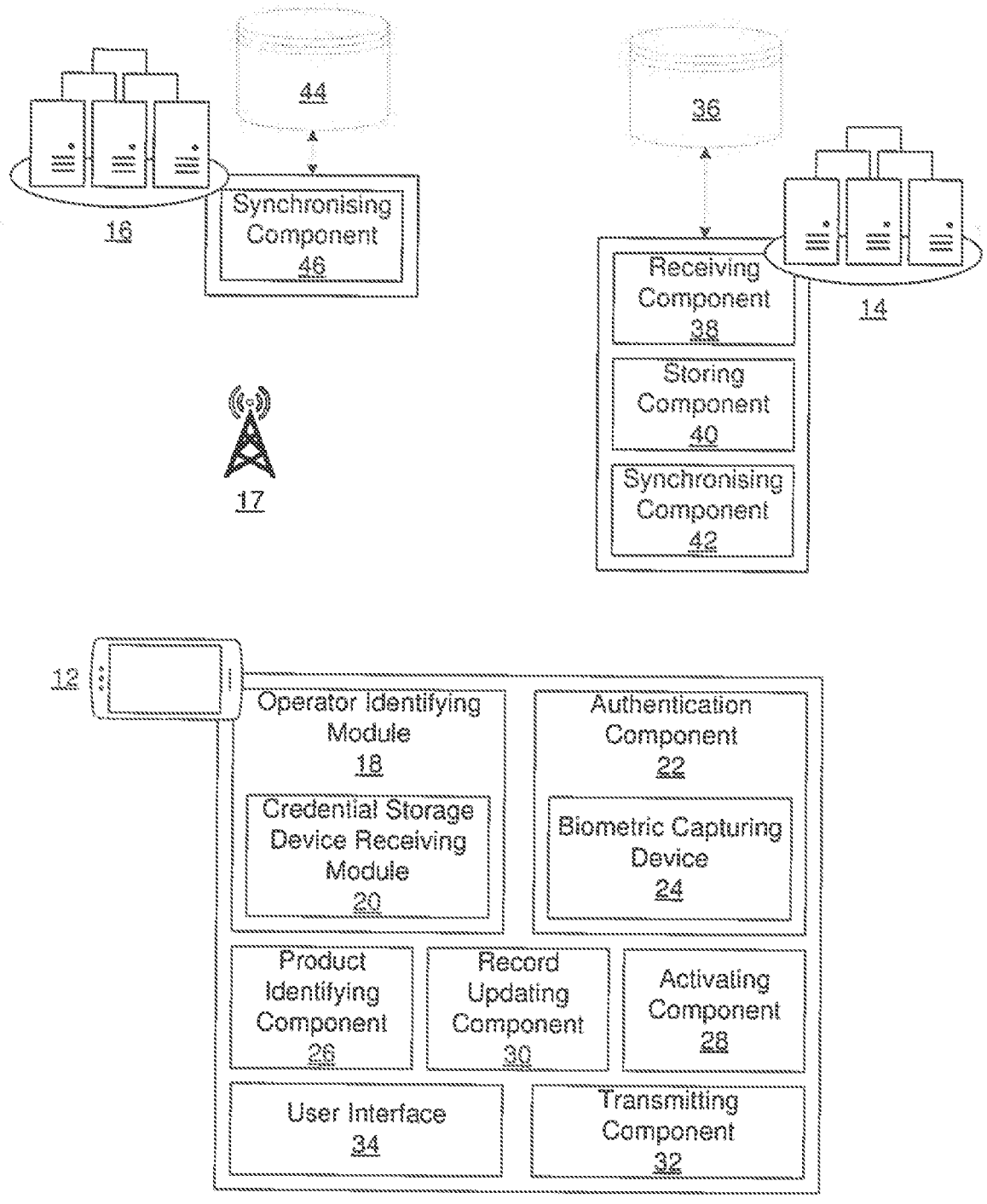

44
16
Synchronising Component 46
36
14
Receiving Component 38
Storing Component 40
Synchronising Component 42
17
12
Operator Identifying Module 18
Credential Storage Device Receiving Module 20
Authentication Component 22
Biometric Capturing Device 24
Product Identifying Component 26
Record Updating Component 30
Activating Component 28
User Interface 34
Transmitting Component 32
10

Figure 1

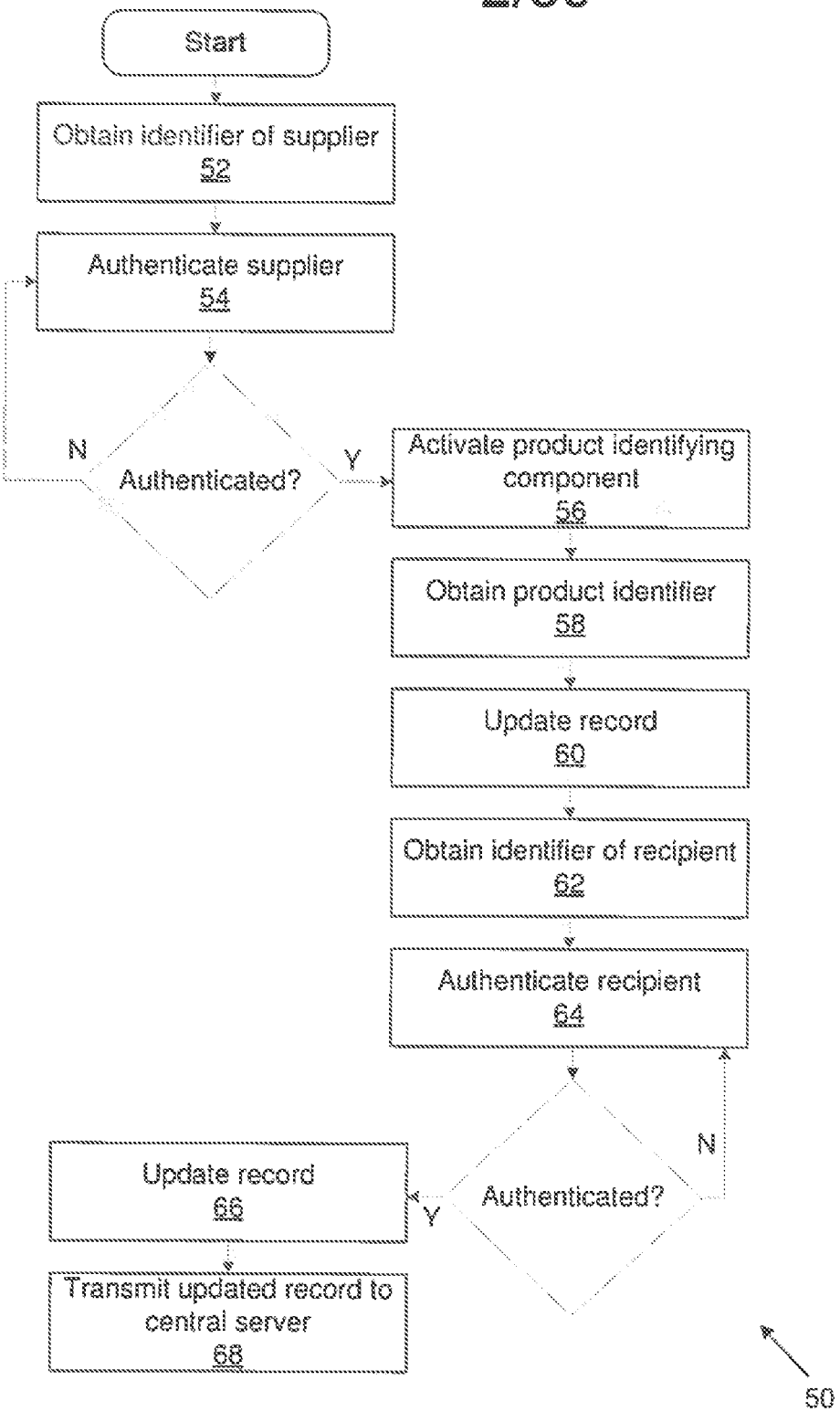

Start
Obtain identifier of supplier
52
Authenticate supplier
54
Authenticated?
N
Y
Activate product identifying component
56
Obtain product identifier
58
Update record
60
Obtain identifier of recipient
62
Authenticate recipient
64
Authenticated?
N
Y
Update record
66
Transmit updated record to central server
68
50

Figure 2

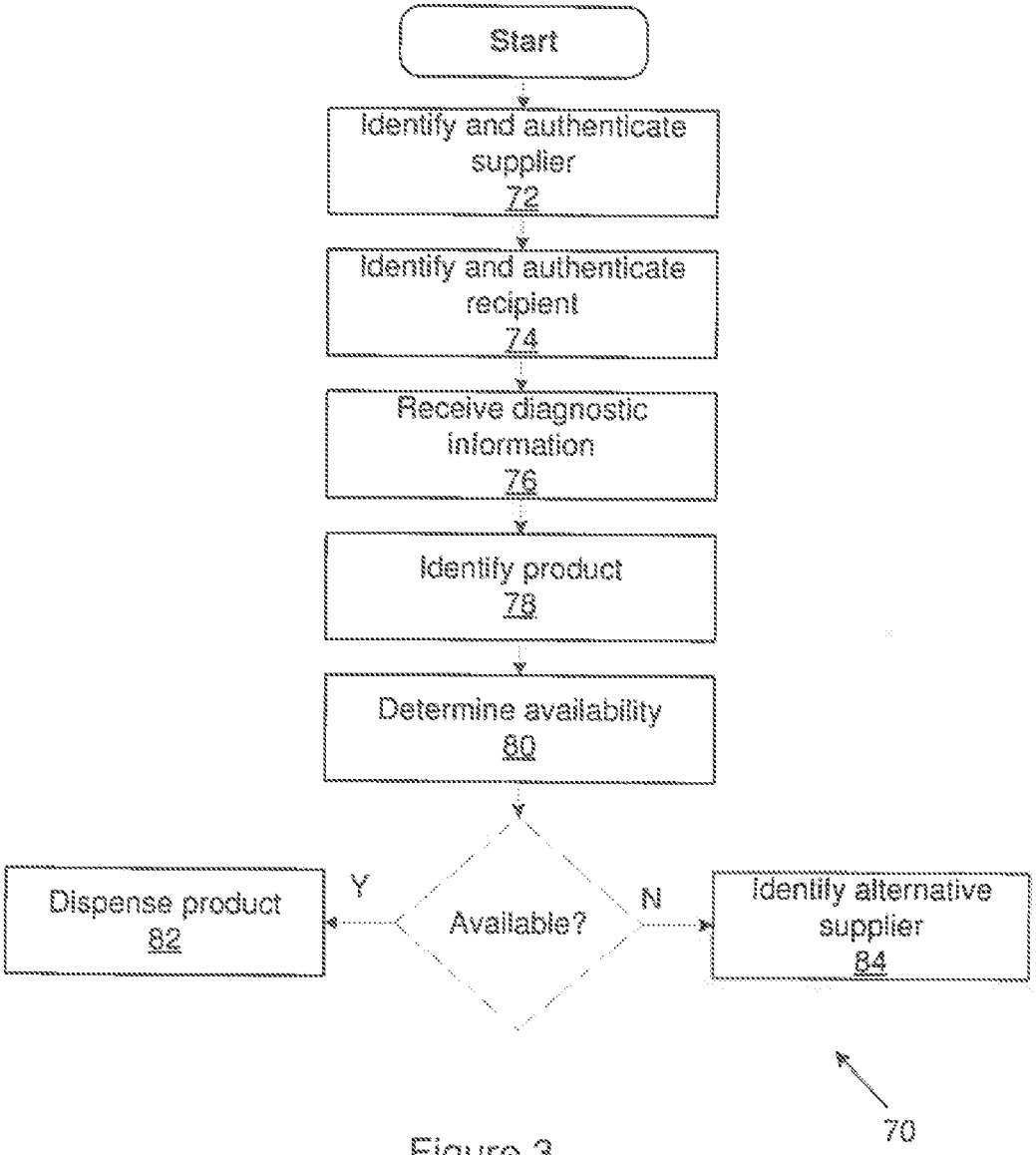

Start
Identify and authenticate supplier
72
Identify and authenticate recipient
74
Receive diagnostic information
76
Identify product
78
Determine availability
80
Available?
Y
N
Dispense product
82
Identify alternative supplier
84
70

Figure 3

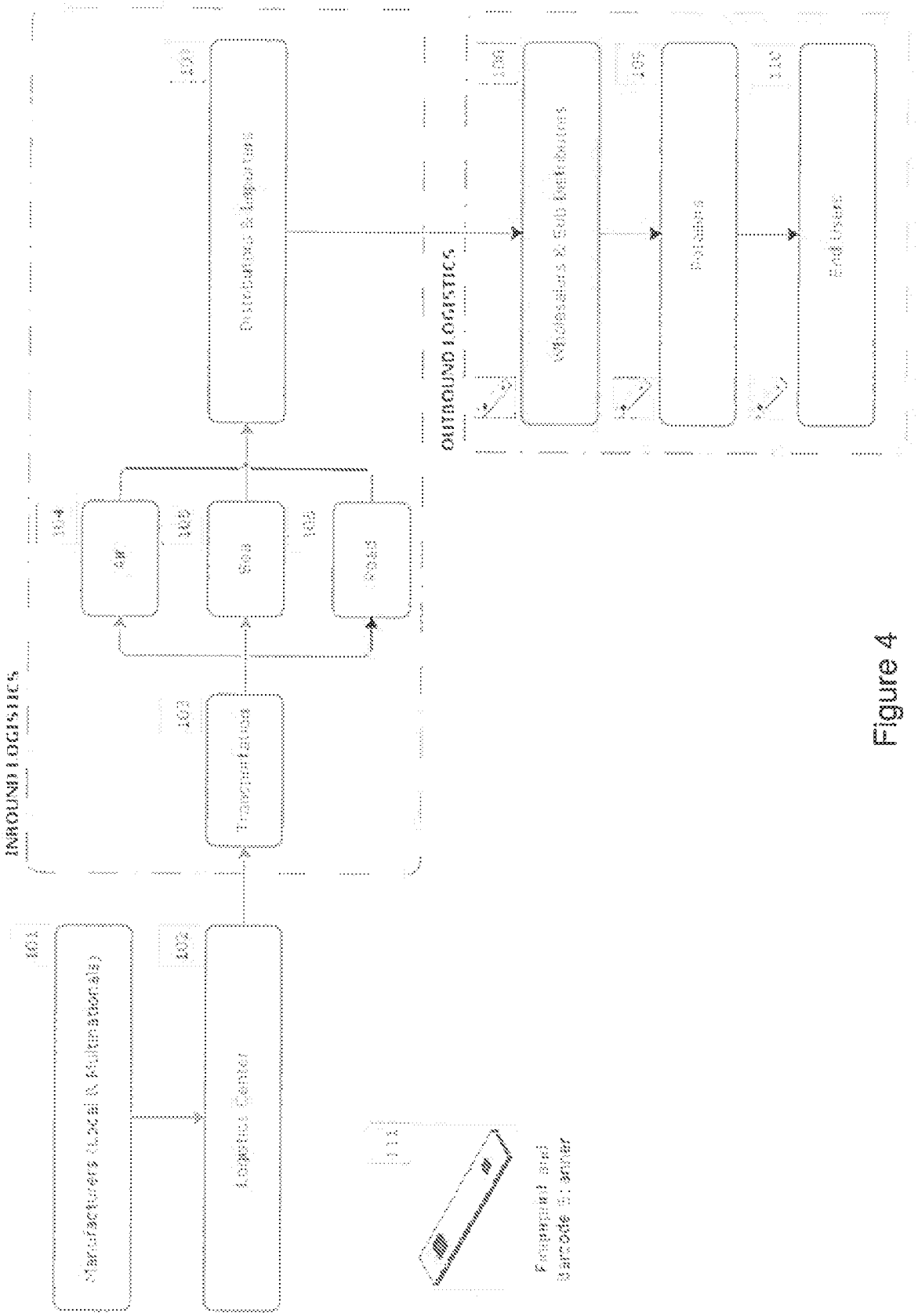

INBOUND LOGISTICS
OUTBOUND LOGISTICS
Logistics Center
Transportation
Air
Sea
Road
Distribution & Logistics
Wholesalers & Sub Distributors
Retailers
End Users
Transponder and Barcode Scanner

Figure 4

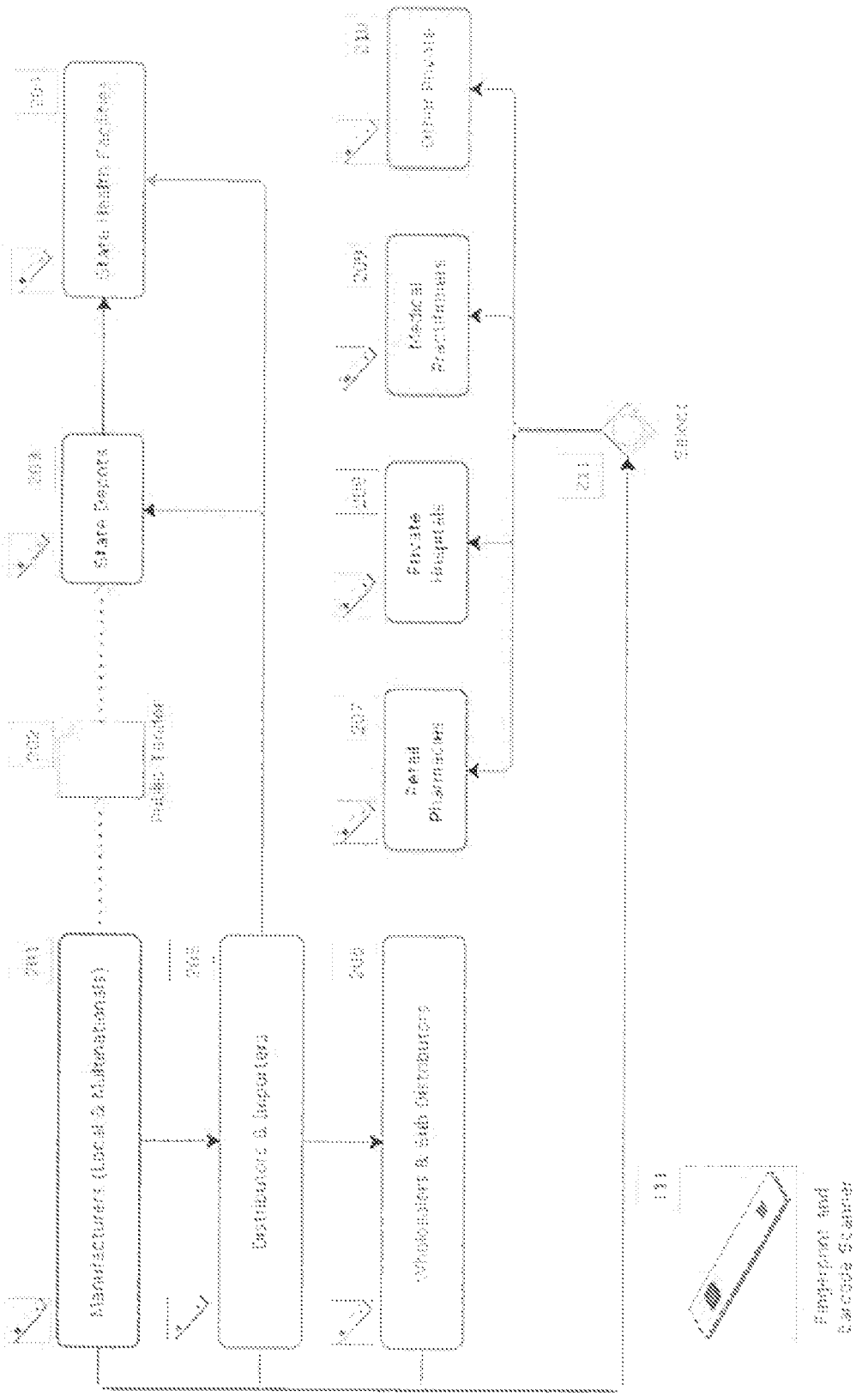

Manufacturers (Users & Administrators)
Distributors & Importers
Wholesalers & Retail Dispensers
Public Transfer
State Depots
State Health Facilities
Private Hospitals
Medical Practitioners
Other Private
Patient
Fingerprint and Barcode Scanner

Figure 5

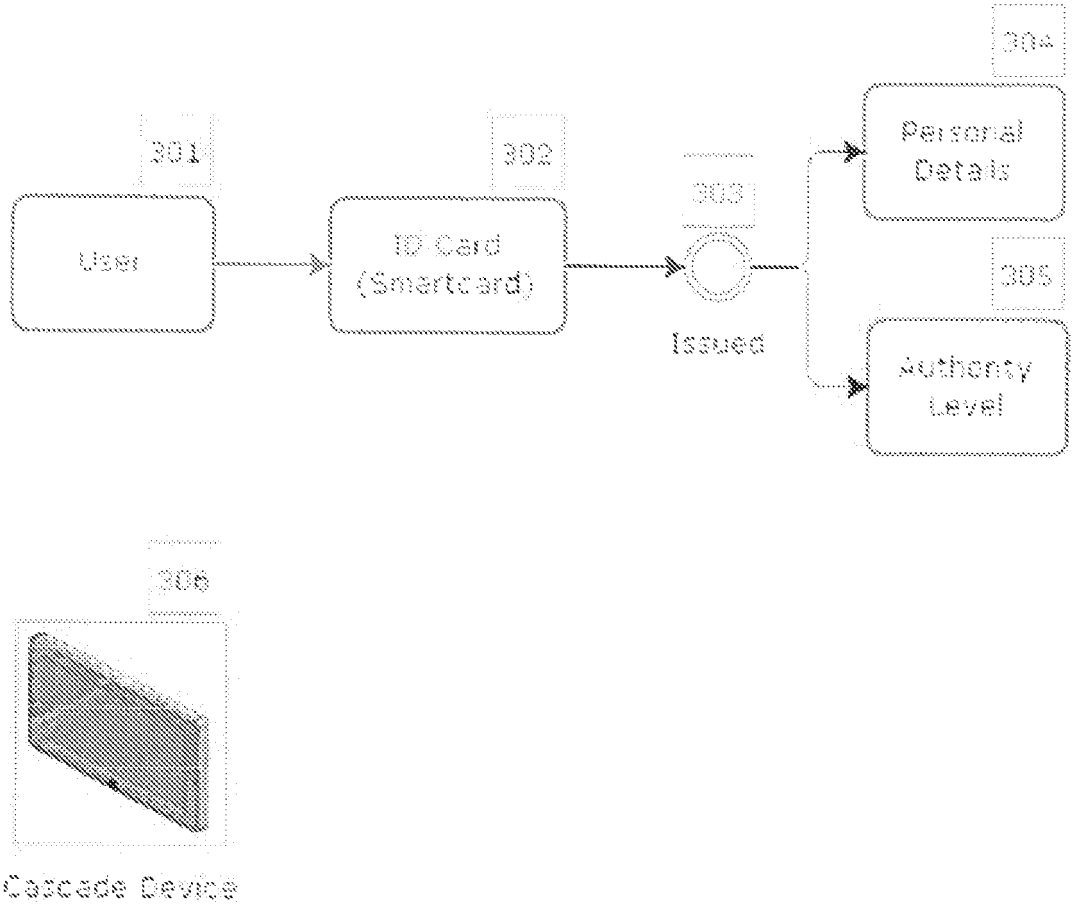

304
301
302
303
Personal Details
User
ID Card (Smartcard)
Issued
305
Authority Level
306
Cascade Device

Figure 6

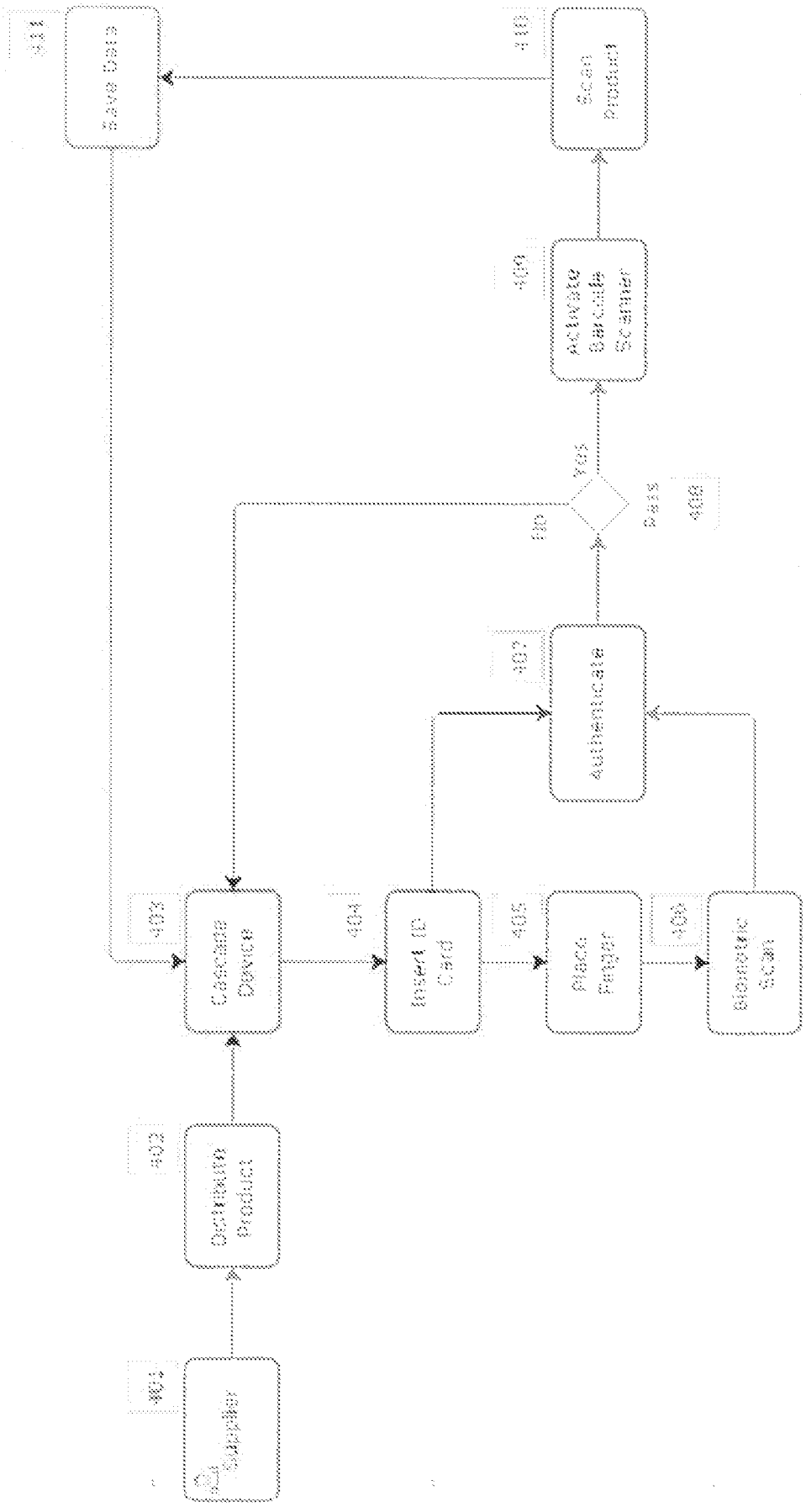

Base Data
Scan Protocol
Activate Biometric Scanner
Yes
No
Authenticate
Capture Device
Card Unit
Pass Entry
Biometric Scan
Destination Protocol
Activate

Figure 7

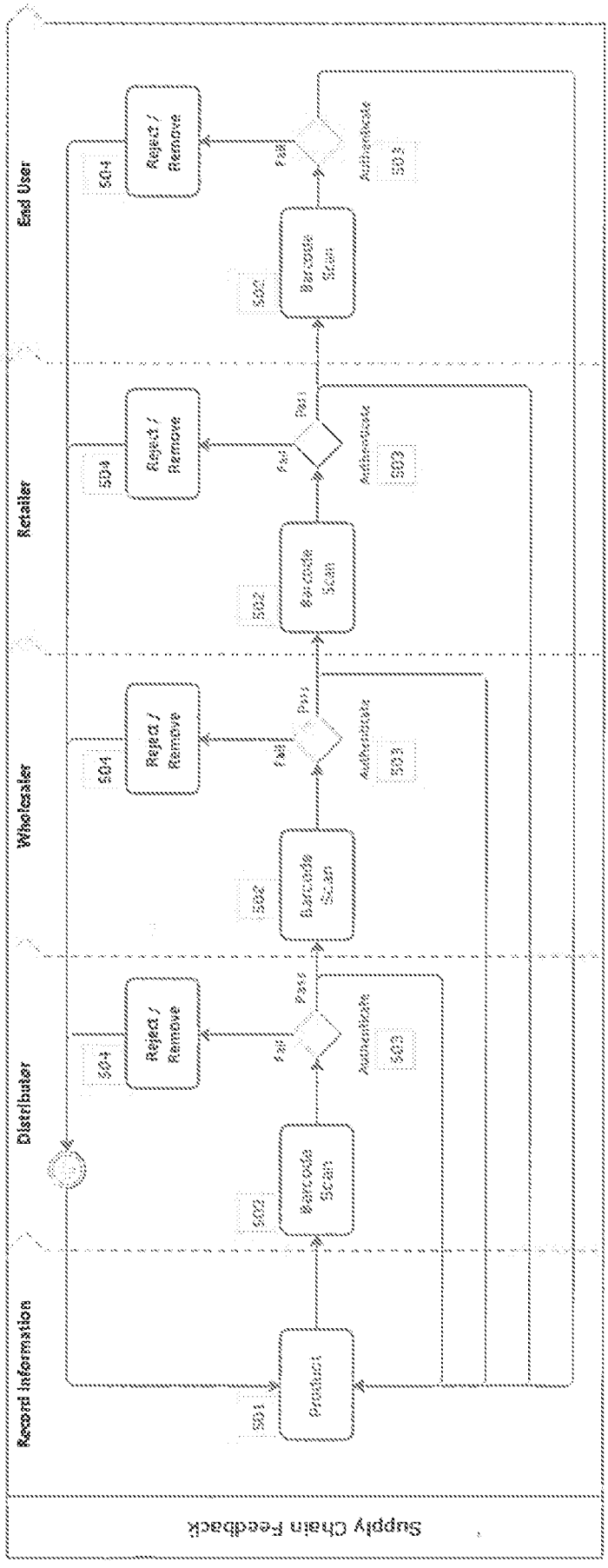

Supply Chain Feedback
Record Information
Distributer
Wholesaler
Retailer
End User
Product
Barcode Scan
Authenticate
Pass
Fail
Reject / Remove
S01
S02
S03
S04

Figure 8

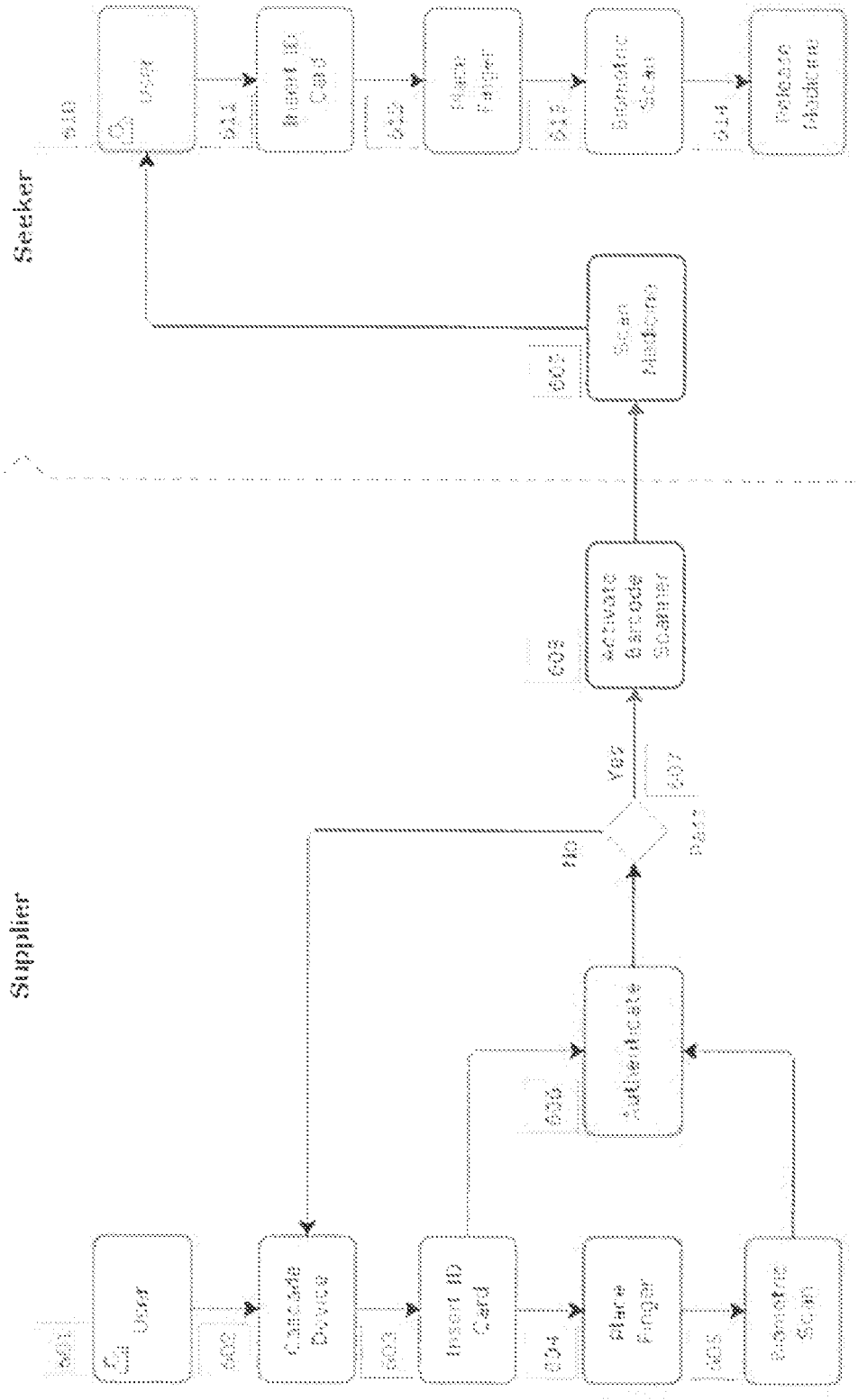

Seeker
Supplier
User
Insert ID Card
Biometric Scan
Release Machine
Scan Machine
Activate Barcode Scanner
Yes
No
Authenticate
Insert ID Card
Biometric Scan
Release Machine

Figure 9

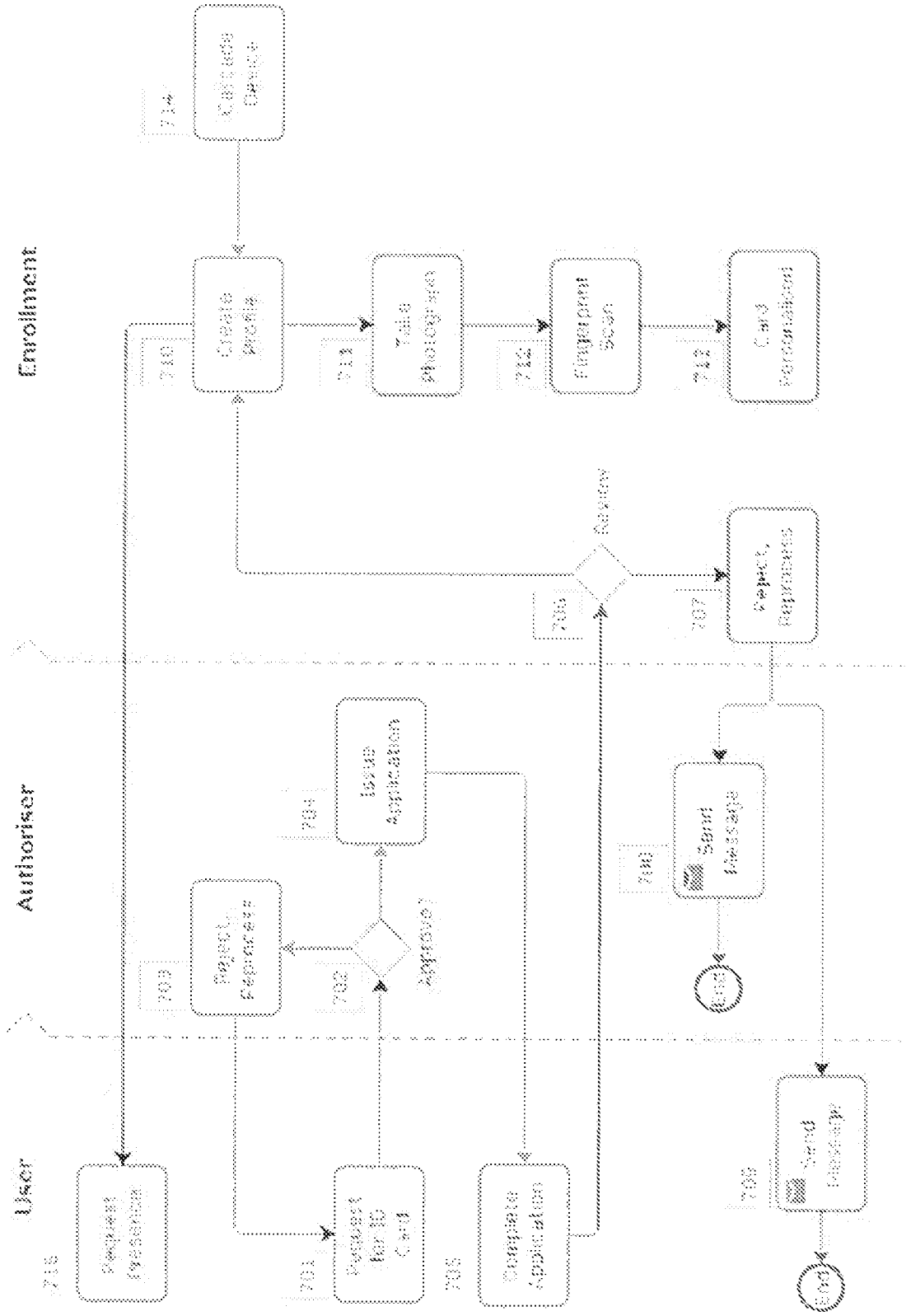

Enrollment
Authoriser
User
Create Profile
Take Photograph
Fingerprint Scan
Card Personalisation
Capture Details
Capture Fingerprints
Approved?
Issue Application
Send Message
Card Personalisation
Capture Fingerprints
Fingerprint Capture
Fingerprint Verification
Card Activation
End
End

Figure 10

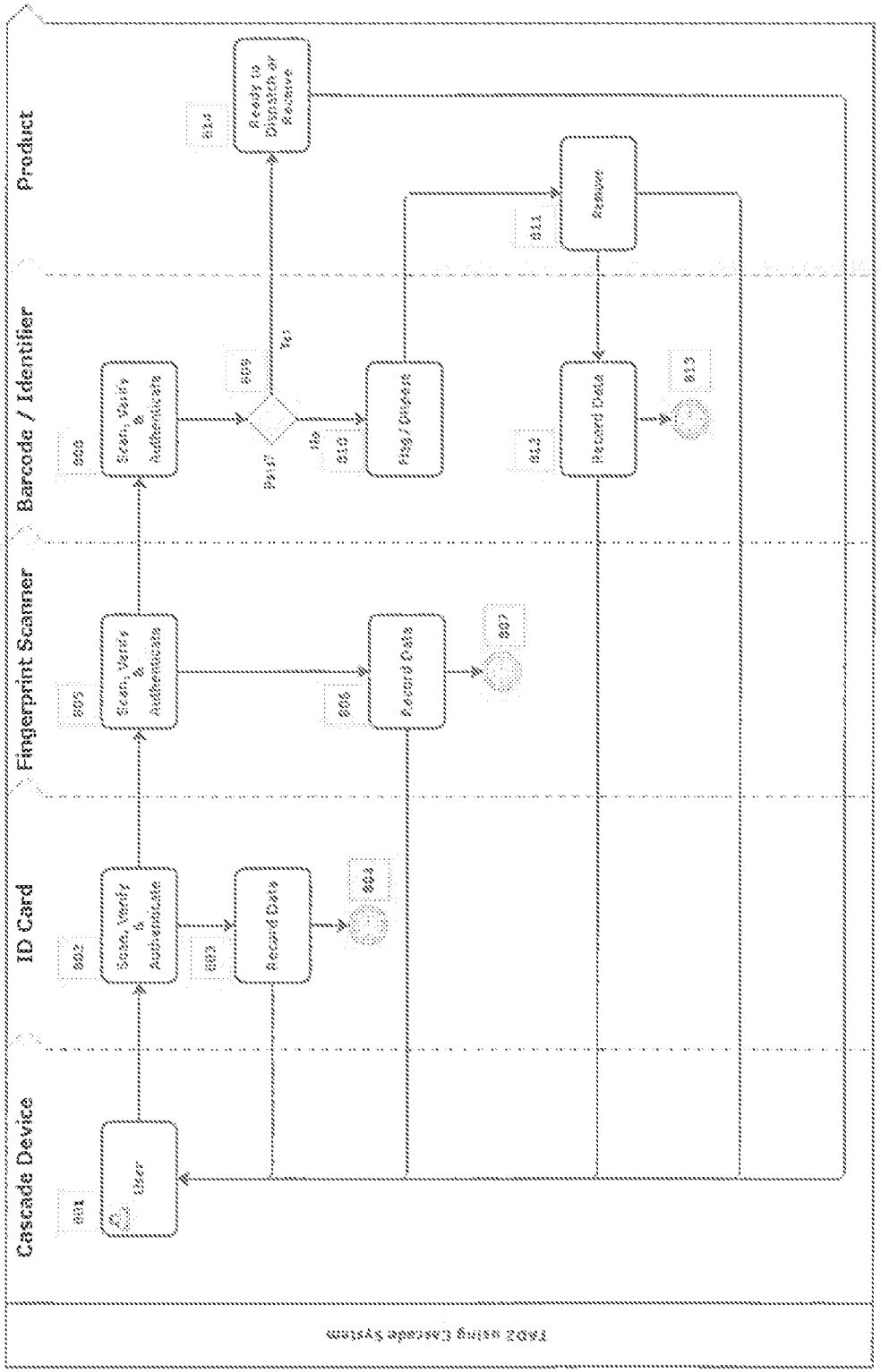

Cascade Device
ID Card
Fingerprint Scanner
Barcode / Identifier
Product
User
Scan, Verify & Authenticate
Record Data
Scan, Verify & Authenticate
Record Data
Scan, Verify & Authenticate
Verify
Yes
No
Flag / Dispose
Remove
Record Data
Ready to Dispatch or Receive
TASC using Cascade System

Figure 11

Supply Chain Data Table Example of Product A based on Figure 8a				
Supply Chain	Seeker / Supplier	User	Position	Date & Time
Manufacturer	Supplier	M Black	Warehouse Controller	01 May 2015 11:15am
Distributor	Seeker	D Green	Goods Receiving Controller	07 May 2015 09:00am
Distributor	Supplier	D White	Warehouse Controller	15 June 2015 02:00pm
Wholesaler	Seeker	W Brown	Goods Receiving Controller	16 June 2015 10:45am
Wholesaler	Supplier	W Grey	Warehouse Controller	24 June 2015 11:00am
Retailer	Seeker	R Black	Goods Receiving Controller	27 June 2015 04:00pm

Figure 11A

Supply Chain Data Table Example of Product A based on Figure 8a for Pharmaceuticals				
Supply Chain	Seeker / Supplier	User	Position	Date & Time
Manufacturer	Supplier	M Black	Warehouse Controller	01 May 2015 11:15am
Distributor	Seeker	D Green	Goods Receiving Controller	07 May 2015 09:00am
Distributor	Supplier	D White	Warehouse Controller	15 June 2015 02:00pm
Wholesaler	Seeker	W Brown	Goods Receiving Controller	16 June 2015 10:45am
Wholesaler	Supplier	W Grey	Warehouse Controller	24 June 2015 11:00am
Retailer	Seeker	R Black	Goods Receiving Controller	27 June 2015 04:00pm
Retailer	Supplier	R White	Warehouse Controller	13 July 2015 09:00am
End User (Health Facility)	Seeker	H Grey	Health Facility Stock Controller	15 July 2015 03:00pm

Figure 11B

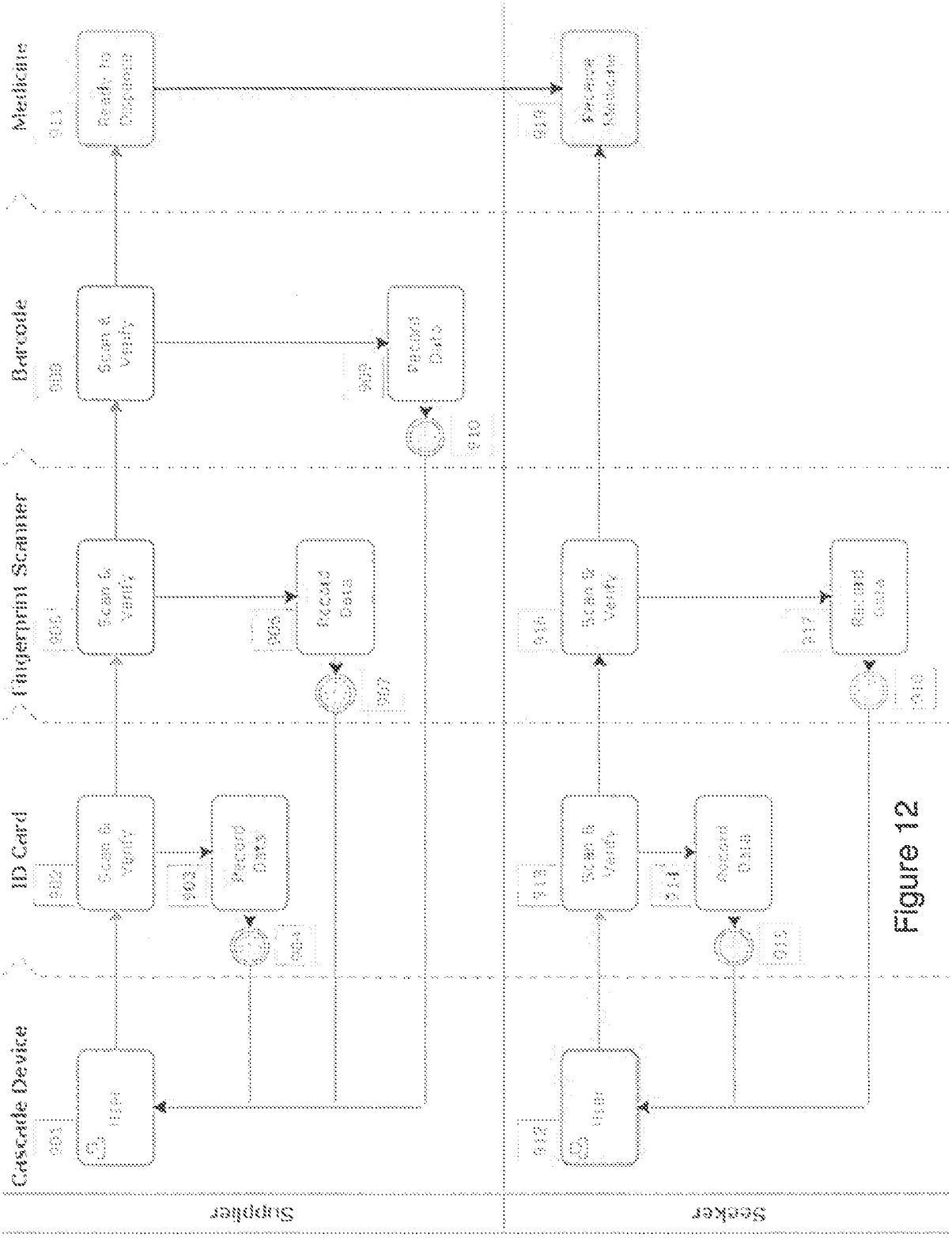

Supplier
Seeker
Cascade Device
ID Card
Fingerprint Scanner
Barcode
Medicine
Scan & Verify
Record Data
Encrypt Medicine
Decrypt Medicine

Figure 12

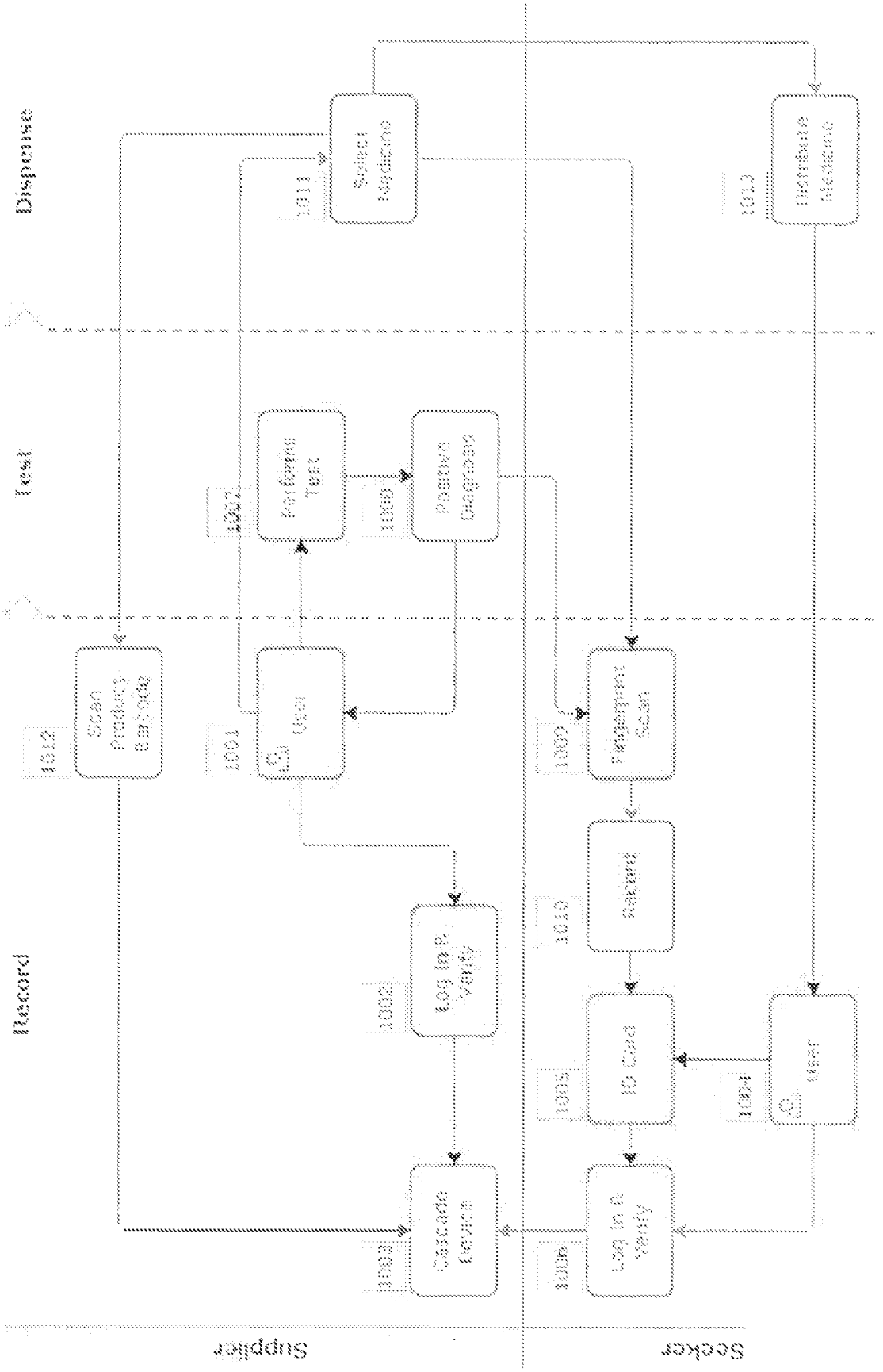

Dispense
Test
Record
Supplier
Seeker
Select Medicine
1011
Distribute Medicine
1013
Perform Test
1007
Record Outcome
1008
Scan Product Barcode
1012
Use
1001
Fingerprint Scan
1009
Log In & Verify
1002
Record
1010
ID Card
1003
User
1004
Log In & Verify
1005
Generate Unique Code
1006

Figure 13

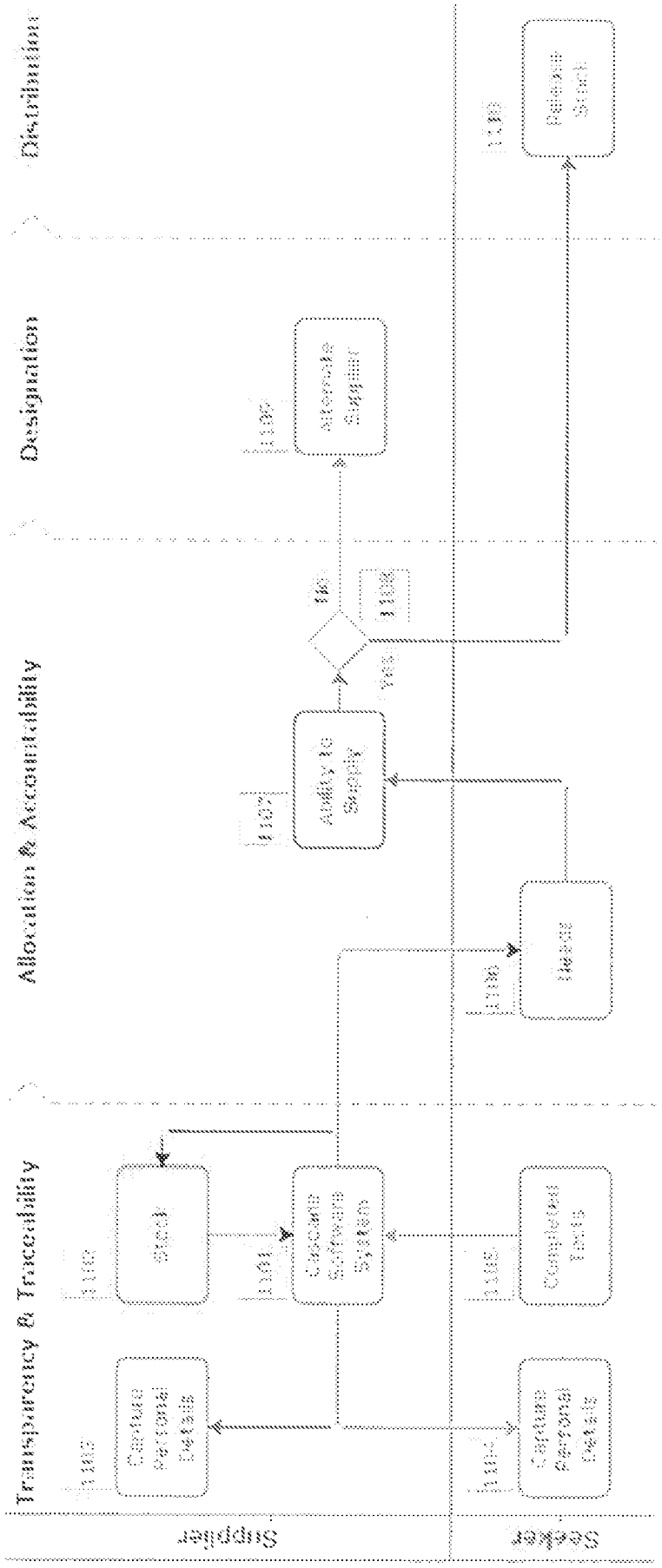

Transparency & Traceability
Allocation & Accountability
Designation
Distribution
Supplier
Seeker
Capture Personal Details
1102
Stock
1104
Cascade Software System
1106
Capture Personal Details
1108
Completed Tests
1110
Ability to Supply
1112
No
Yes
1114
Alternate Supplier
1116
Release Stock
1118
Hold
1120

Figure 14

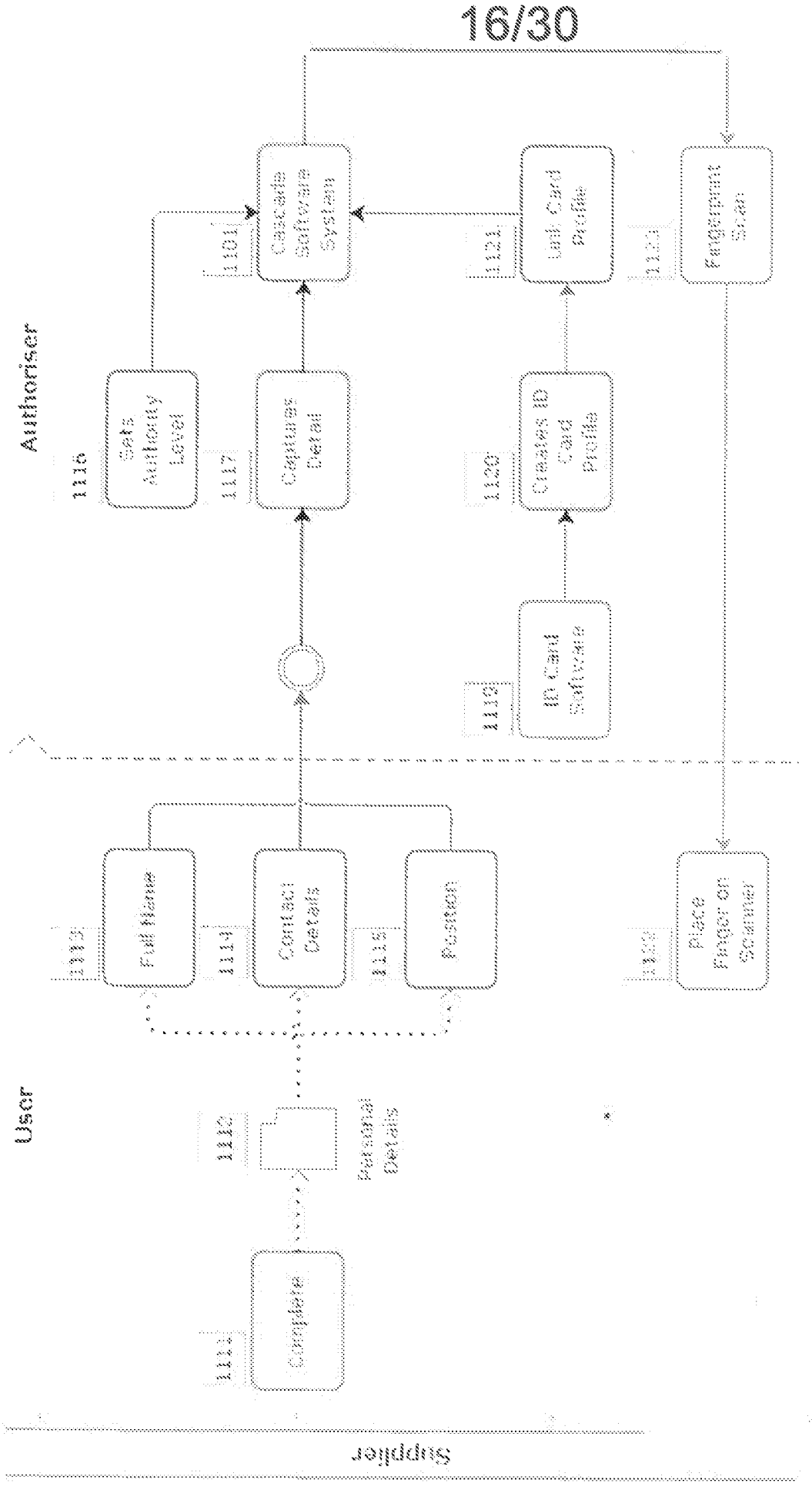

Supplier
Computer
1111
Personal Details
1112
User
Full Name
1113
Contact Details
1114
Position
1115
Place Finger on Scanner
1122
ID Card Software
1119
Creates ID Card Profile
1120
Captures Detail
1117
Sets Authority Level
1116
Authoriser
Cascade Software System
1101
Personnel Image
1123
Full Card Profile
1121

Figure 14A

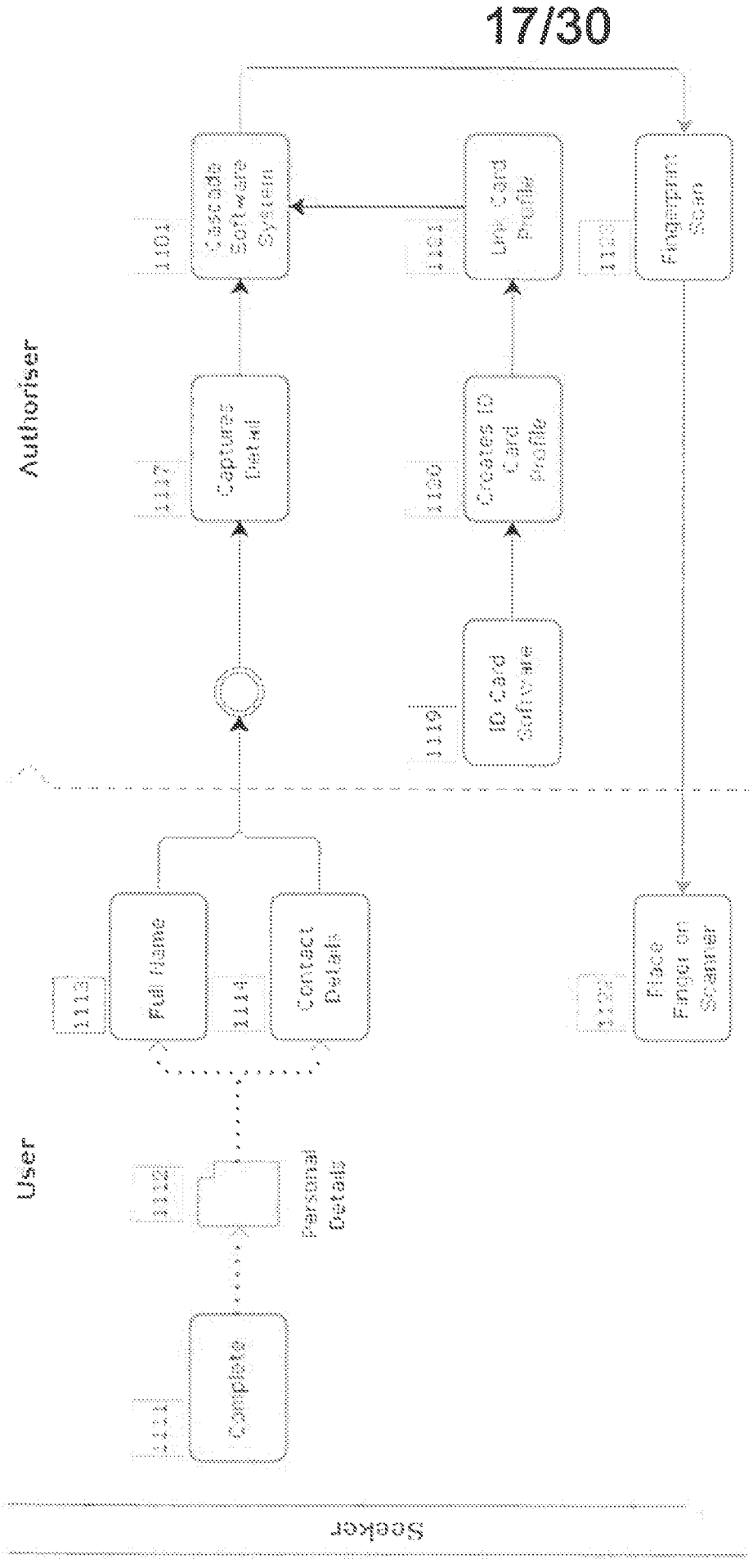

Seeker
User
Authoriser
Complete
1111
Personal Details
1112
Full Name
1113
Contact Details
1114
Capture Detail
1117
Cascab Software System
1101
ID Card Software
1119
Creates ID Card Profile
1120
Live Card Profile
1101
Fingerprint Scan
1104
Place Finger on Scanner
1105

Figure 14B

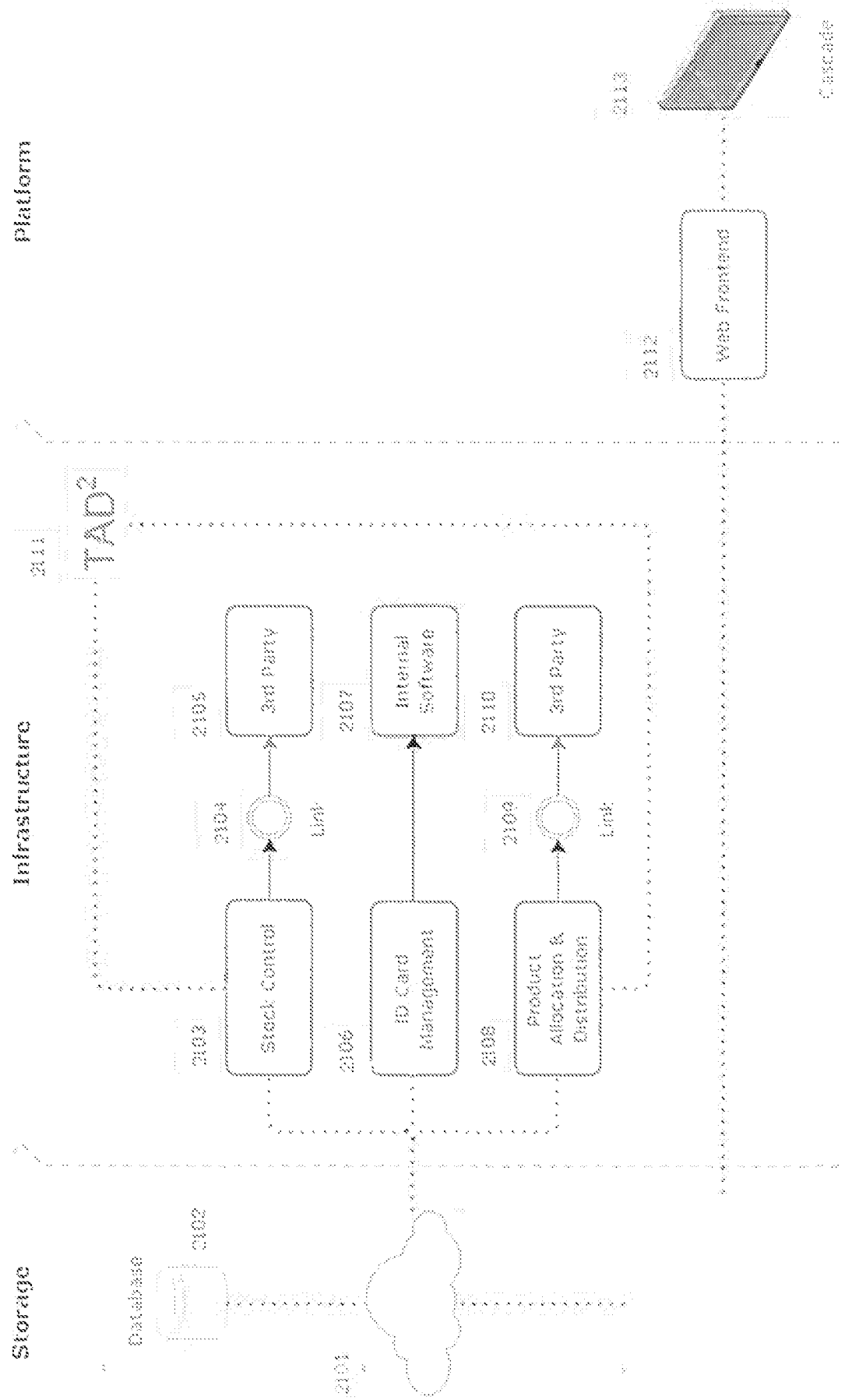

Storage
Database
2102
201
Infrastructure
211
TAO²
2103
Stock Control
2104
Link
2105
3rd Party
2106
ID Card Management
2107
Internal Software
2108
Product Allocation & Distribution
2109
Link
2110
3rd Party
Platform
2112
Web Frontend
2113
Cascade

Figure 15

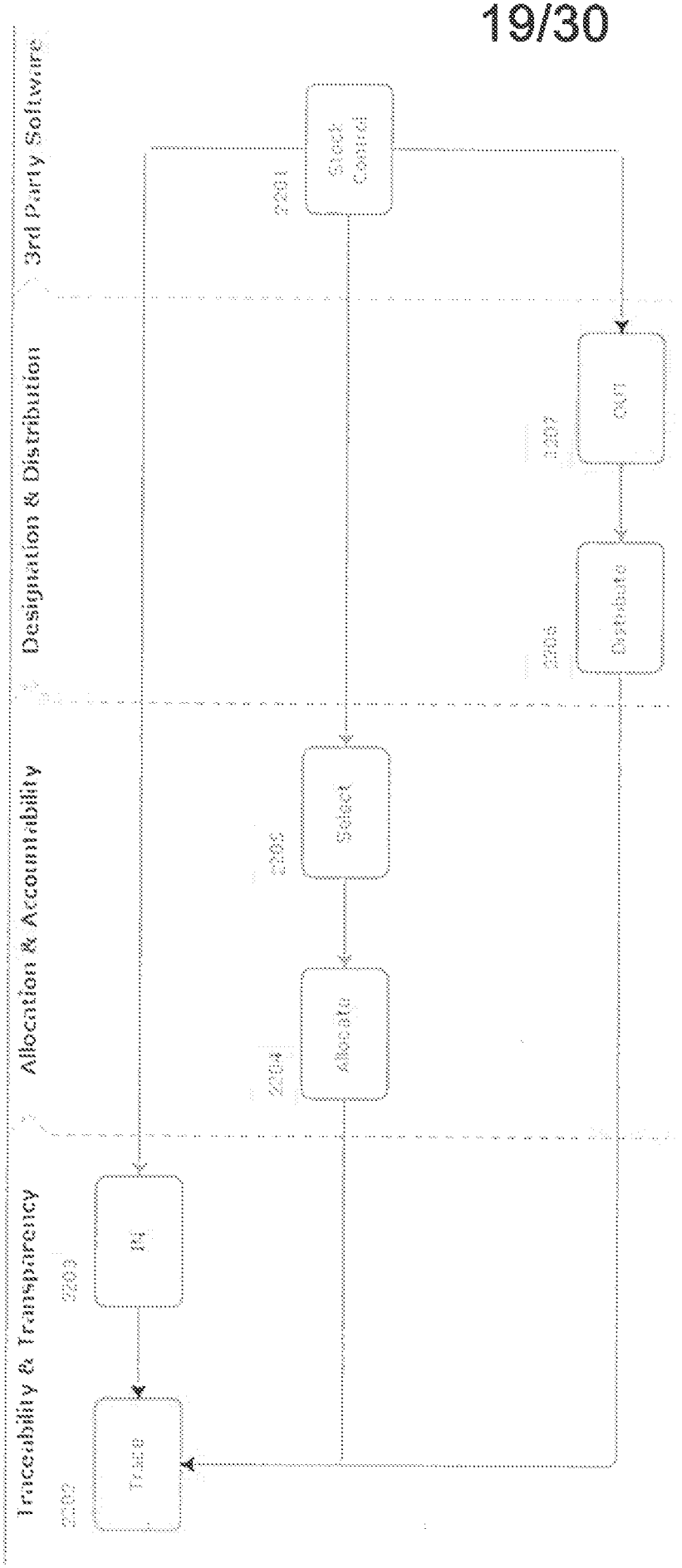

Traceability & Transparency
Allocation & Accountability
Designation & Distribution
3rd Party Software
Receive
Allocate
Select
Stock Control
Cut
Distribute
Trace
201
202
203
204
205
206
207

Figure 16

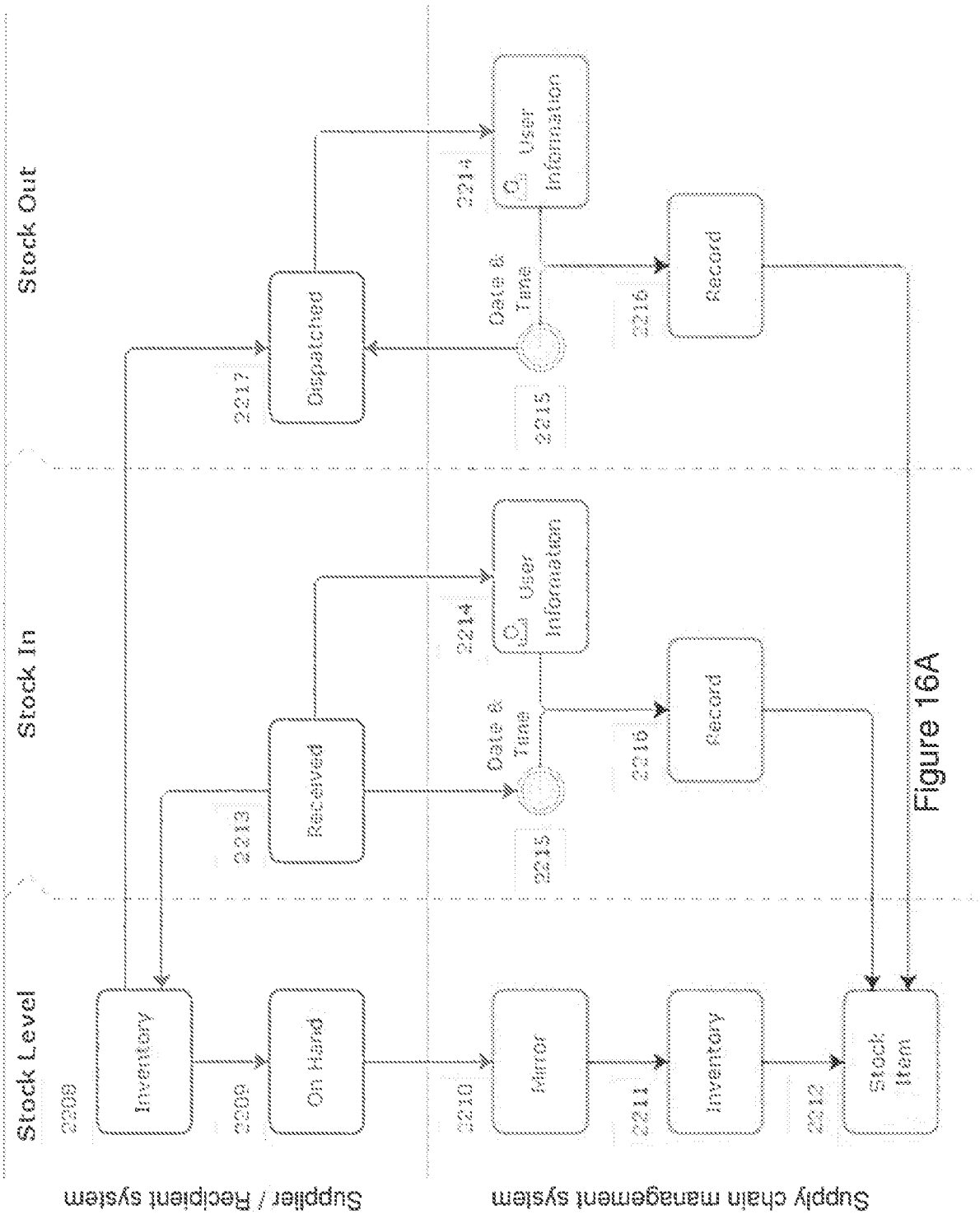

Stock Out
Stock In
Stock Level
Supplier / Recipient system
Supply chain management system
2208
Inventory
2209
On Hand
2210
Mirror
2211
Inventory
2212
Stock Item
2213
Received
2214
User Information
2215
Date & Time
2216
Record
2217
Dispatched
2214
User Information
2215
Date & Time
2216
Record

Figure 16A

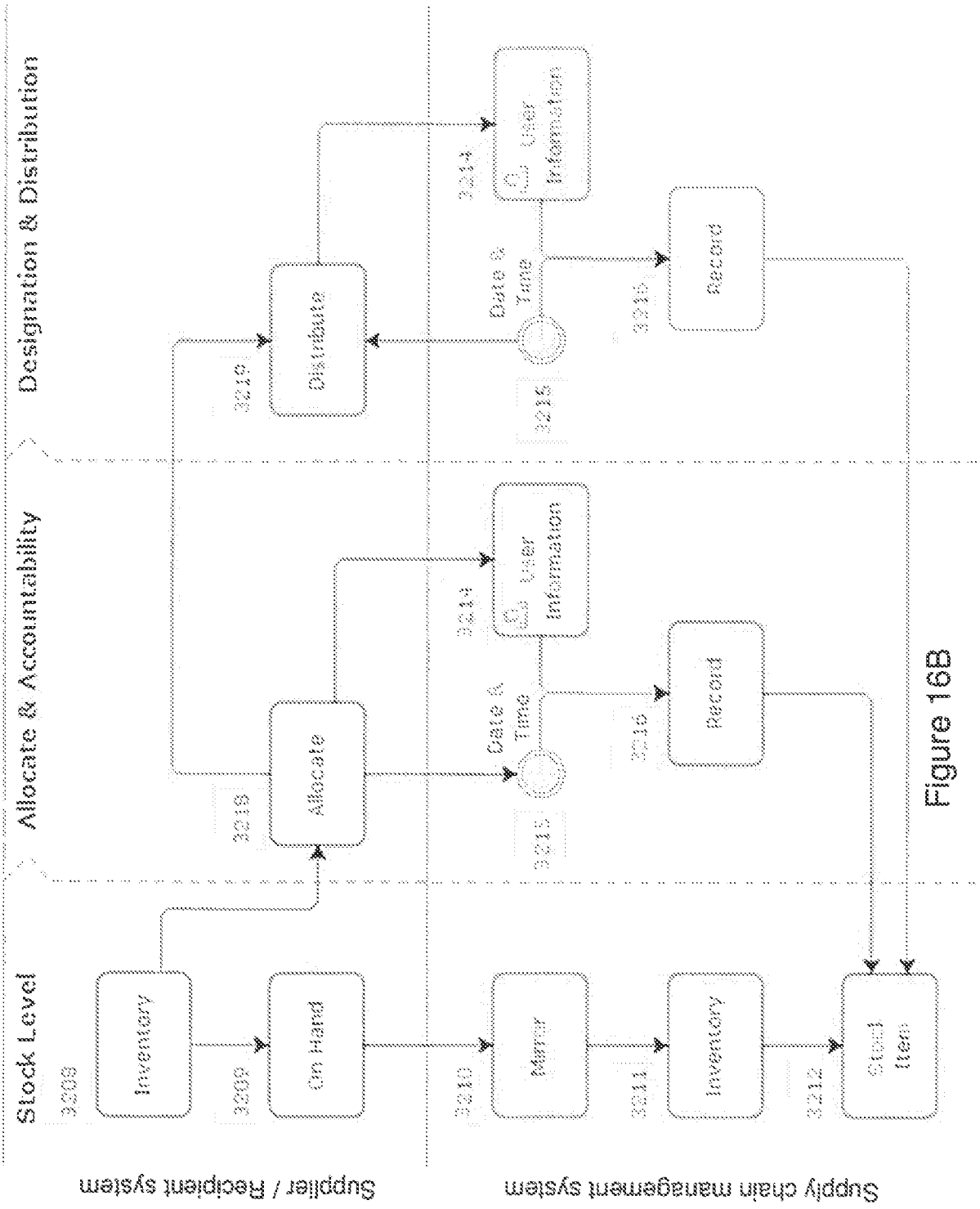

Stock Level
Allocate & Accountability
Designation & Distribution
Supplier / Recipient system
Supply chain management system
3208
Inventory
3209
On Hand
3210
Mirror
3211
Inventory
3212
Stock Item
3213
Allocate
3214
Distribute
3215
Date & Time
3216
Record
3217
User Information
3218
Allocate
3219
Distribute
3220
Date & Time
3221
Record
3222
User Information

Figure 16B

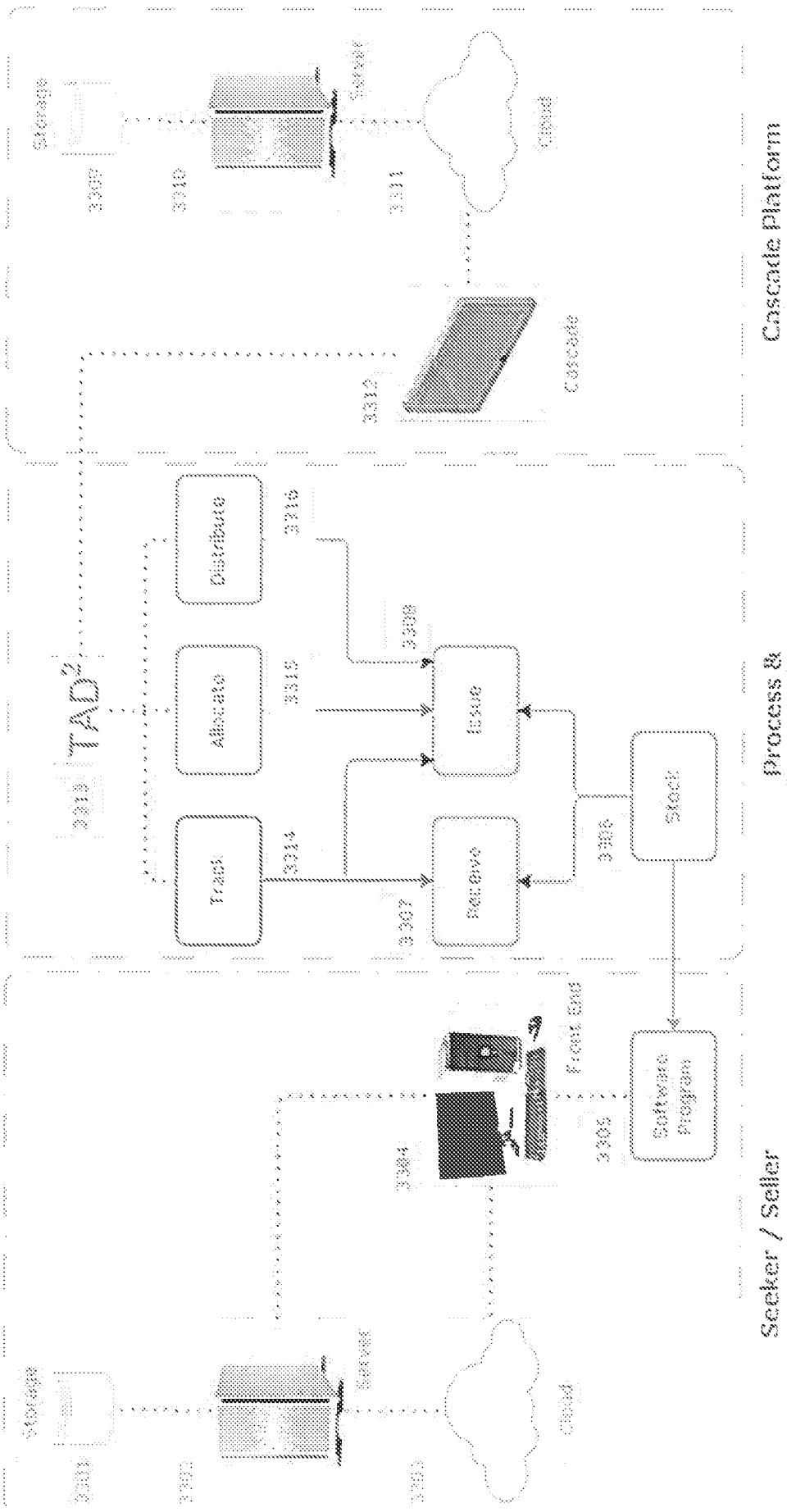

Cascade Platform
Process & Connectivity
Seeker / Seller Platform
TAD²
Storage
Server
Cloud
Cascade
Distribute
Allocate
Track
Issue
Receive
Stock
Software Program
Front End

Figure 17

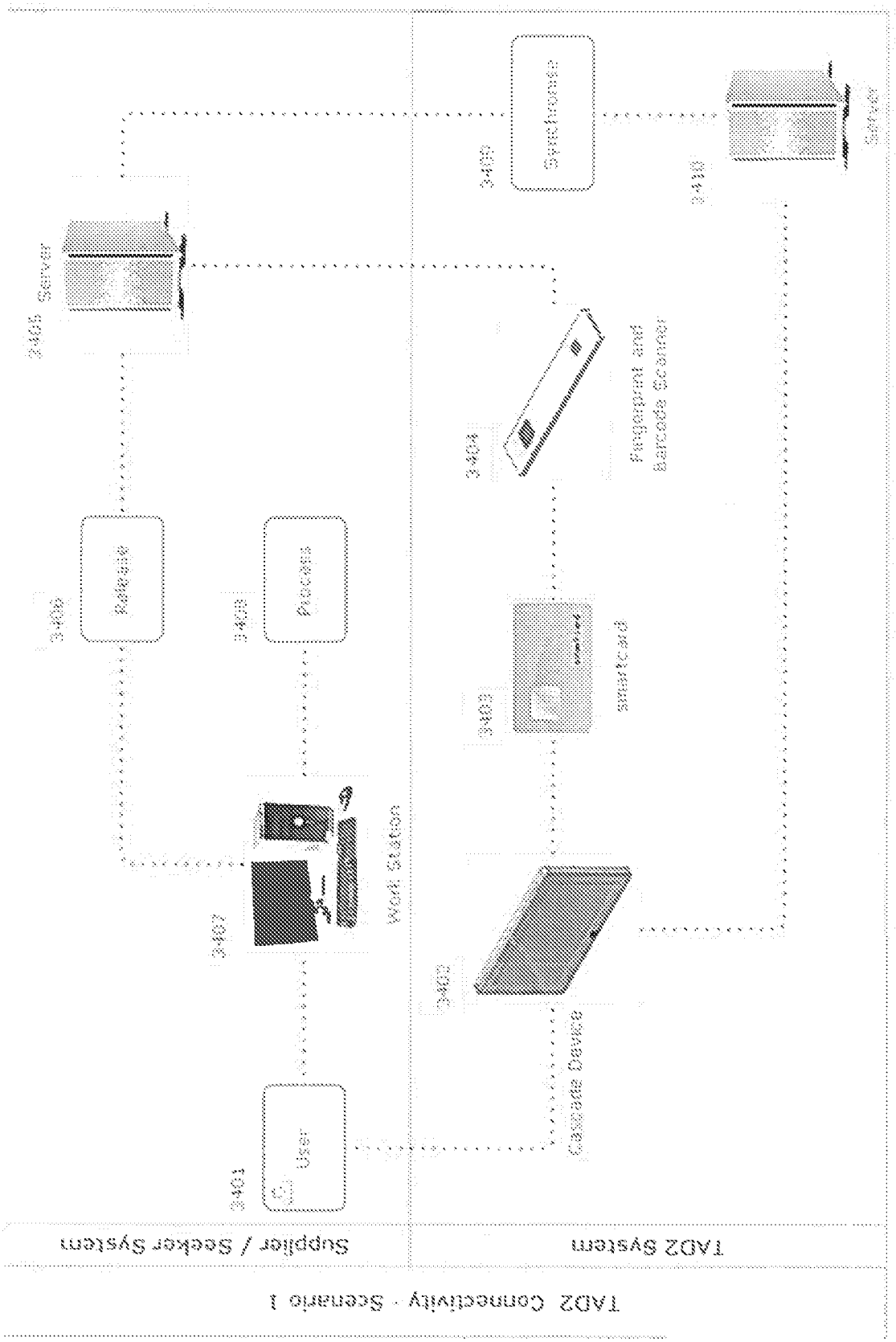

TADZ Connectivity - Scenario 1
Supplier / Seeker System
TADZ System
User
3401
Work Station
3407
Cassette Device
3402
smartcard
3403
Fingerprint and Barcode Scanner
3404
Printer
3408
Scanner
3409
Server
2405
Server
2410

Figure 18A

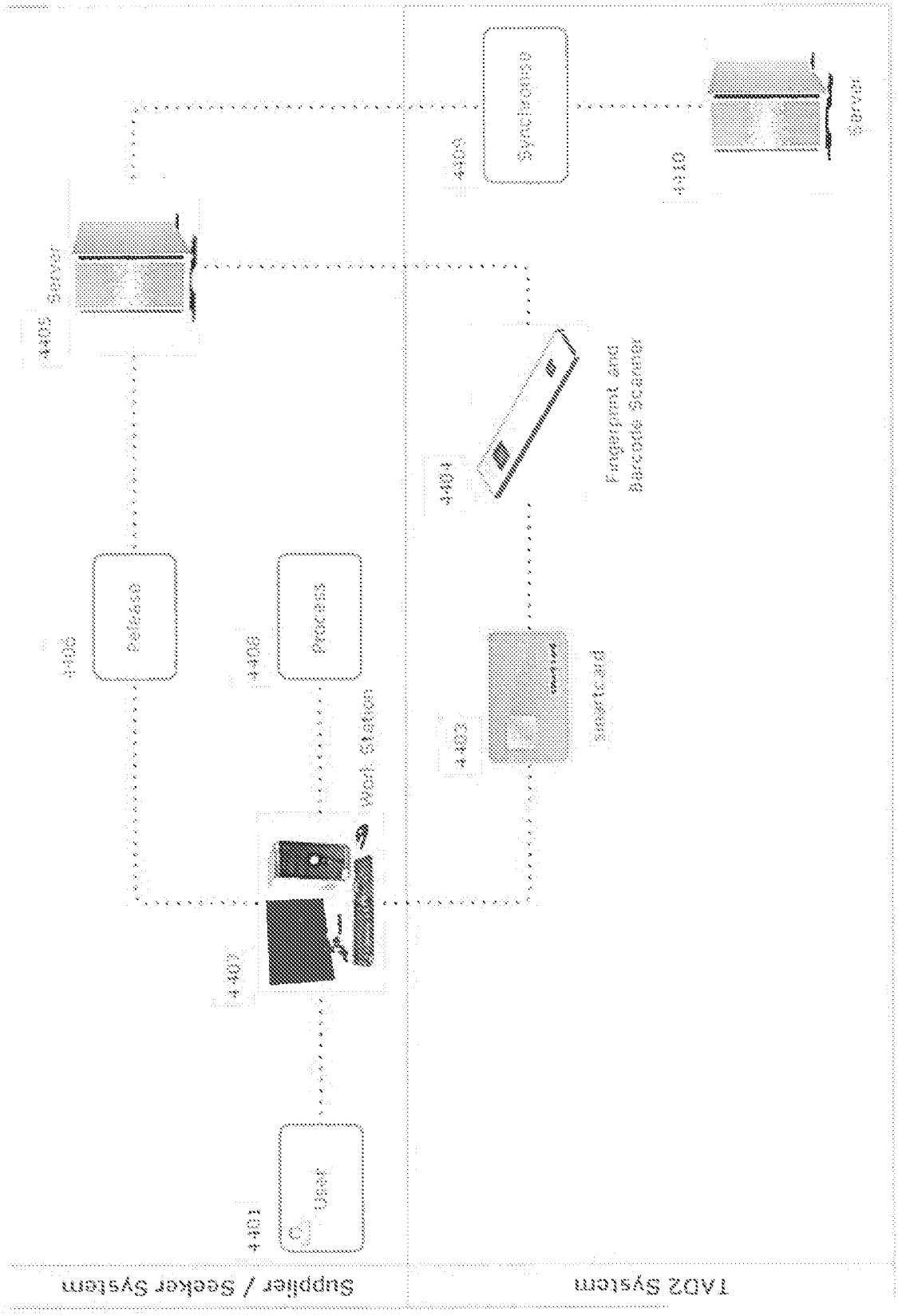

TAD2 Connectivity - Scenario 2
Supplier / Seeker System
TAD2 System
User
Work Station
Release
Process
Server
Synchronise
Server
Equipment and Barcode Scanner
Inventory

Figure 18B

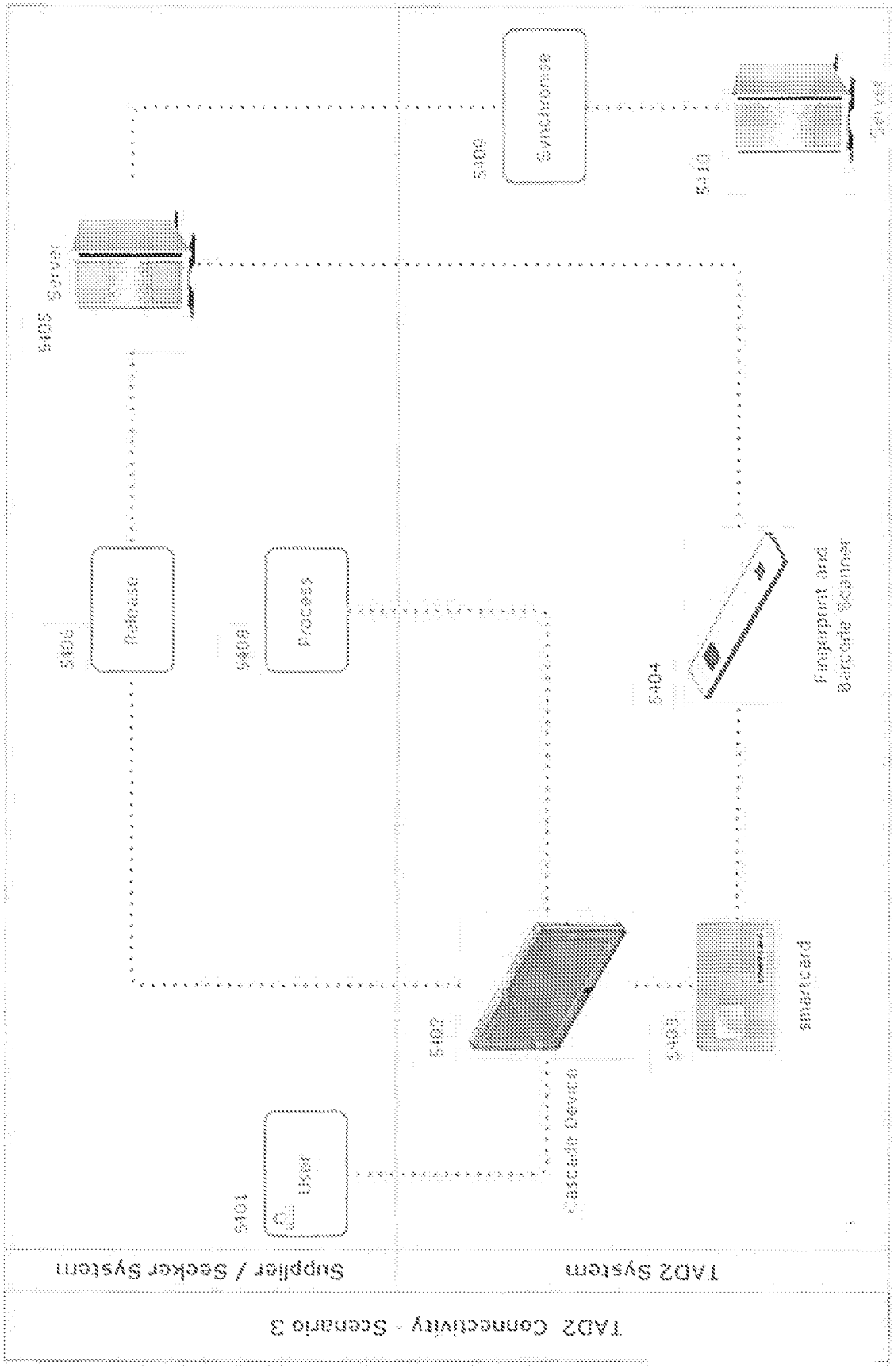

TADZ Connectivity - Scenario 3
TADZ System
Supplier / Seeker System
User
Cascade Device
Fingerprint and Barcode Scanner
Server
Synchronise
Retrieve
Process
Server
S101
S102
S103
S104
S105
S106
S107
S108
S109
S110

Figure 18C

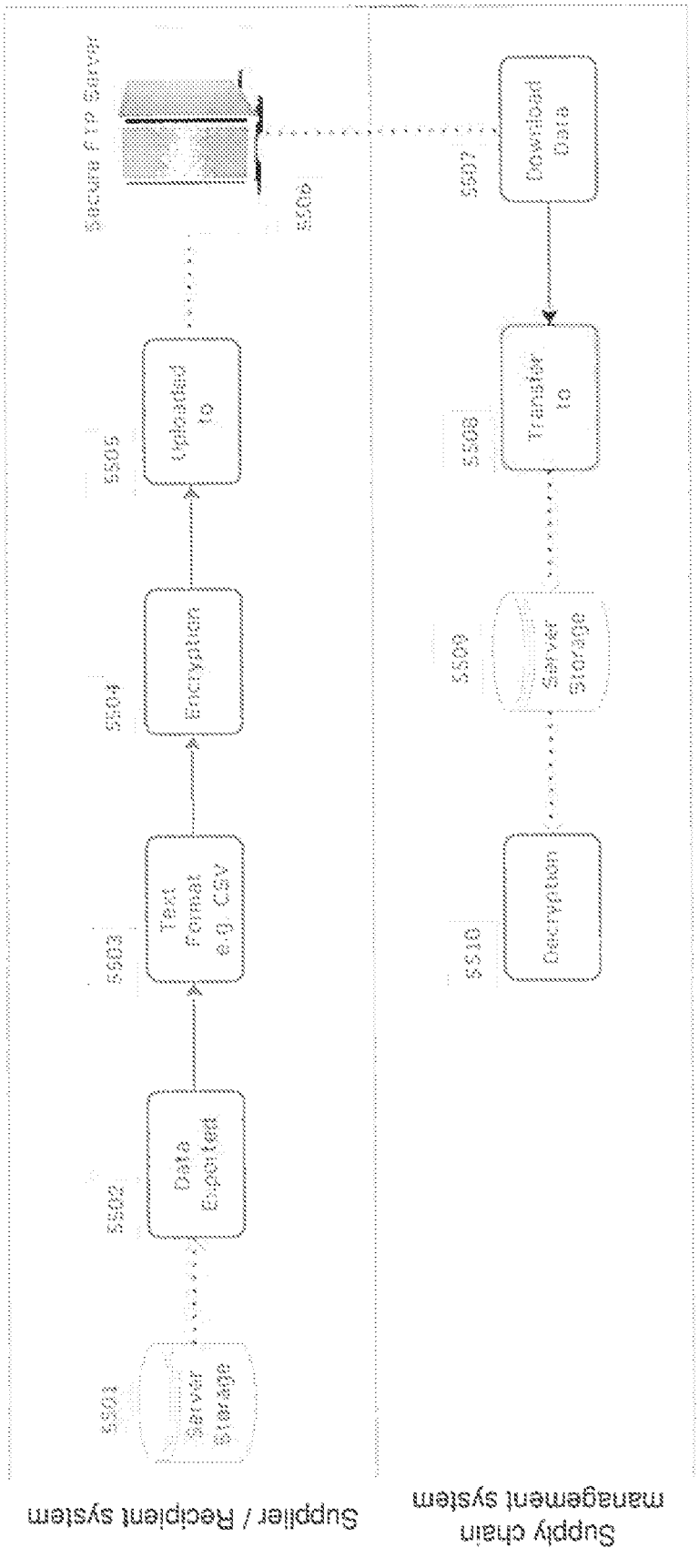

Supplier / Recipient system
Supply chain management system
Server Storage
S501
Data Exported
S502
Text Format e.g. CSV
S503
Encryption
S504
Uploaded to
S505
Secure File Server
S506
Download Data
S507
Transfer to
S508
Server Storage
S509
Decryption
S510

Figure 19

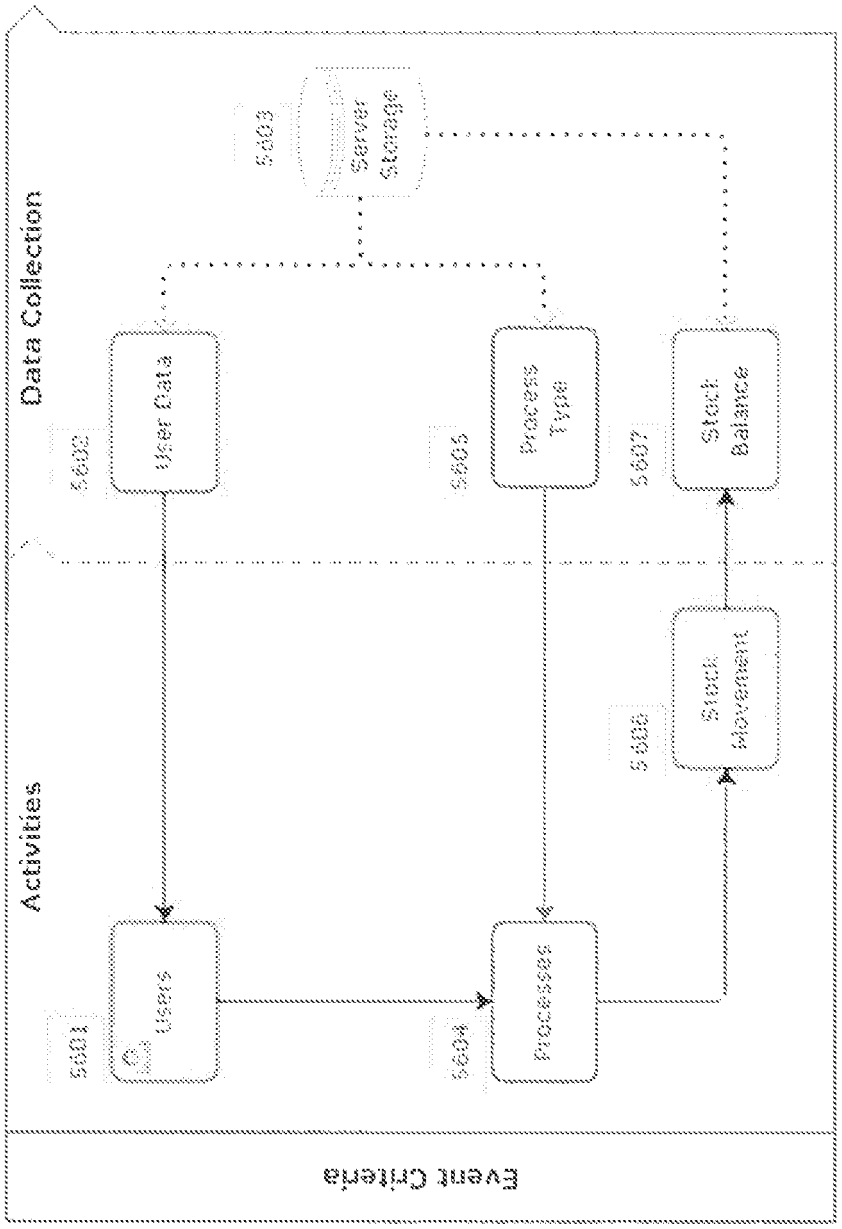

Event Criteria
Activities
Data Collection
Users
5601
User Data
5602
Server Storage
5603
Processes
5604
Process Type
5605
Stock Movement
5606
Stock Balance
5607

Figure 20

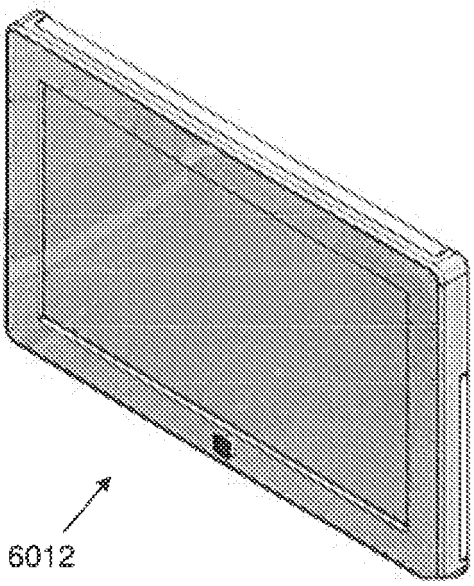


Figure 21A

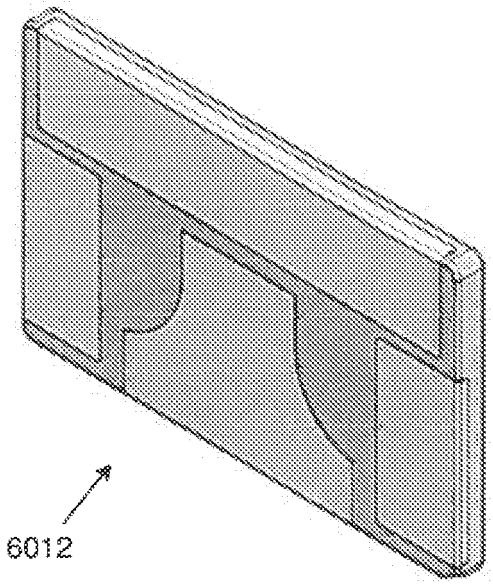


Figure 21B

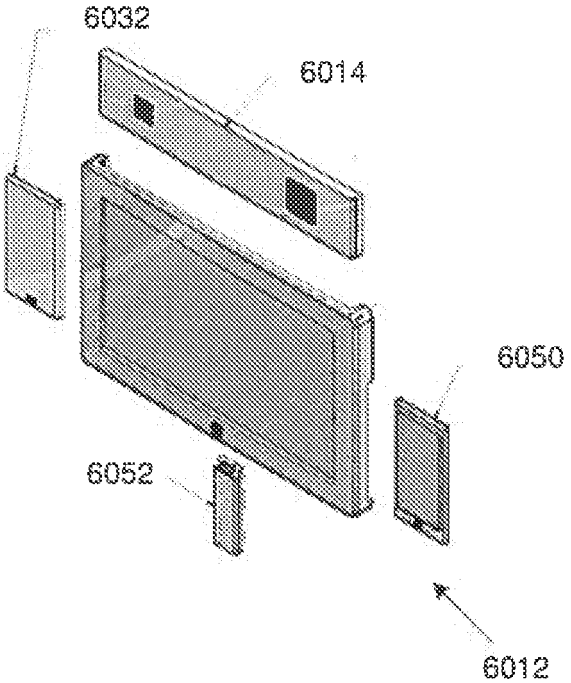


Figure 21C

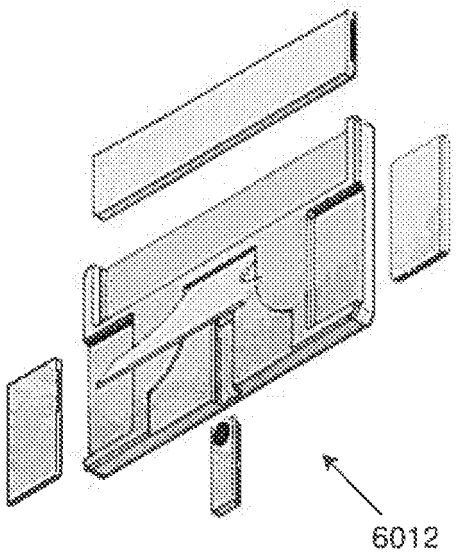


Figure 21D

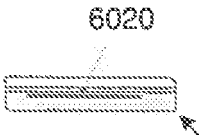


Figure 22A



Figure 22C

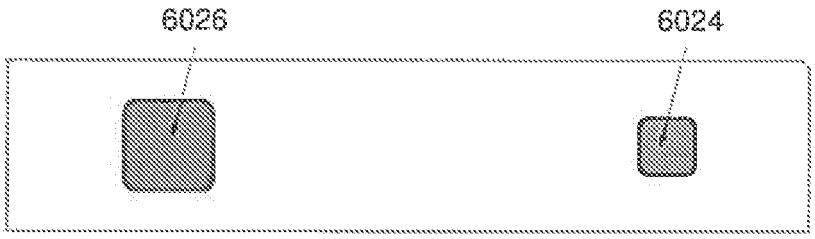


Figure 22D

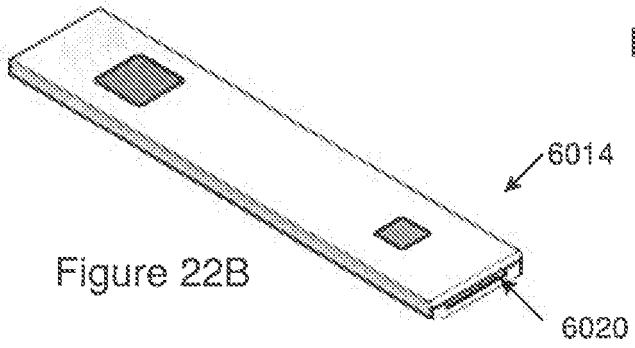


Figure 22B

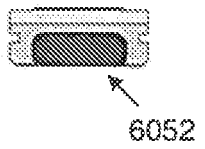


Figure 23A



Figure 23B

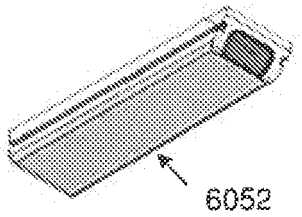


Figure 23C

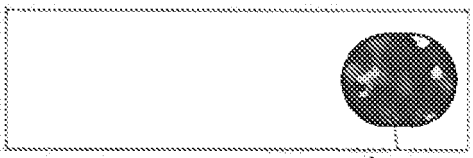


Figure 23E

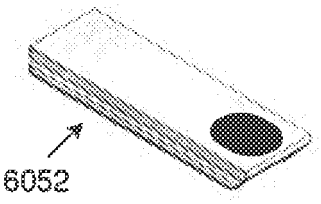


Figure 23D

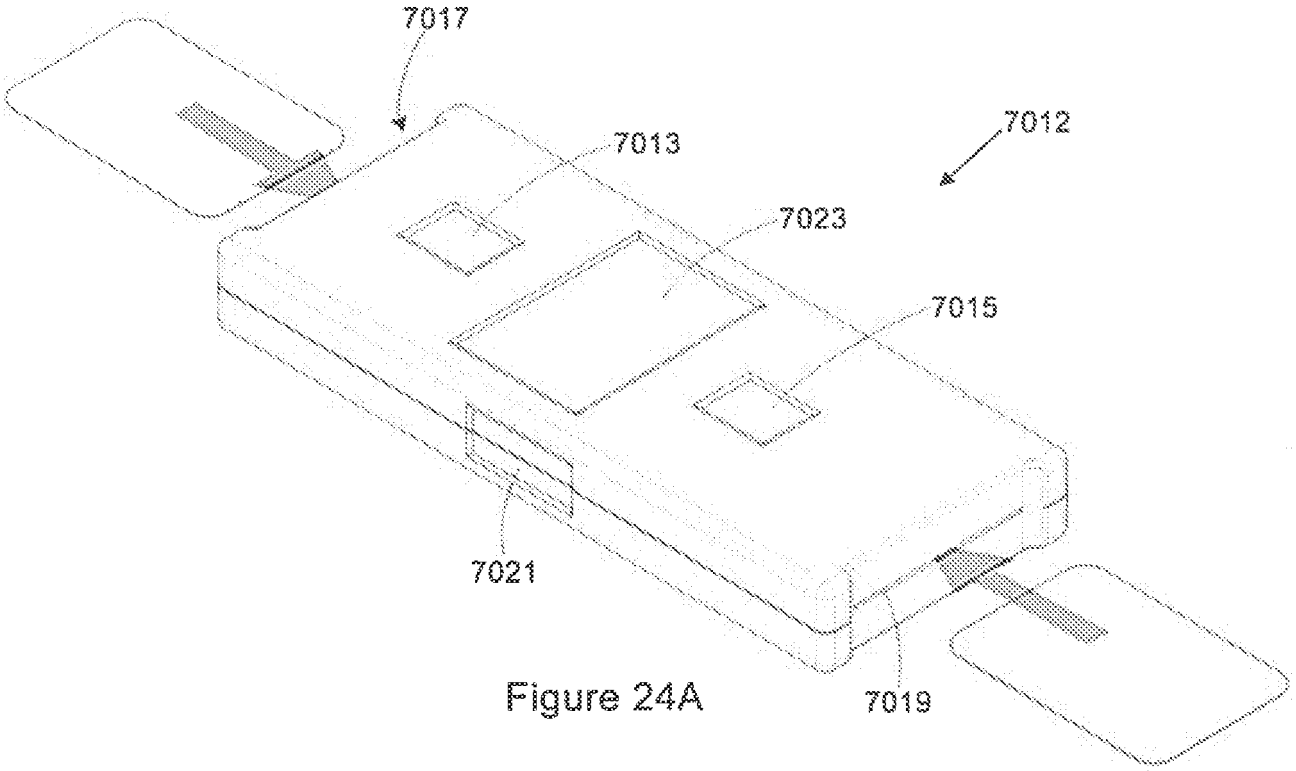


Figure 24A

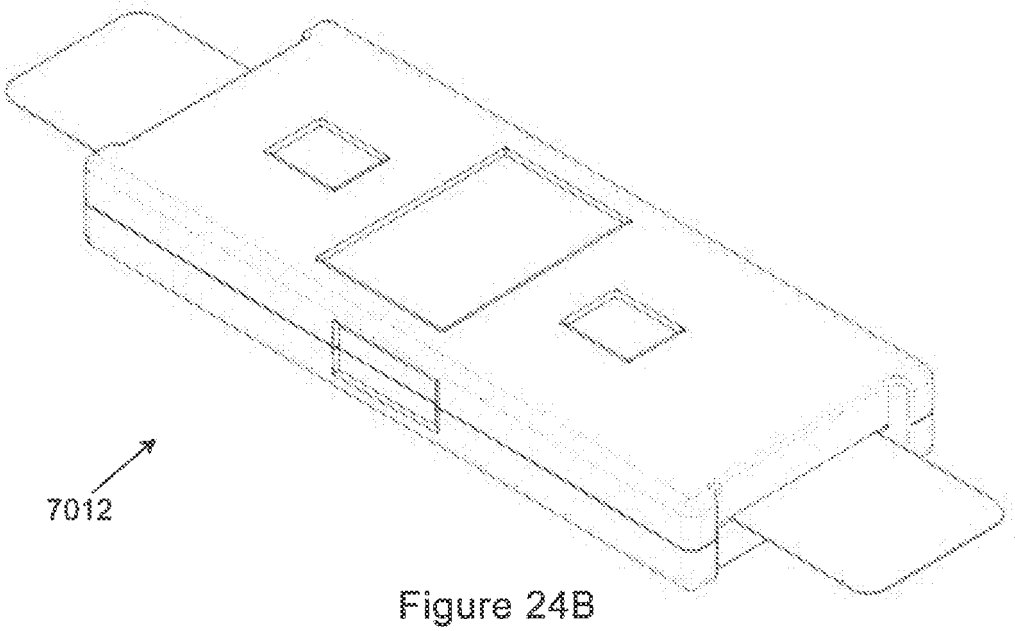


Figure 24B