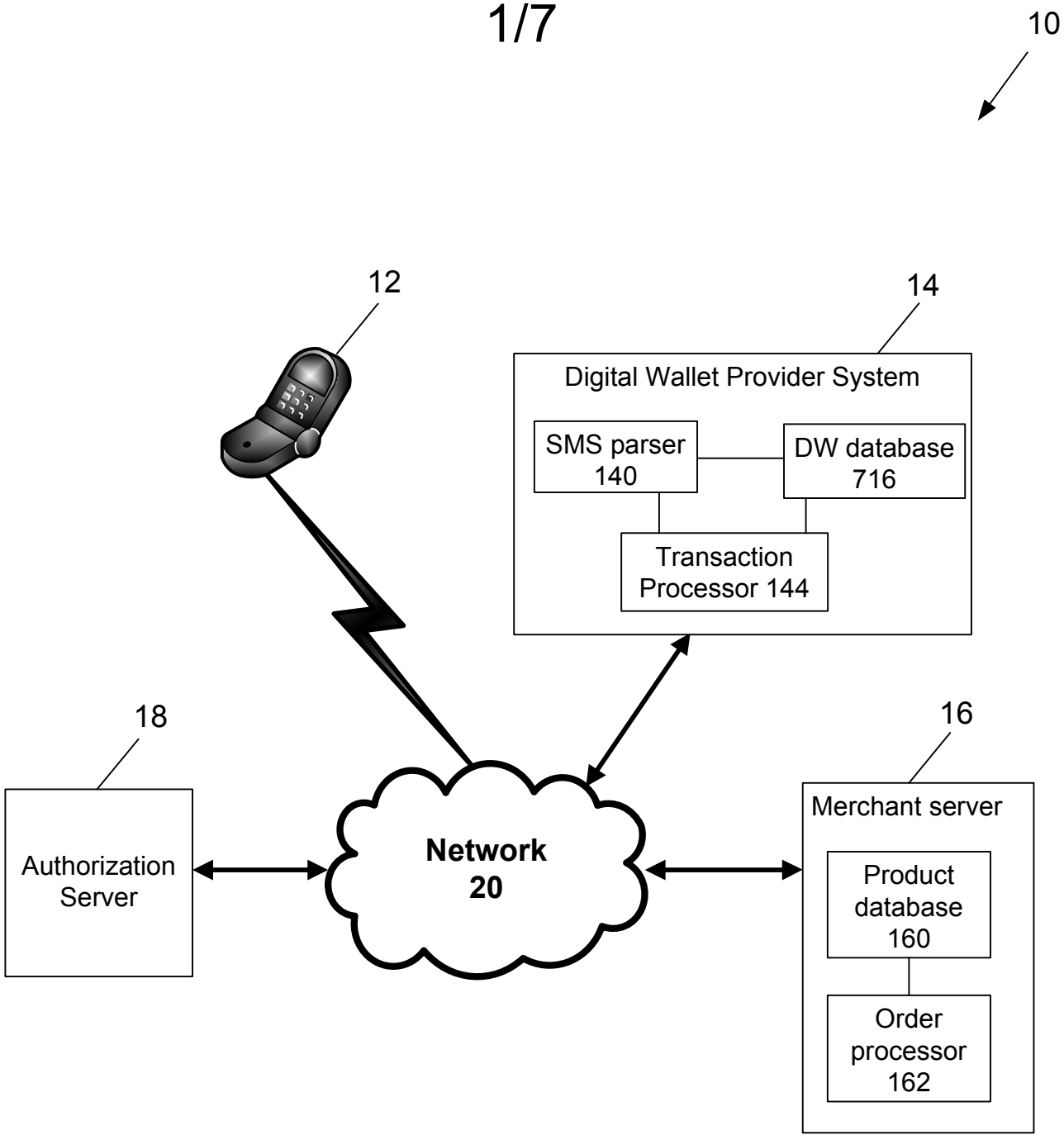

10
12
14
Digital Wallet Provider System
SMS parser 140
DW database 716
Transaction Processor 144
18
16
Authorization Server
Network 20
Merchant server
Product database 160
Order processor 162

Figure 1

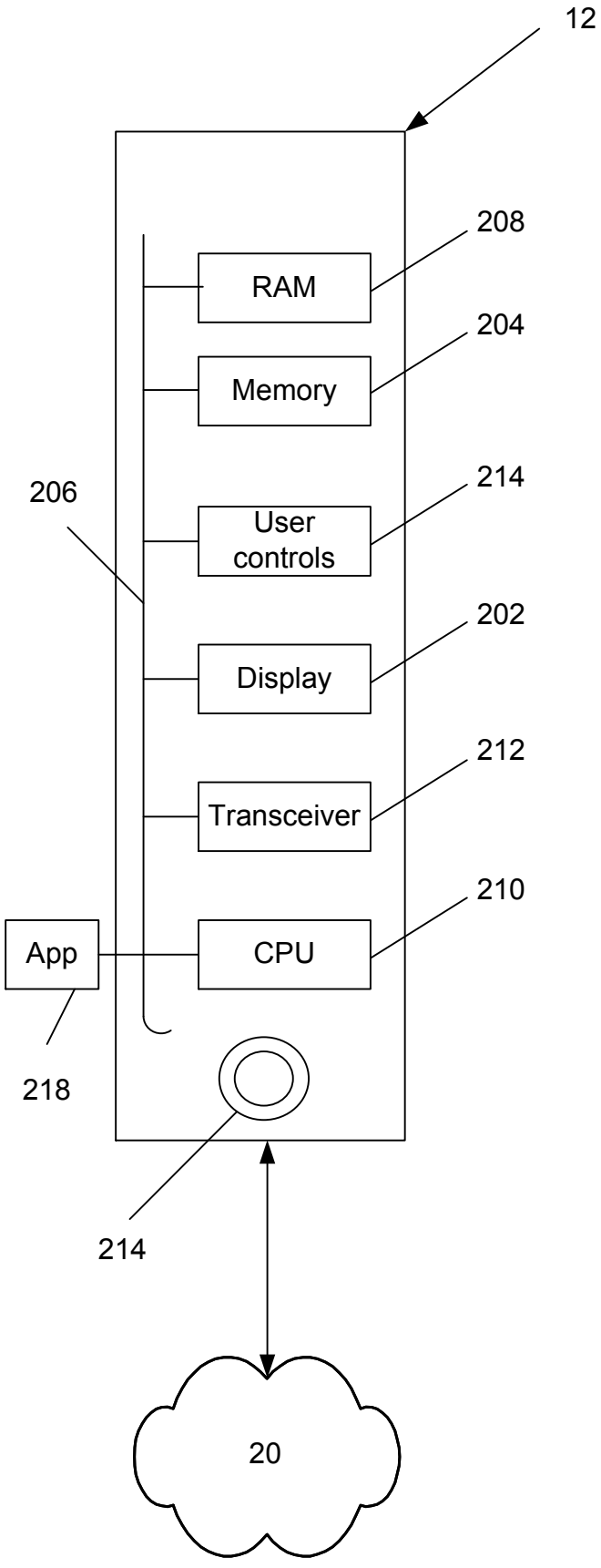

12
208
RAM
204
Memory
206
214
User controls
202
Display
212
Transceiver
210
App
CPU
218
214
20

Figure 2

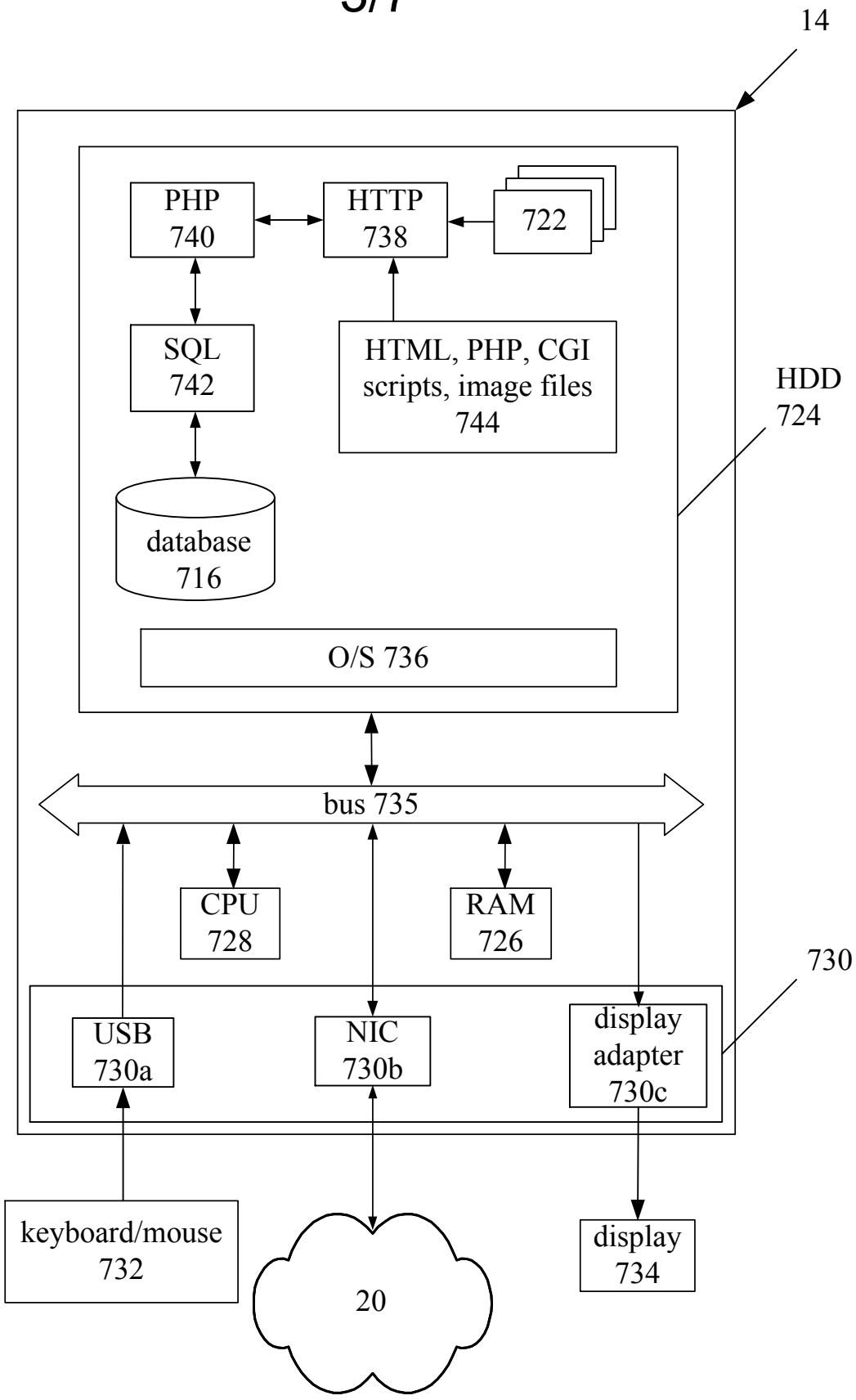

14
PHP
740
HTTP
738
722
SQL
742
HTML, PHP, CGI
scripts, image files
744
HDD
724
database
716
O/S 736
bus 735
CPU
728
RAM
726
730
USB
730a
NIC
730b
display
adapter
730c
keyboard/mouse
732
20
display
734

Figure 3

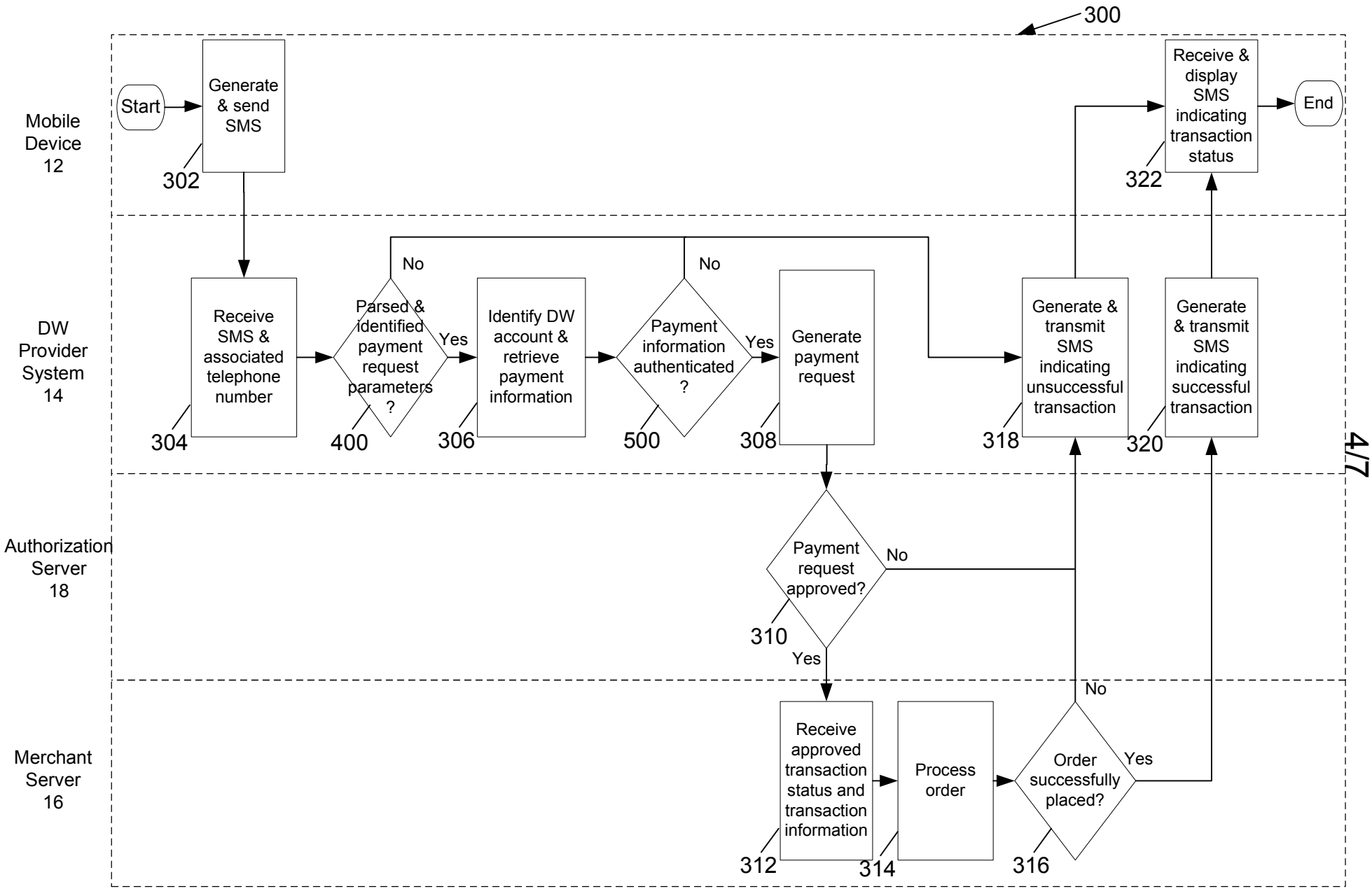

300
Mobile Device 12
DW Provider System 14
Authorization Server 18
Merchant Server 16
Start
Generate & send SMS
302
Receive SMS & associated telephone number
304
Parsed & identified payment request parameters ?
400
No
Yes
Identify DW account & retrieve payment information
306
Payment information authenticated ?
500
No
Yes
Generate payment request
308
Payment request approved?
310
No
Yes
Receive approved transaction status and transaction information
312
Process order
314
Order successfully placed?
316
No
Yes
Generate & transmit SMS indicating unsuccessful transaction
318
Generate & transmit SMS indicating successful transaction
320
Receive & display SMS indicating transaction status
322
End
4/7

Figure 4

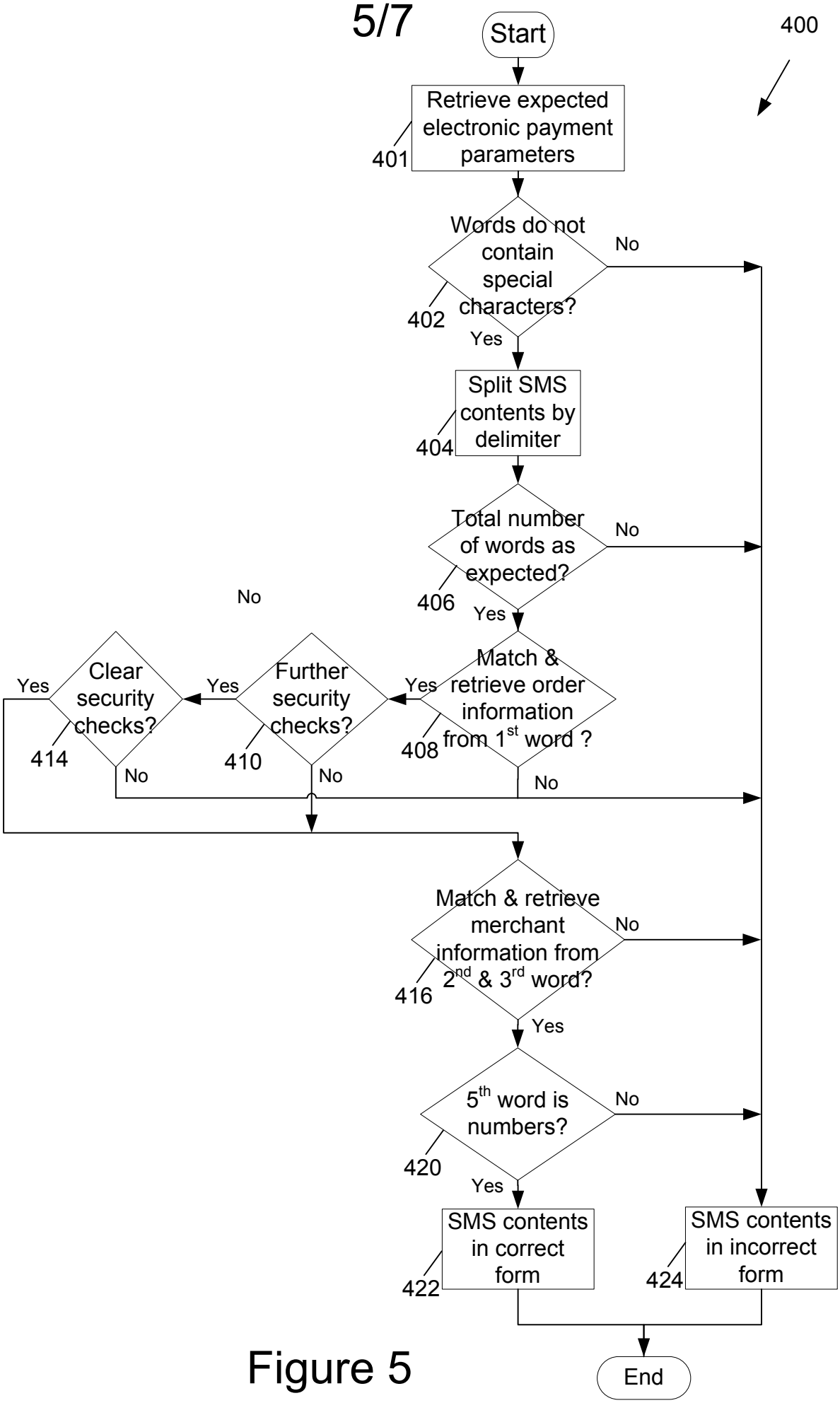

Start
400
Retrieve expected electronic payment parameters
401
Words do not contain special characters?
402
No
Yes
Split SMS contents by delimiter
404
Total number of words as expected?
406
No
Yes
Match & retrieve order information from 1st word ?
408
Yes
No
Further security checks?
410
Yes
No
Clear security checks?
414
Yes
No
No
Match & retrieve merchant information from 2nd & 3rd word?
416
No
Yes
5th word is numbers?
420
No
Yes
SMS contents in correct form
422
SMS contents in incorrect form
424
End

Figure 5

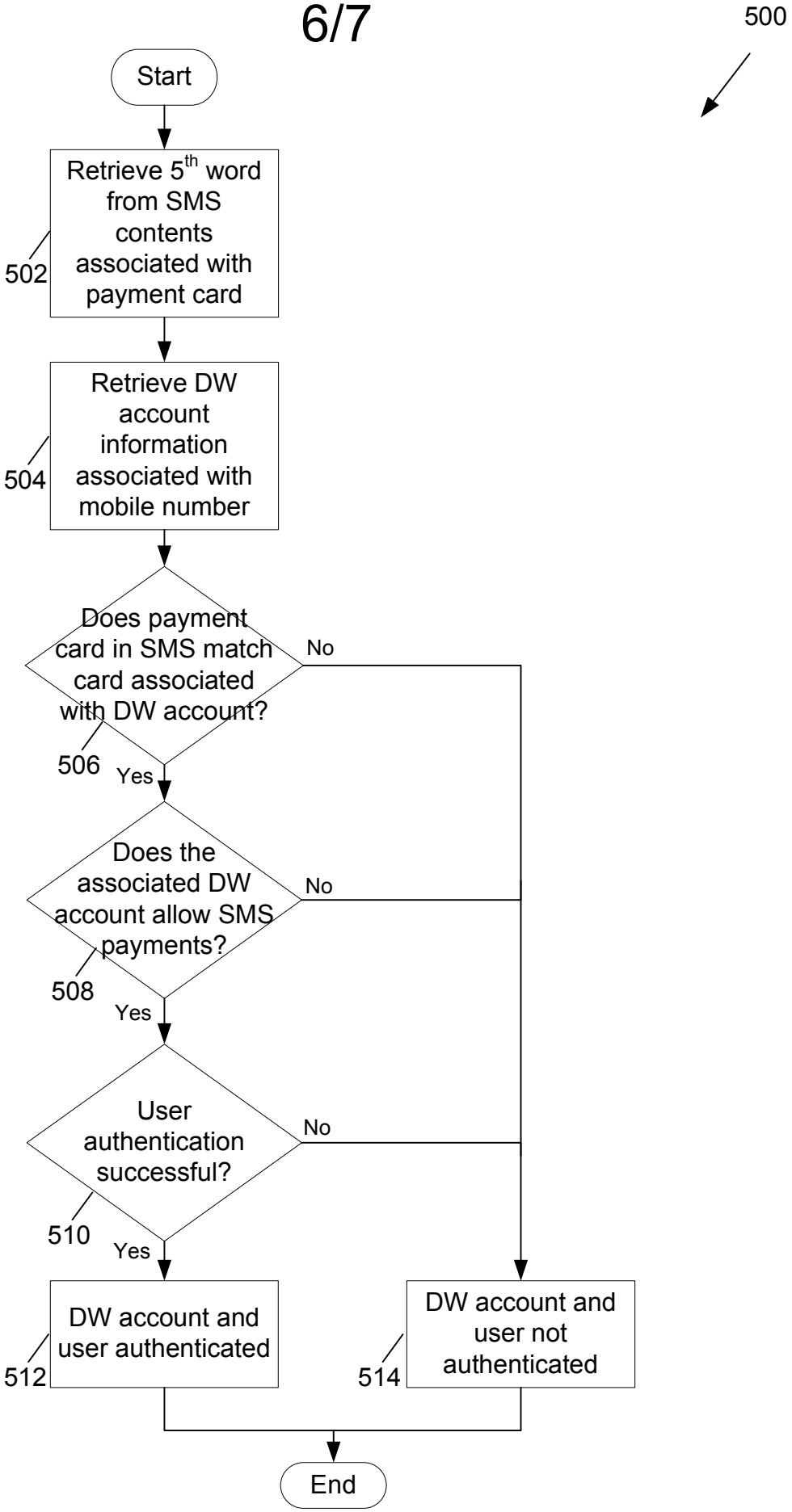

500
Start
Retrieve 5th word from SMS contents associated with payment card
502
Retrieve DW account information associated with mobile number
504
Does payment card in SMS match card associated with DW account?
506
No
Yes
Does the associated DW account allow SMS payments?
508
No
Yes
User authentication successful?
510
No
Yes
DW account and user authenticated
512
DW account and user not authenticated
514
End

Figure 6

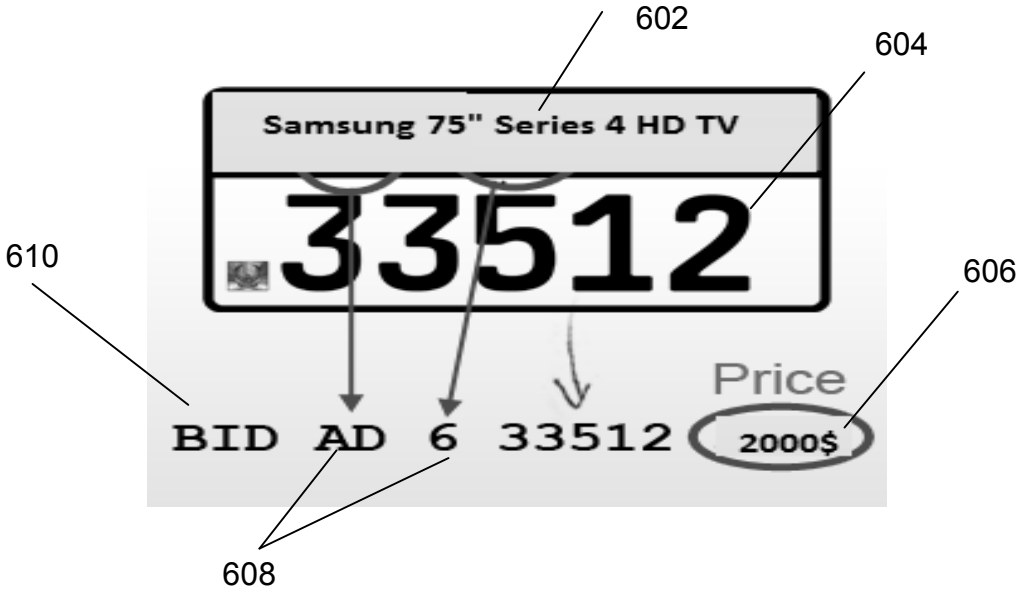


Figure 7a



Figure 7b



Figure 7c