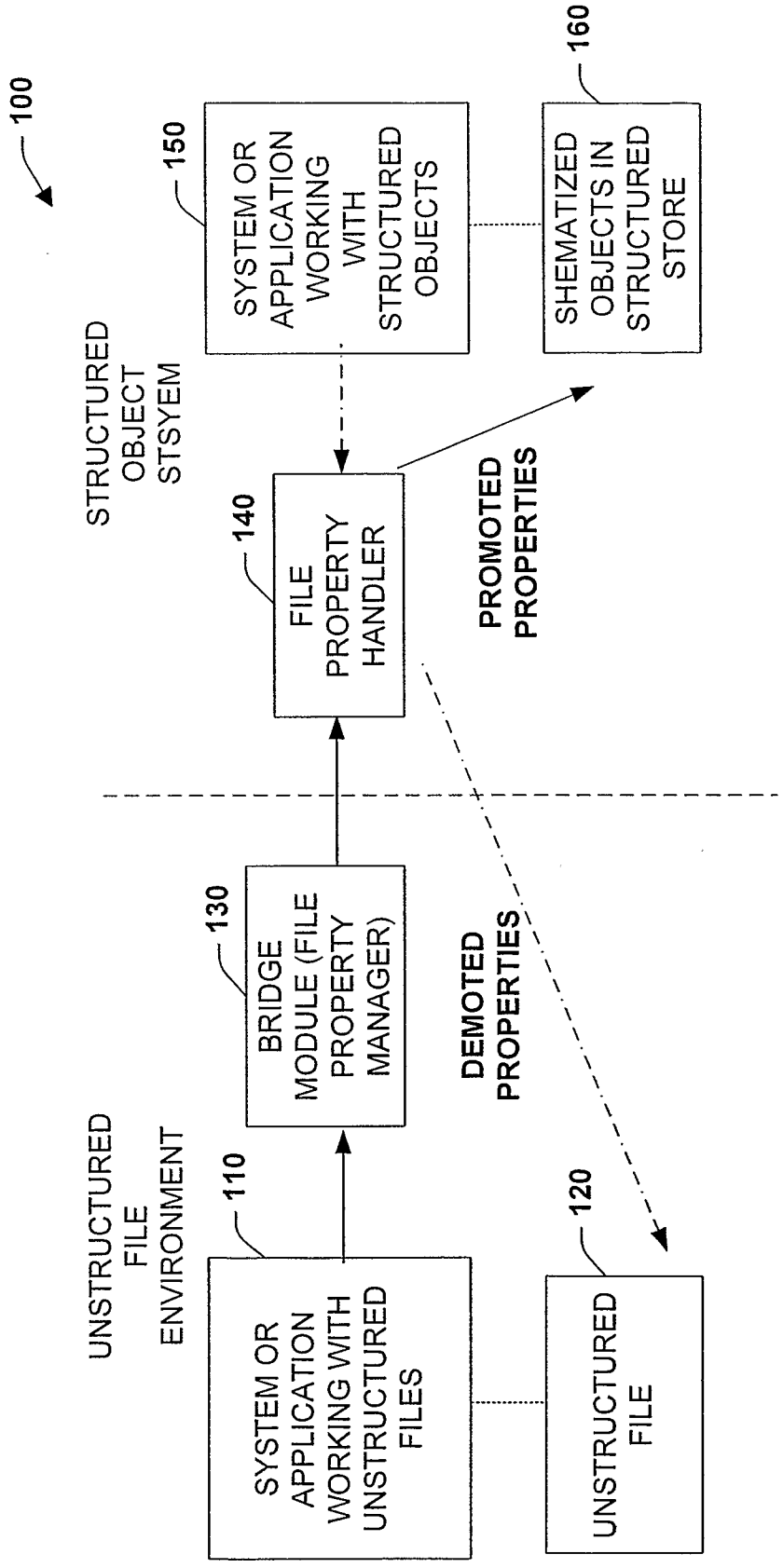

100
STRUCTURED OBJECT STSYEM
UNSTRUCTURED FILE ENVIRONMENT
150
SYSTEM OR APPLICATION WORKING WITH STRUCTURED OBJECTS
160
SHEMATIZED OBJECTS IN STRUCTURED STORE
140
FILE PROPERTY HANDLER
PROMOTED PROPERTIES
130
BRIDGE MODULE (FILE PROPERTY MANAGER)
DEMOTED PROPERTIES
110
SYSTEM OR APPLICATION WORKING WITH UNSTRUCTURED FILES
120
UNSTRUCTURED FILE

FIG. 1

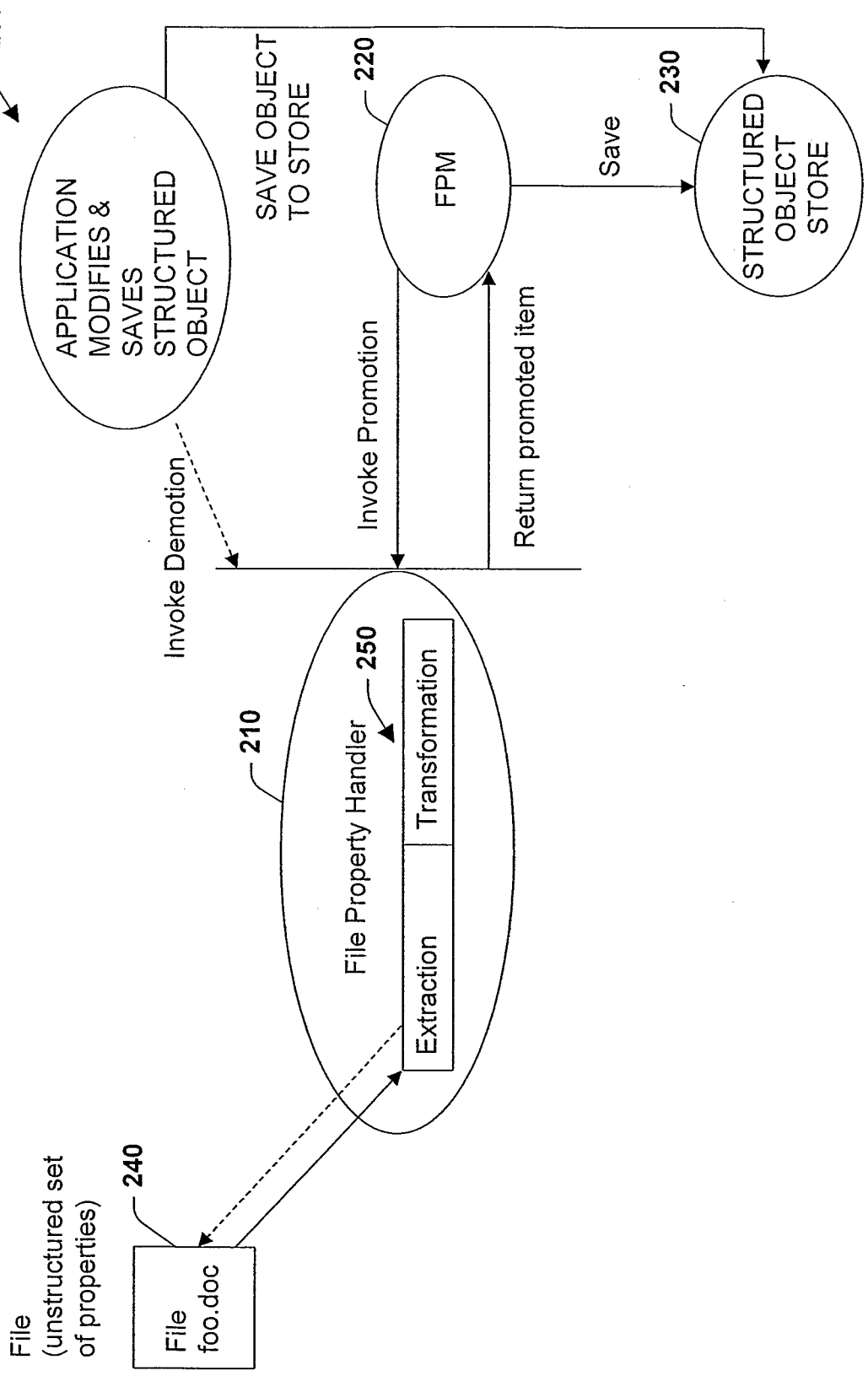

200
APPLICATION MODIFIES & SAVES STRUCTURED OBJECT
SAVE OBJECT TO STORE
220
FPM
Save
230
STRUCTURED OBJECT STORE
Invoke Promotion
Return promoted item
Invoke Demotion
210
File Property Handler
250
Transformation
Extraction
240
File (unstructured set of properties)
File foo.doc

FIG. 2

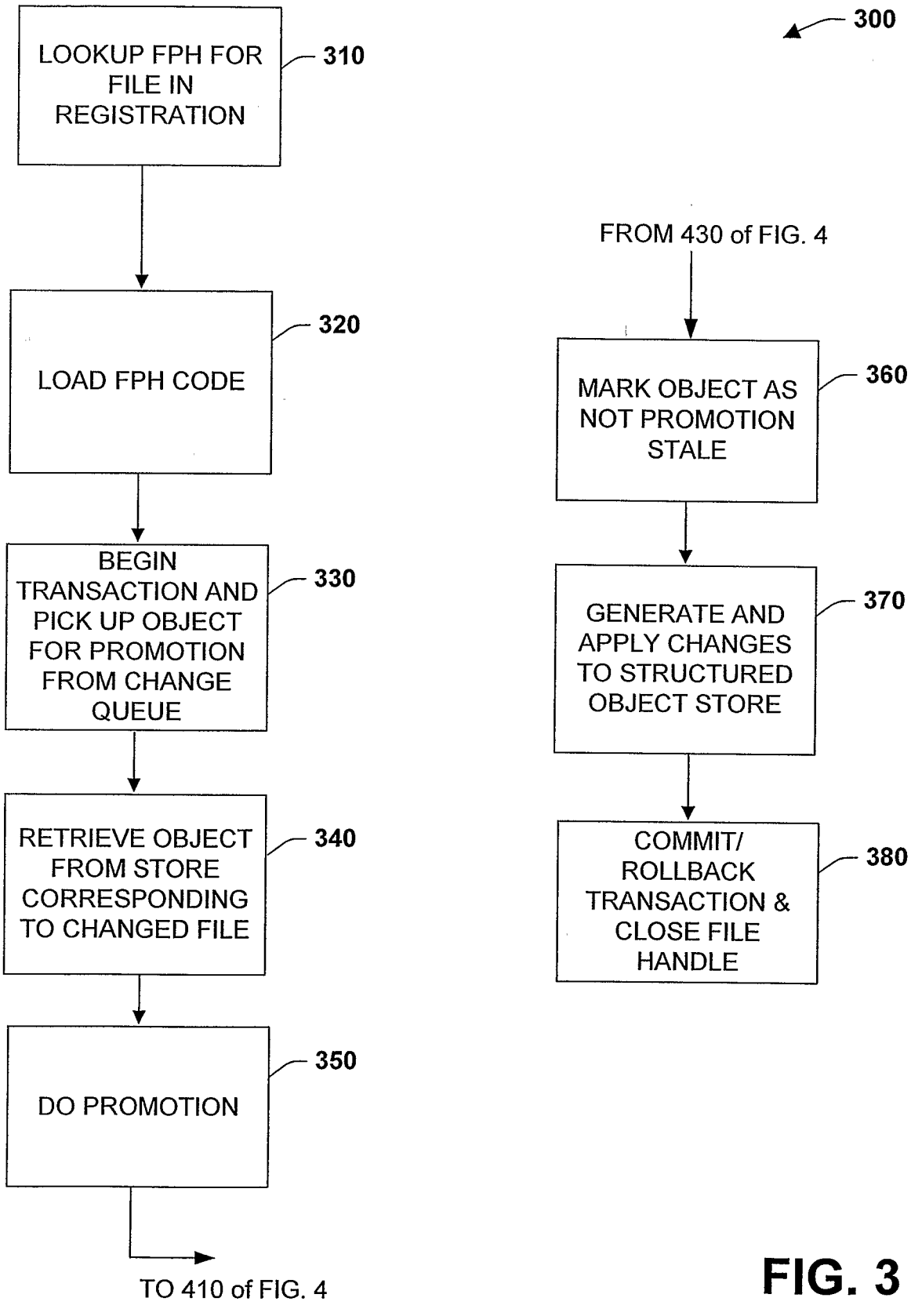

300
LOOKUP FPH FOR FILE IN REGISTRATION
310
LOAD FPH CODE
320
BEGIN TRANSACTION AND PICK UP OBJECT FOR PROMOTION FROM CHANGE QUEUE
330
RETRIEVE OBJECT FROM STORE CORRESPONDING TO CHANGED FILE
340
DO PROMOTION
350
TO 410 of FIG. 4
FROM 430 of FIG. 4
MARK OBJECT AS NOT PROMOTION STALE
360
GENERATE AND APPLY CHANGES TO STRUCTURED OBJECT STORE
370
COMMIT/ ROLLBACK TRANSACTION & CLOSE FILE HANDLE
380

FIG. 3

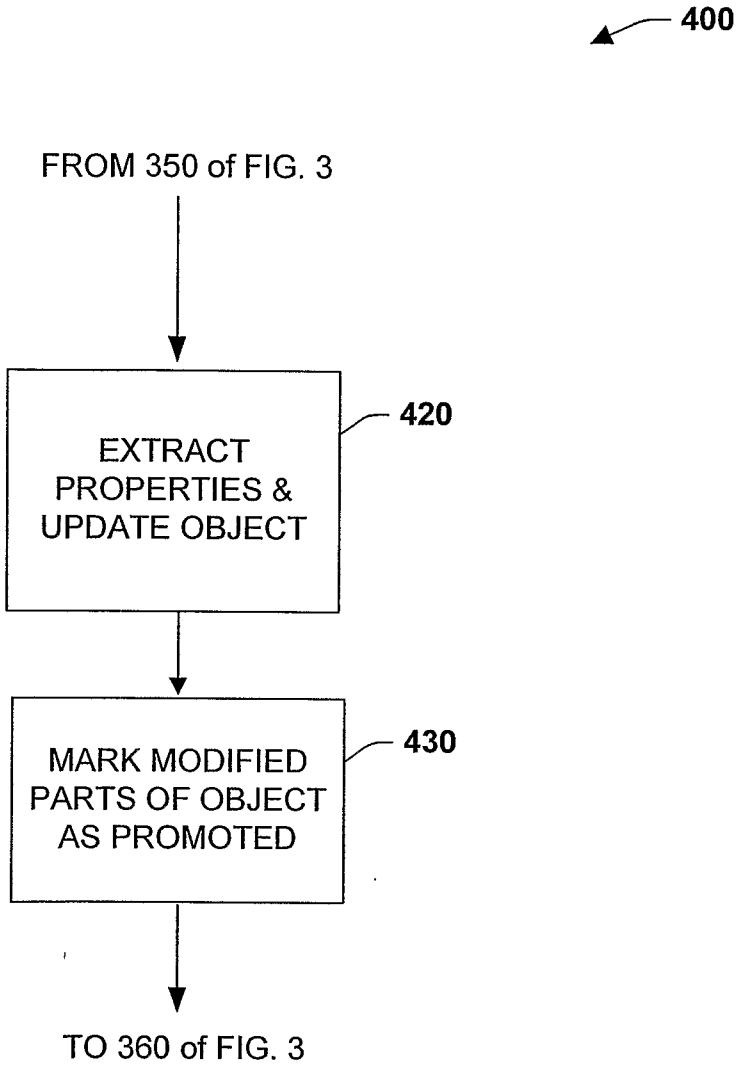

400
FROM 350 of FIG. 3
EXTRACT PROPERTIES & UPDATE OBJECT
420
MARK MODIFIED PARTS OF OBJECT AS PROMOTED
430
TO 360 of FIG. 3

FIG. 4

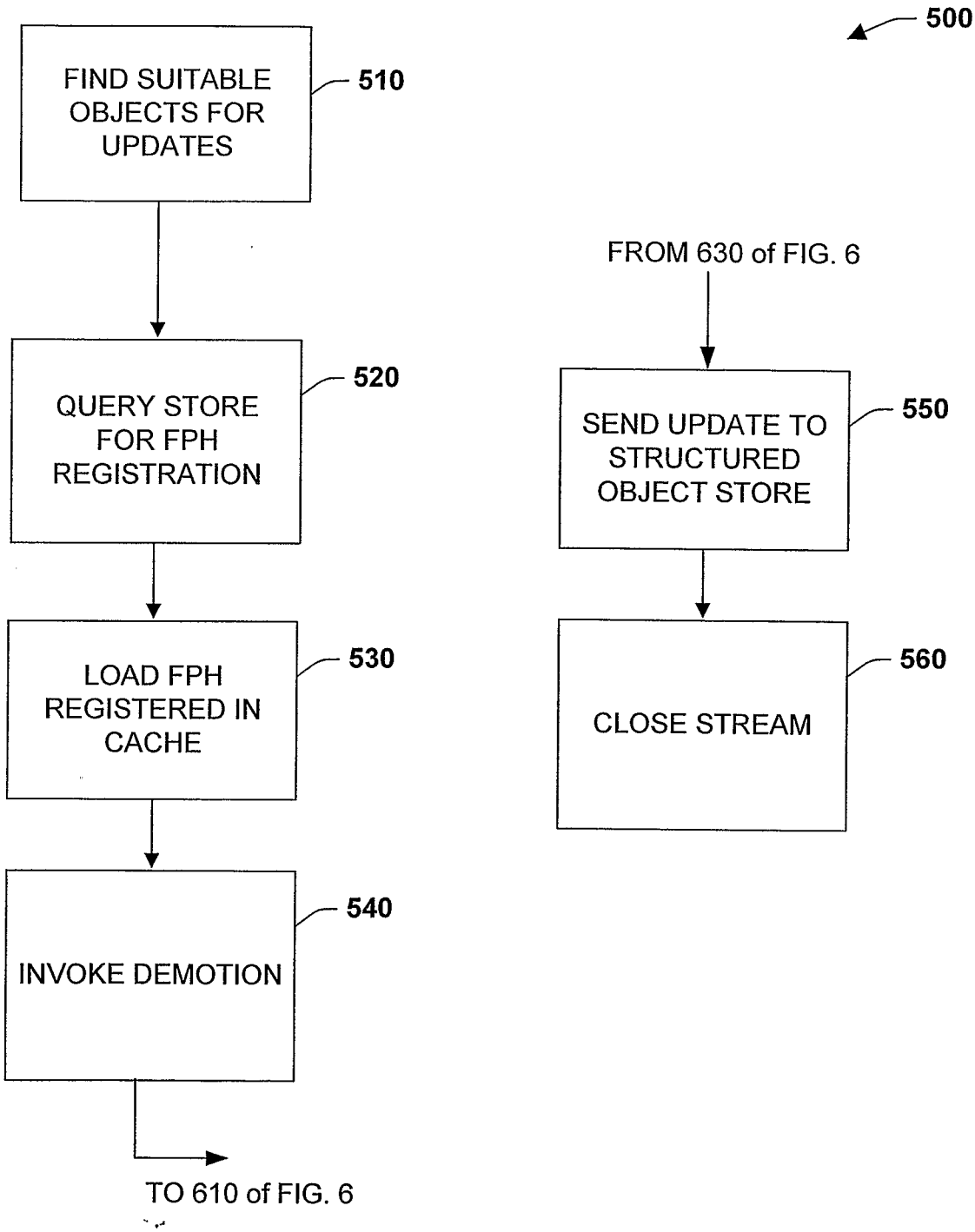

500
FIND SUITABLE OBJECTS FOR UPDATES
510
QUERY STORE FOR FPH REGISTRATION
520
LOAD FPH REGISTERED IN CACHE
530
INVOKE DEMOTION
540
TO 610 of FIG. 6
FROM 630 of FIG. 6
SEND UPDATE TO STRUCTURED OBJECT STORE
550
CLOSE STREAM
560

FIG. 5

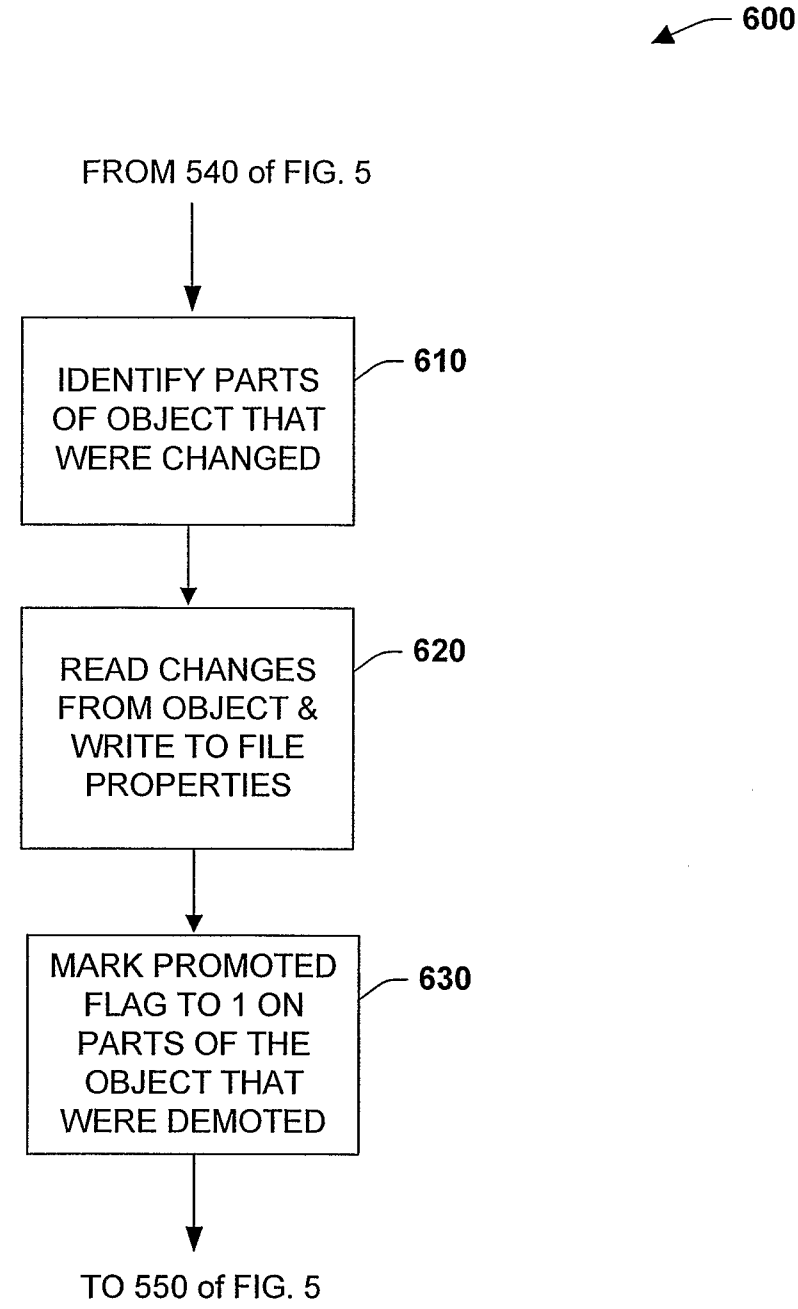

600
FROM 540 of FIG. 5
IDENTIFY PARTS OF OBJECT THAT WERE CHANGED
610
READ CHANGES FROM OBJECT & WRITE TO FILE PROPERTIES
620
MARK PROMOTED FLAG TO 1 ON PARTS OF THE OBJECT THAT WERE DEMOTED
630
TO 550 of FIG. 5

FIG. 6

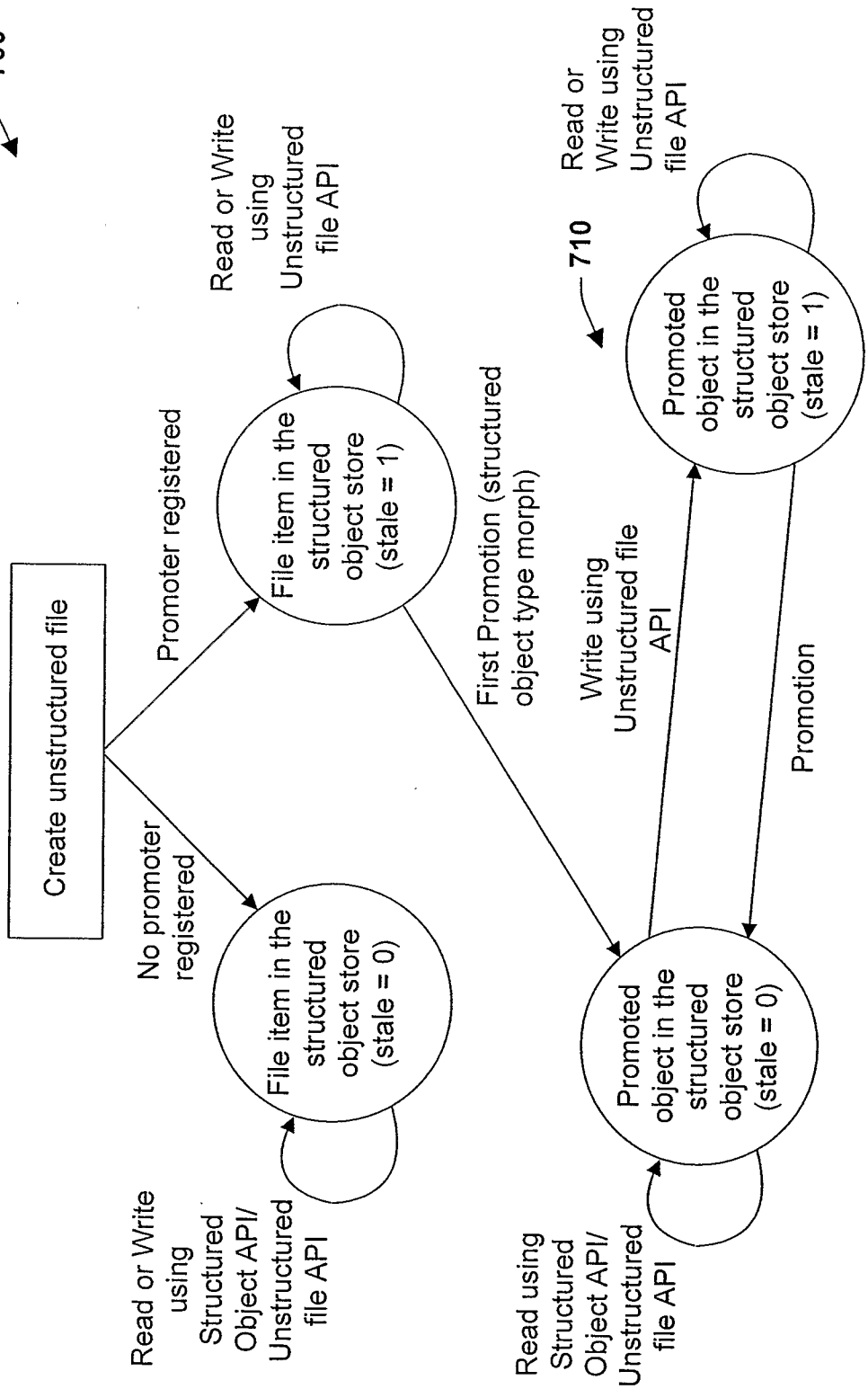

700
Create unstructured file
Promoter registered
No promoter registered
File item in the structured object store (stale = 1)
File item in the structured object store (stale = 0)
Read or Write using Unstructured file API
Read or Write using Structured Object API/ Unstructured file API
First Promotion (structured object type morph)
710
Promoted object in the structured object store (stale = 1)
Promoted object in the structured object store (stale = 0)
Write using Unstructured file API
Promotion
Read or Write using Unstructured file API
Read using Structured Object API/ Unstructured file API

FIG. 7

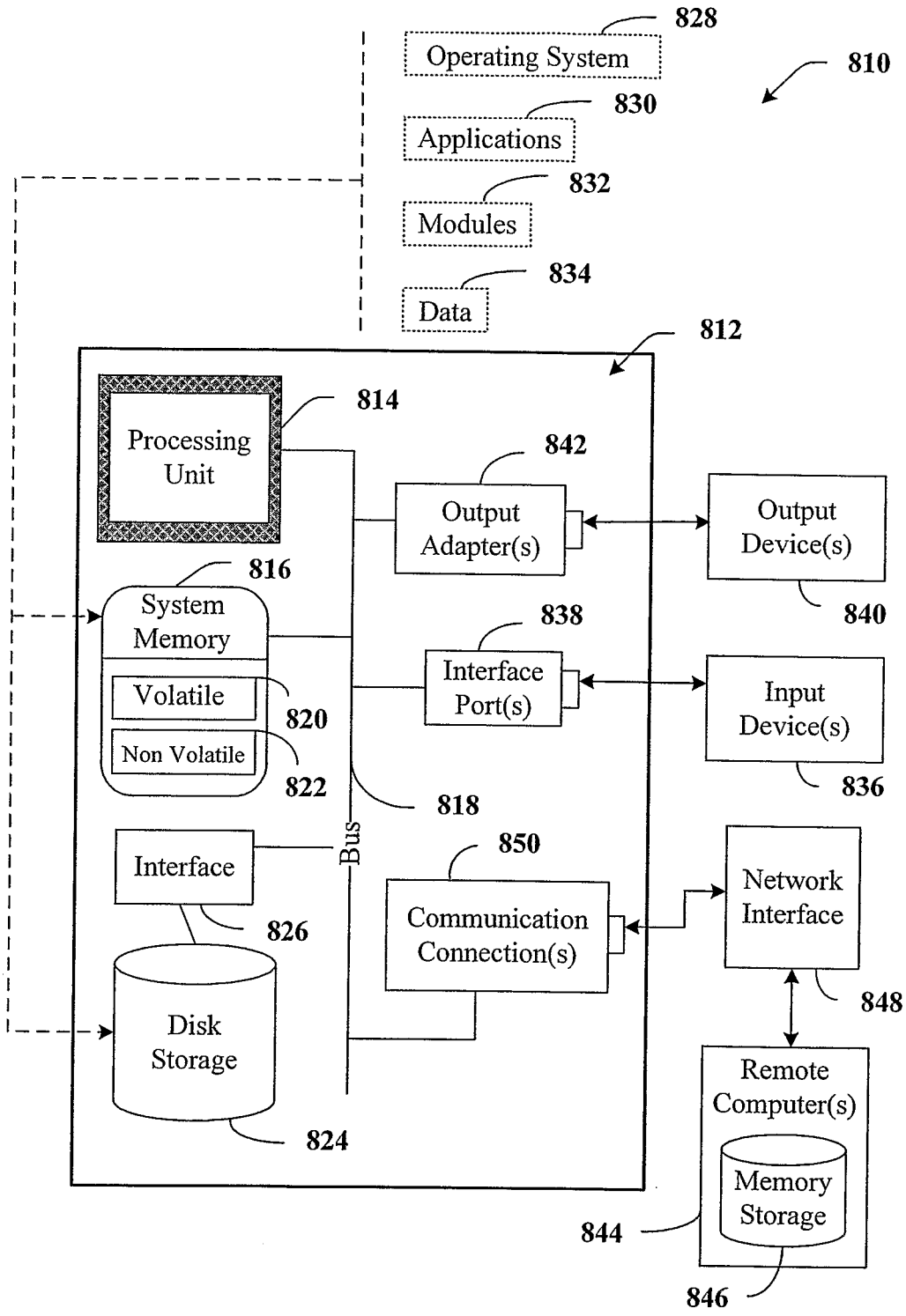

828
Operating System
810
830
Applications
832
Modules
834
Data
812
814
Processing Unit
842
Output Adapter(s)
Output Device(s)
840
816
System Memory
838
Interface Port(s)
Input Device(s)
836
Volatile
820
Non Volatile
822
818
Bus
Interface
826
850
Communication Connection(s)
Network Interface
848
Disk Storage
824
Remote Computer(s)
Memory Storage
844
846

FIG. 8

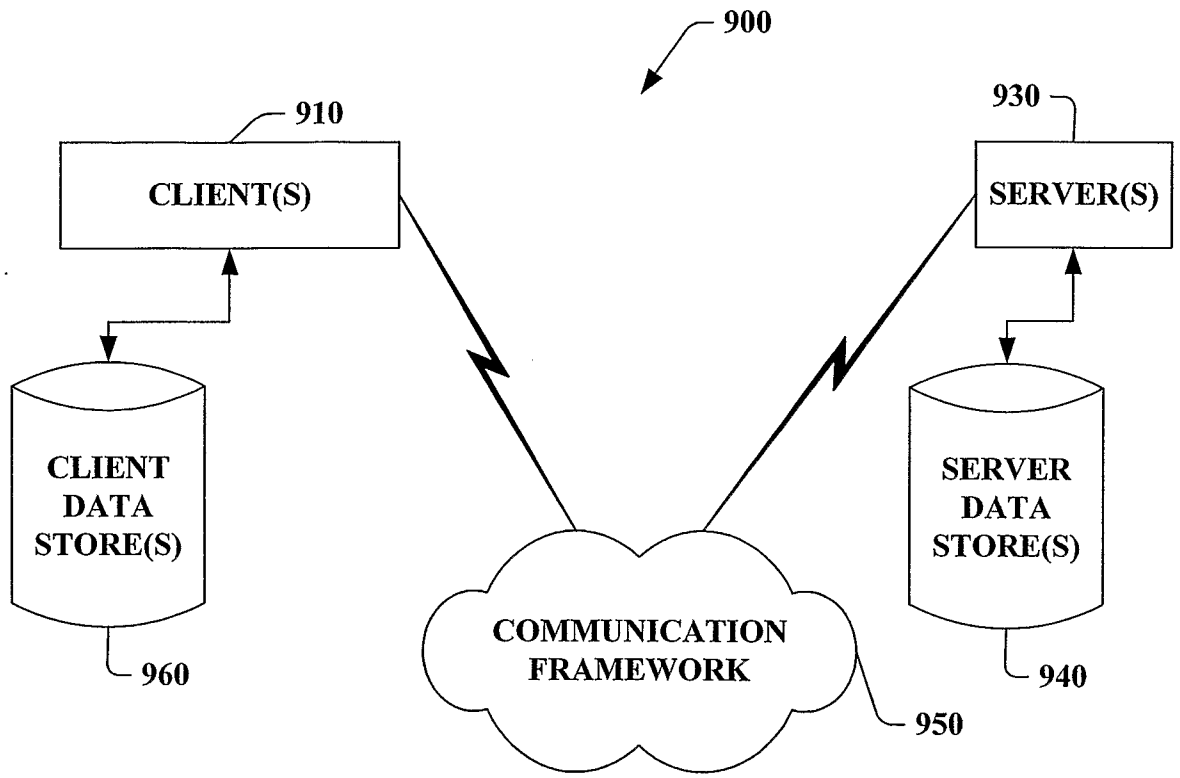

900
910
CLIENT(S)
930
SERVER(S)
CLIENT DATA STORE(S)
960
COMMUNICATION FRAMEWORK
950
SERVER DATA STORE(S)
940

FIG. 9