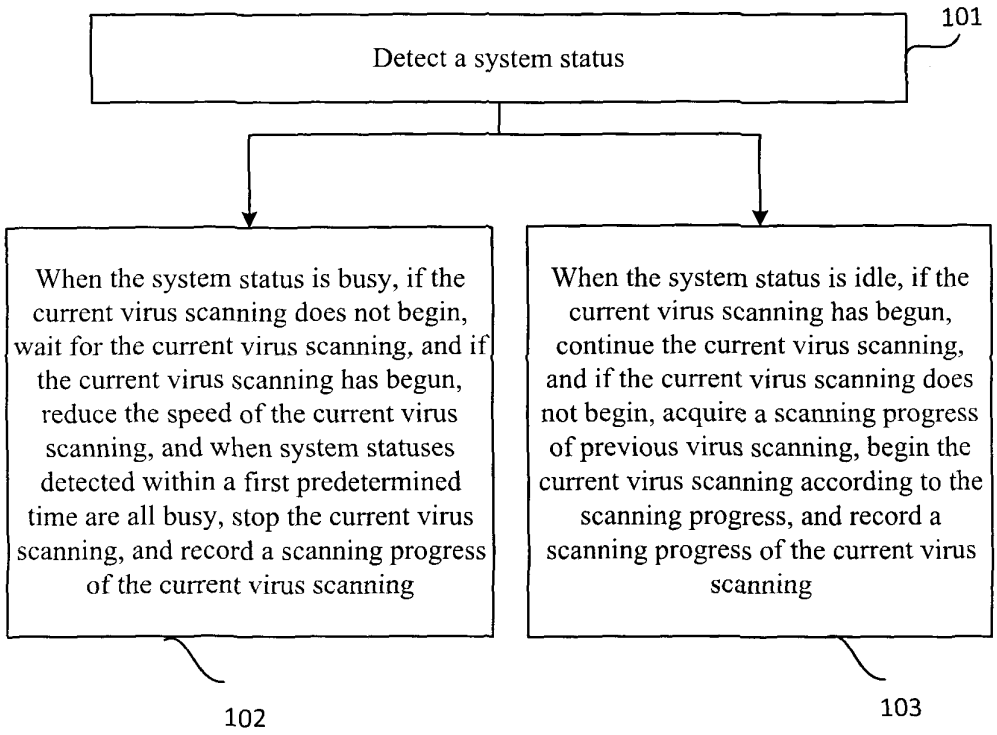
Detect a system status
101
When the system status is busy, if the current virus scanning does not begin, wait for the current virus scanning, and if the current virus scanning has begun, reduce the speed of the current virus scanning, and when system statuses detected within a first predetermined time are all busy, stop the current virus scanning, and record a scanning progress of the current virus scanning
When the system status is idle, if the current virus scanning has begun, continue the current virus scanning, and if the current virus scanning does not begin, acquire a scanning progress of previous virus scanning, begin the current virus scanning according to the scanning progress, and record a scanning progress of the current virus scanning
102
103

FIG. 1

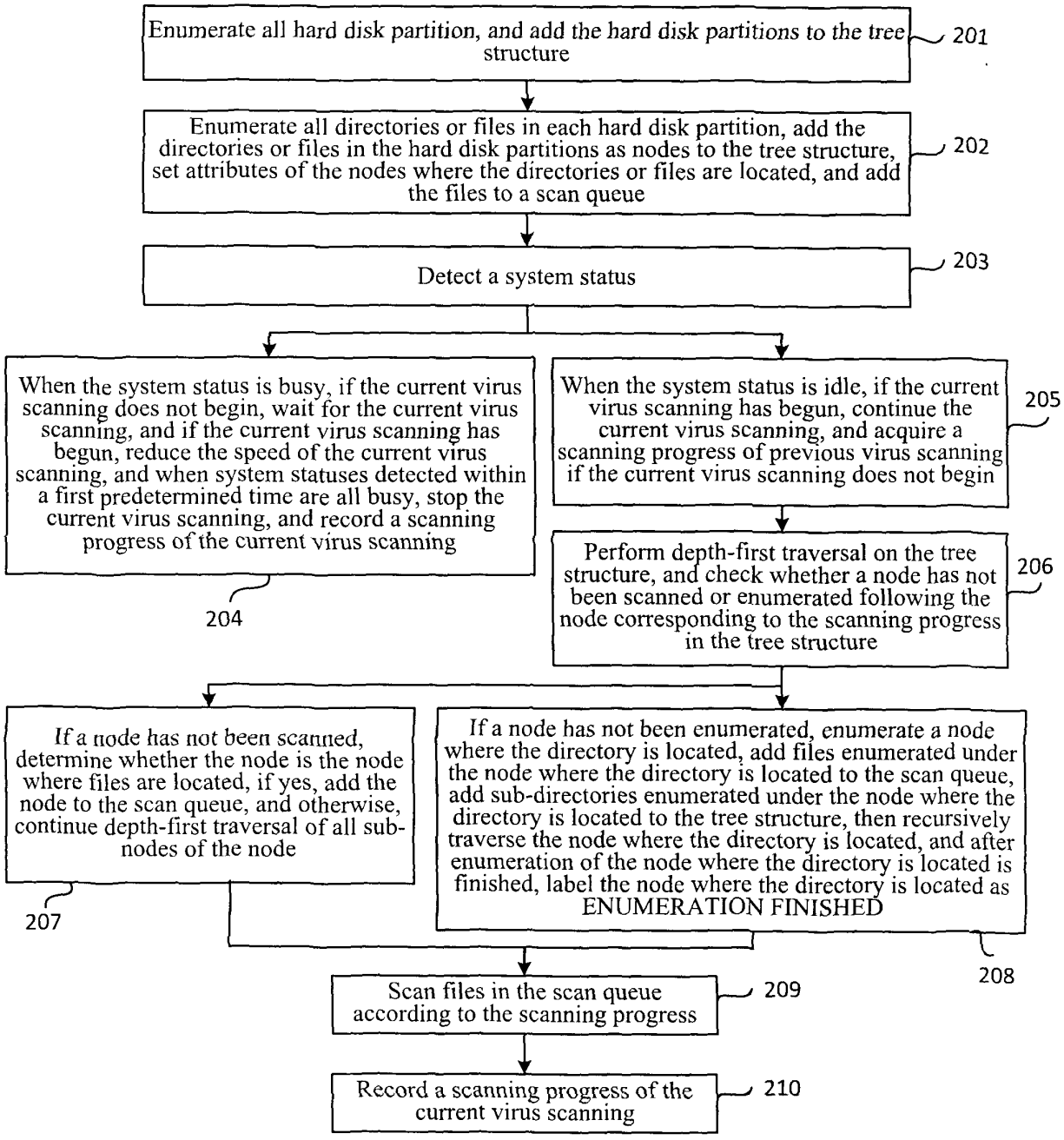
Enumerate all hard disk partition, and add the hard disk partitions to the tree structure
201
Enumerate all directories or files in each hard disk partition, add the directories or files in the hard disk partitions as nodes to the tree structure, set attributes of the nodes where the directories or files are located, and add the files to a scan queue
202
Detect a system status
203
When the system status is busy, if the current virus scanning does not begin, wait for the current virus scanning, and if the current virus scanning has begun, reduce the speed of the current virus scanning, and when system statuses detected within a first predetermined time are all busy, stop the current virus scanning, and record a scanning progress of the current virus scanning
204
When the system status is idle, if the current virus scanning has begun, continue the current virus scanning, and acquire a scanning progress of previous virus scanning if the current virus scanning does not begin
205
Perform depth-first traversal on the tree structure, and check whether a node has not been scanned or enumerated following the node corresponding to the scanning progress in the tree structure
206
If a node has not been scanned, determine whether the node is the node where files are located, if yes, add the node to the scan queue, and otherwise, continue depth-first traversal of all sub-nodes of the node
207
If a node has not been enumerated, enumerate a node where the directory is located, add files enumerated under the node where the directory is located to the scan queue, add sub-directories enumerated under the node where the directory is located to the tree structure, then recursively traverse the node where the directory is located, and after enumeration of the node where the directory is located is finished, label the node where the directory is located as ENUMERATION FINISHED
208
Scan files in the scan queue according to the scanning progress
209
Record a scanning progress of the current virus scanning
210

FIG. 2

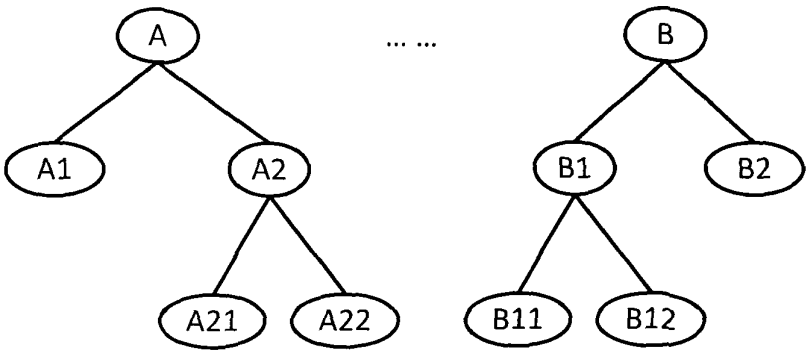
A
... ...
B
A1
A2
B1
B2
A21
A22
B11
B12

FIG. 3

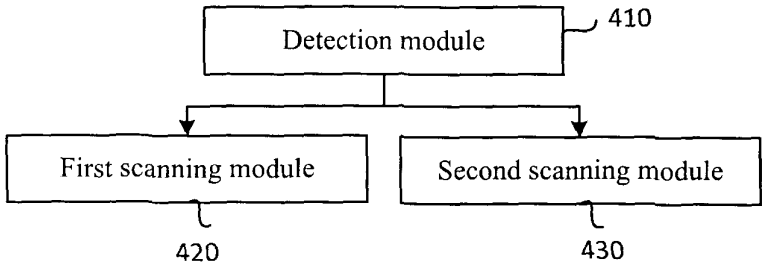
Detection module
410
First scanning module
Second scanning module
420
430

FIG. 4

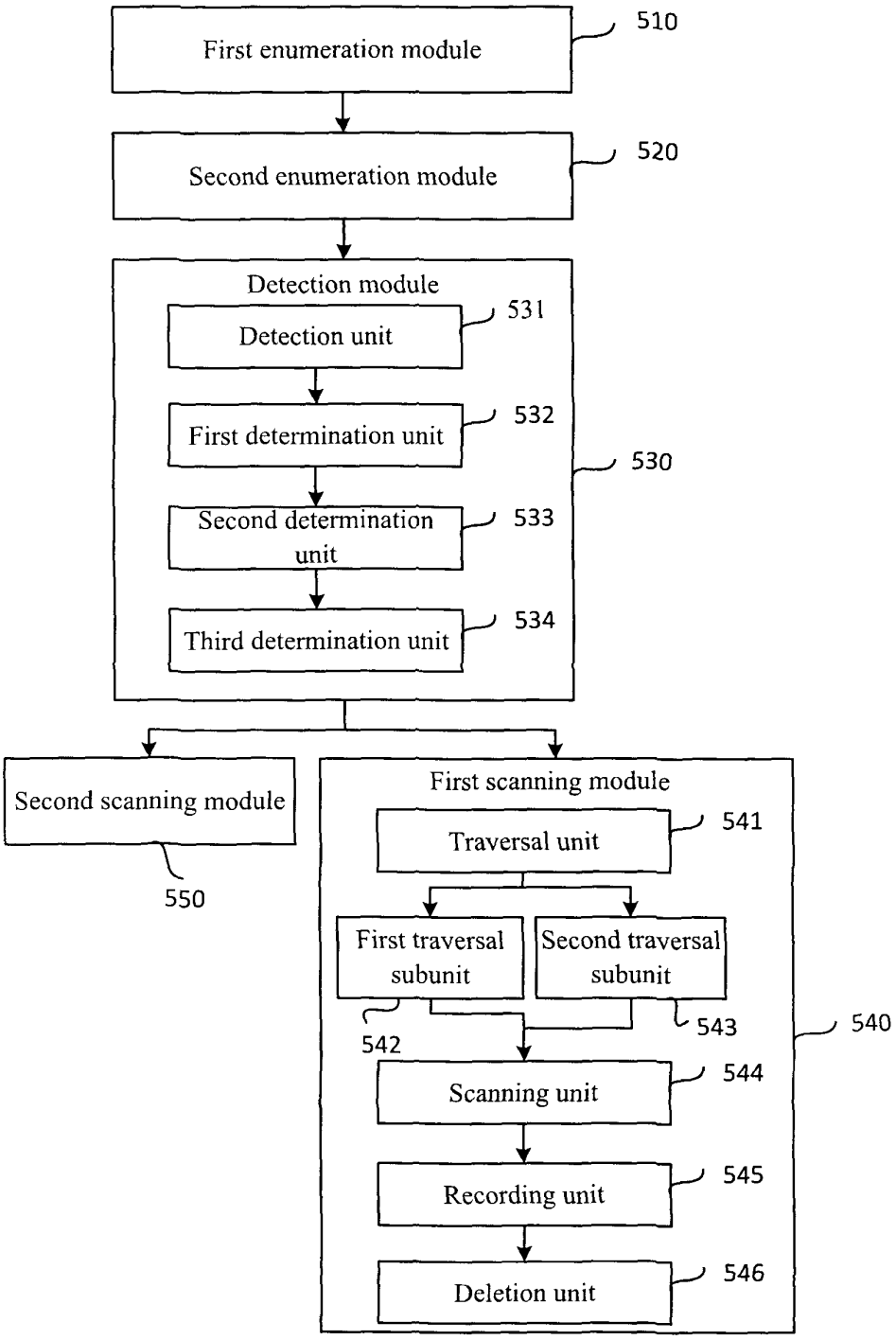
First enumeration module
510
Second enumeration module
520
Detection module
Detection unit
531
First determination unit
532
530
Second determination unit
533
Third determination unit
534
Second scanning module
550
First scanning module
Traversal unit
541
First traversal subunit
Second traversal subunit
542
543
540
Scanning unit
544
Recording unit
545
Deletion unit
546

FIG. 5