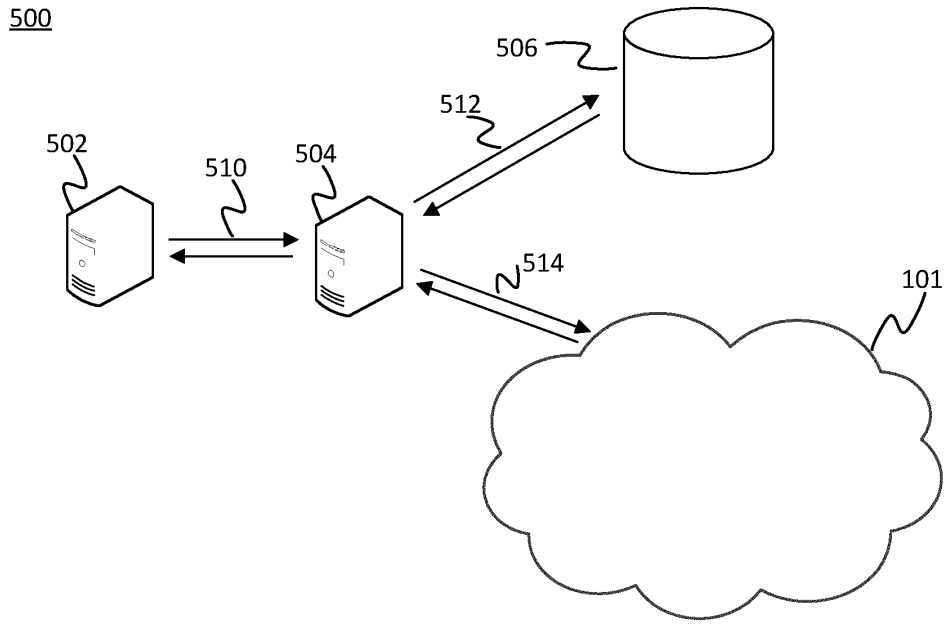
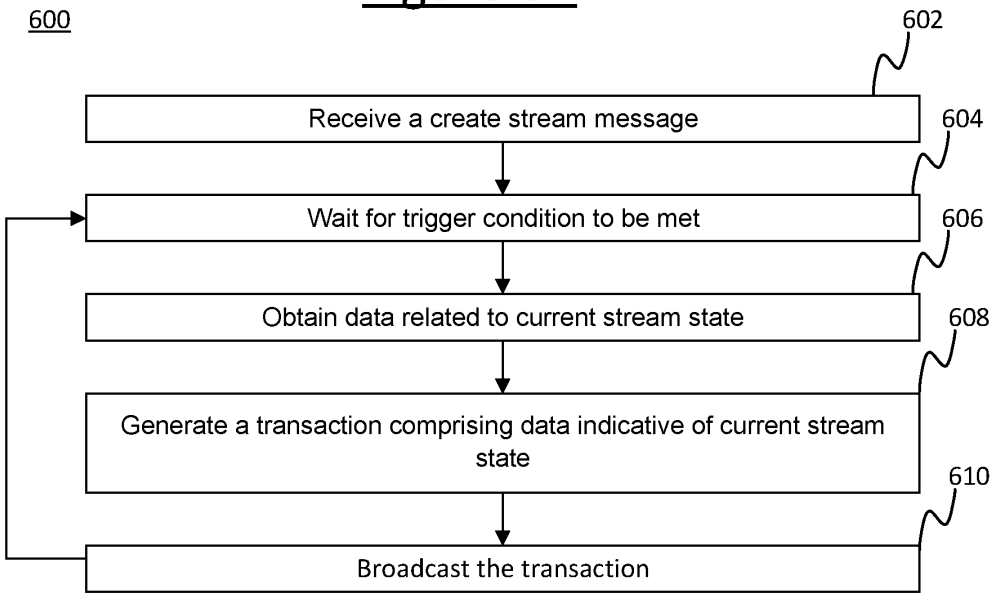


Figure 6A



612

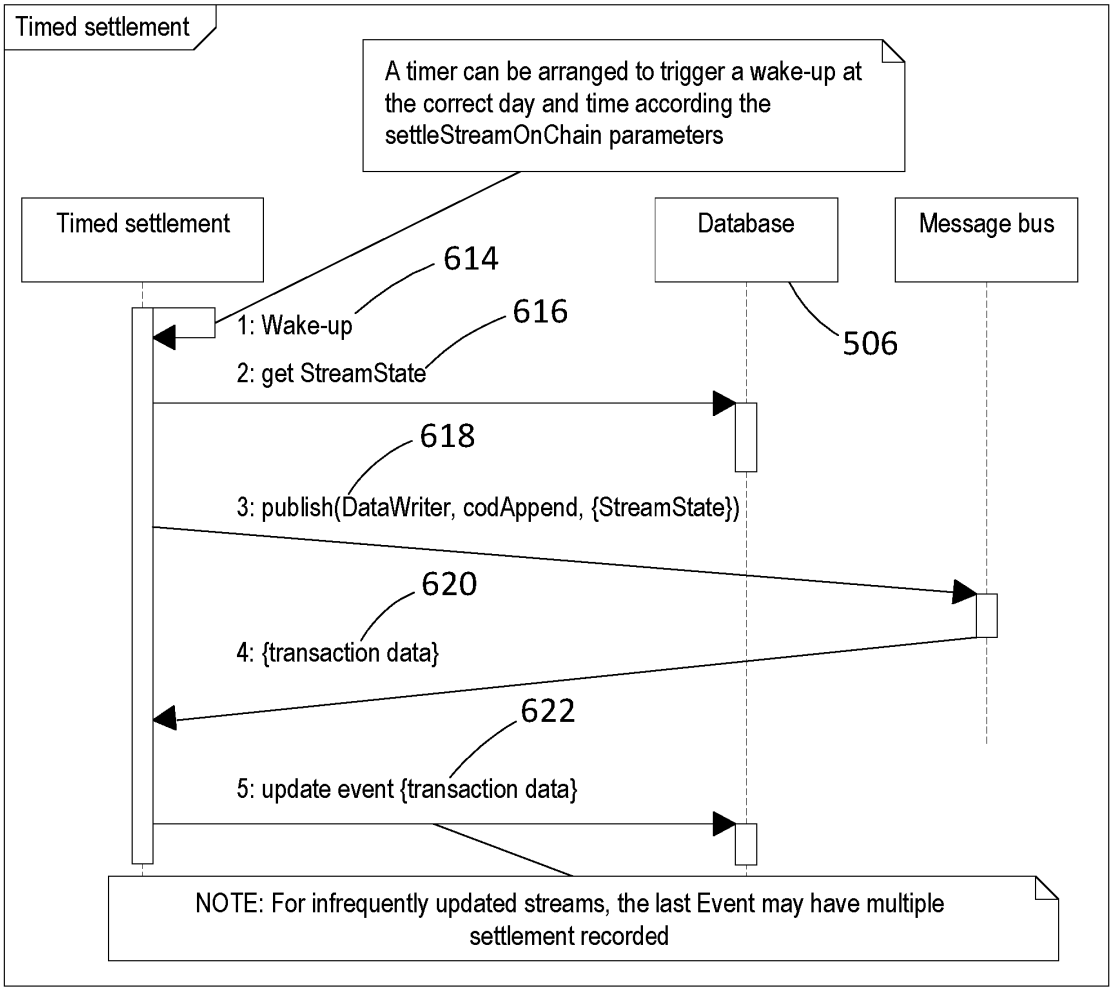


Figure 6B

Figure 7A

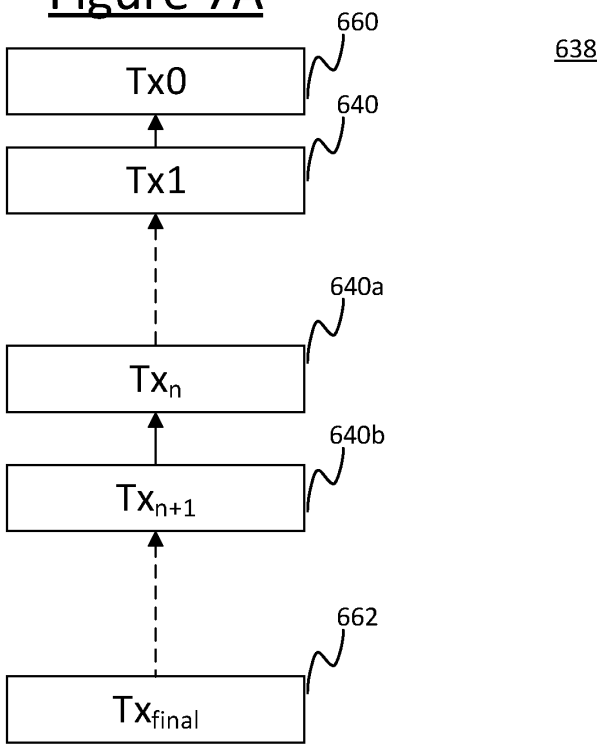


Figure 7B

640a

TxID$_n$ 648a	
Input(s)	Output(s)
646a Dust Input	644a Dust Output
	Payload$_n$ 642a
648a Funding Input(s)	Change 650a

640b

TxID$_{n+1}$ 648b	
Input(s)	Output(s)
646b Dust Input	644b Dust Output
	642b Payload$_{n+1}$
648b Funding Input(s)	Change 650b

Figure 7C

660

TxID$_0$ 648c	
Input(s)	Output(s)
648c Funding Input(s)	644c Dust Output
	664 Stream Metadata
	Change 650c

662

TxID$_{Finalise}$ 648d	
Input(s)	Output(s)
646d Dust Input	650d Change
648d Funding Input(s)	666 Stream Metadata

Figure 8

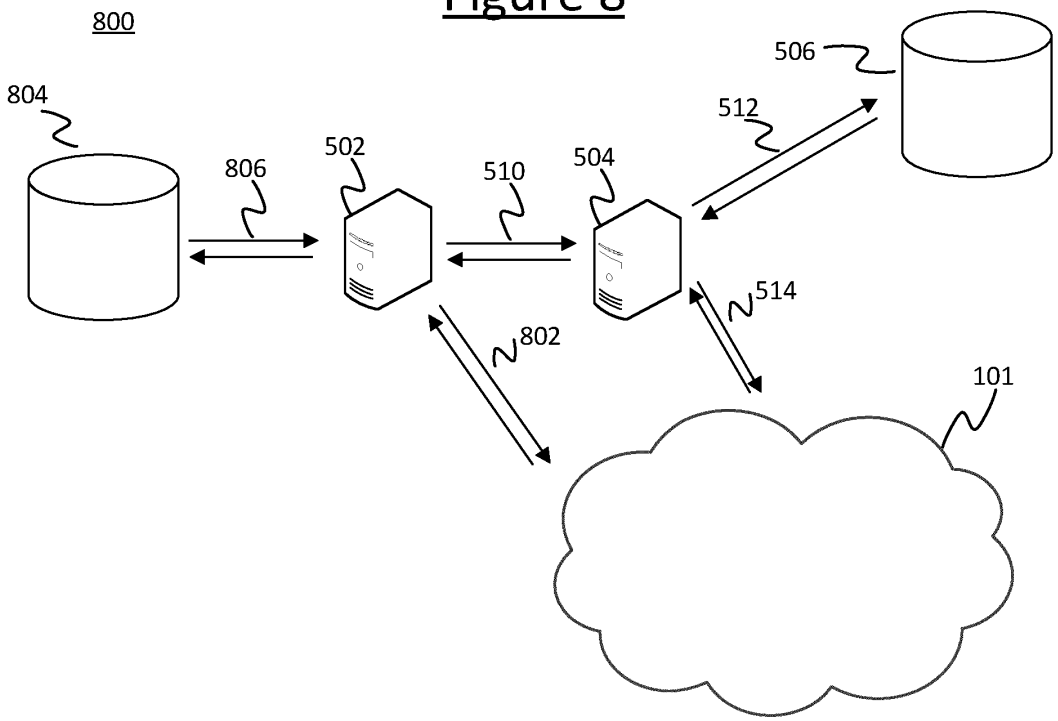


Figure 9

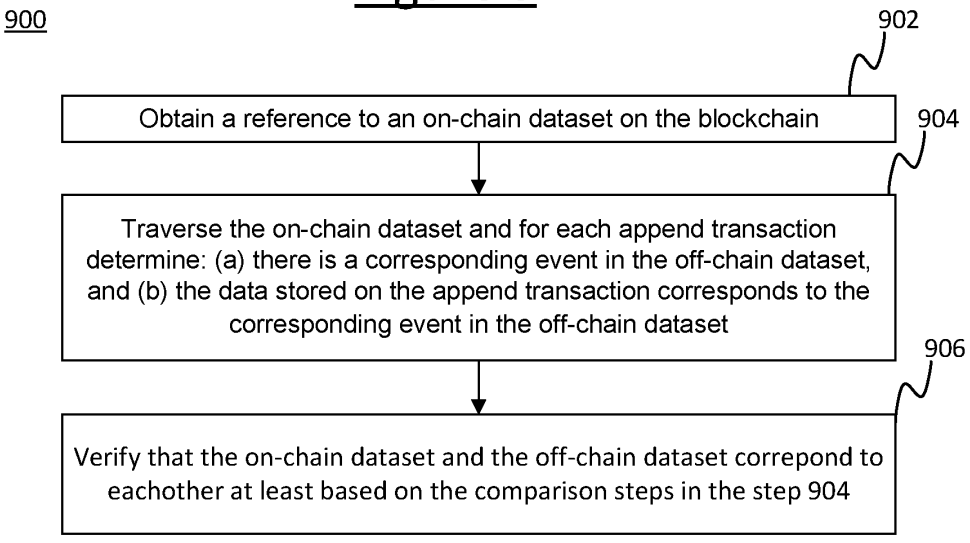


Figure 10

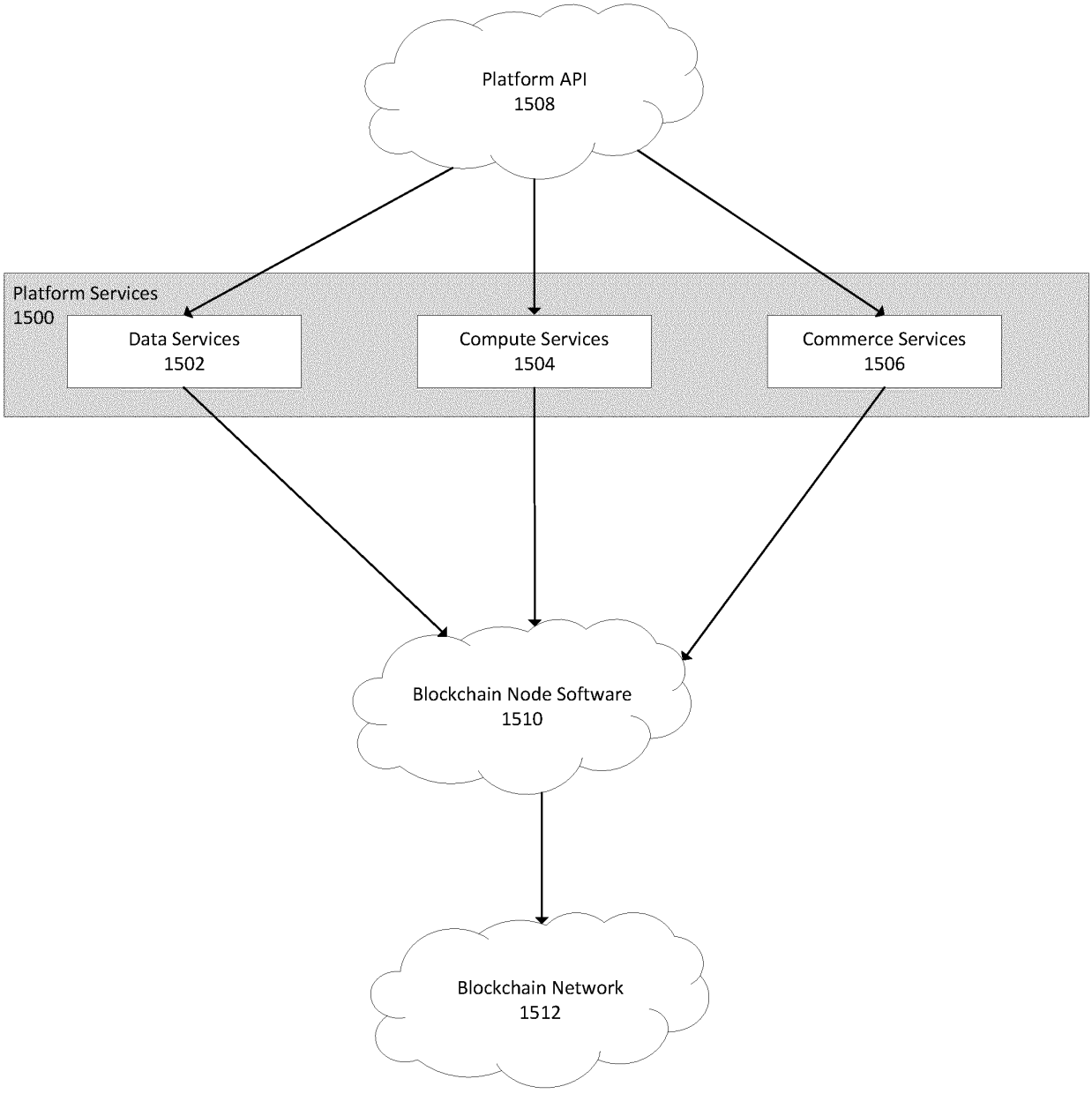

Platform API
1508
Platform Services
1500
Data Services
1502
Compute Services
1504
Commerce Services
1506
Blockchain Node Software
1510
Blockchain Network
1512

Figure 11

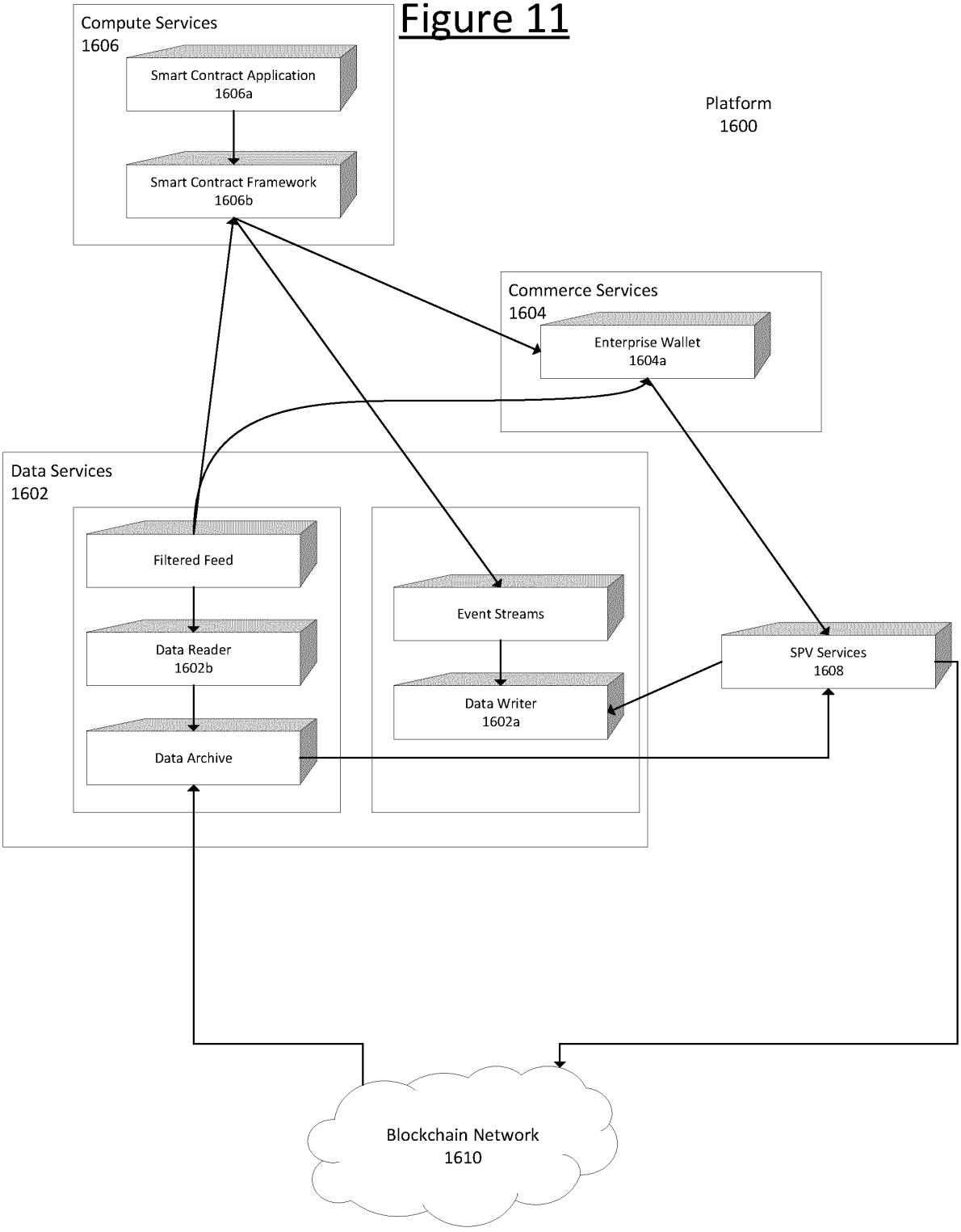
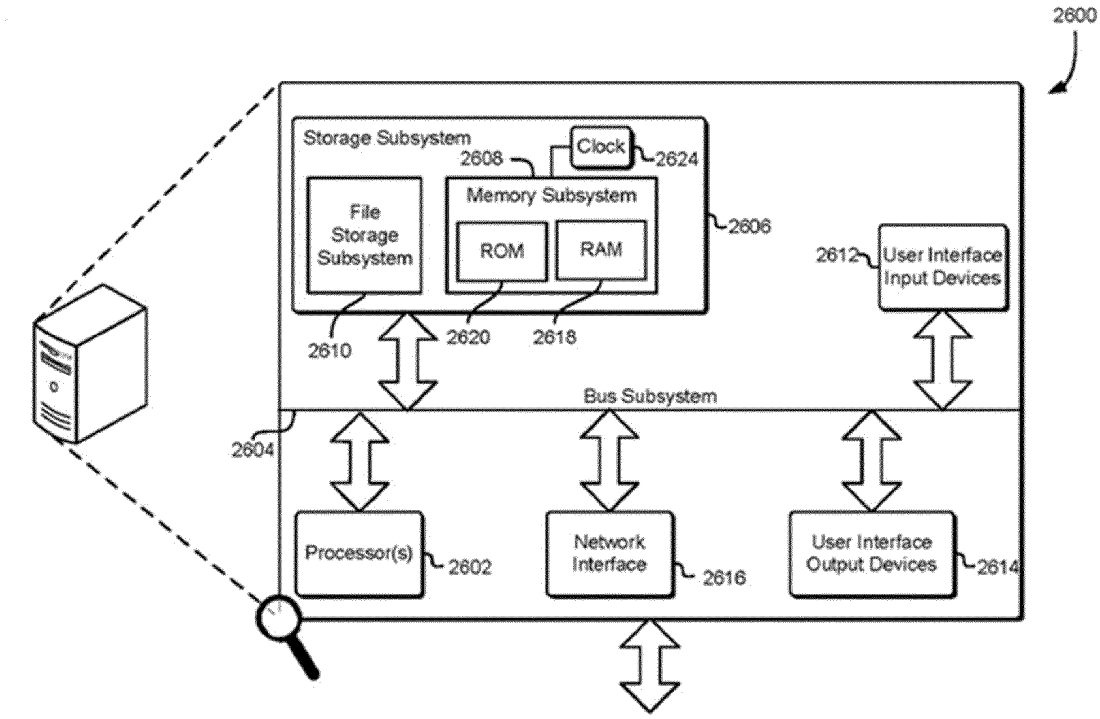

Compute Services
1606
Smart Contract Application
1606a
Smart Contract Framework
1606b
Platform
1600
Commerce Services
1604
Enterprise Wallet
1604a
Data Services
1602
Filtered Feed
Data Reader
1602b
Data Archive
Event Streams
Data Writer
1602a
SPV Services
1608
Blockchain Network
1610

Figure 12


2600
Storage Subsystem
2608
Clock
2624
File Storage Subsystem
Memory Subsystem
ROM
RAM
2606
2612
User Interface Input Devices
2610
2620
2618
Bus Subsystem
2604
Processor(s)
2602
Network Interface
2616
User Interface Output Devices
2614