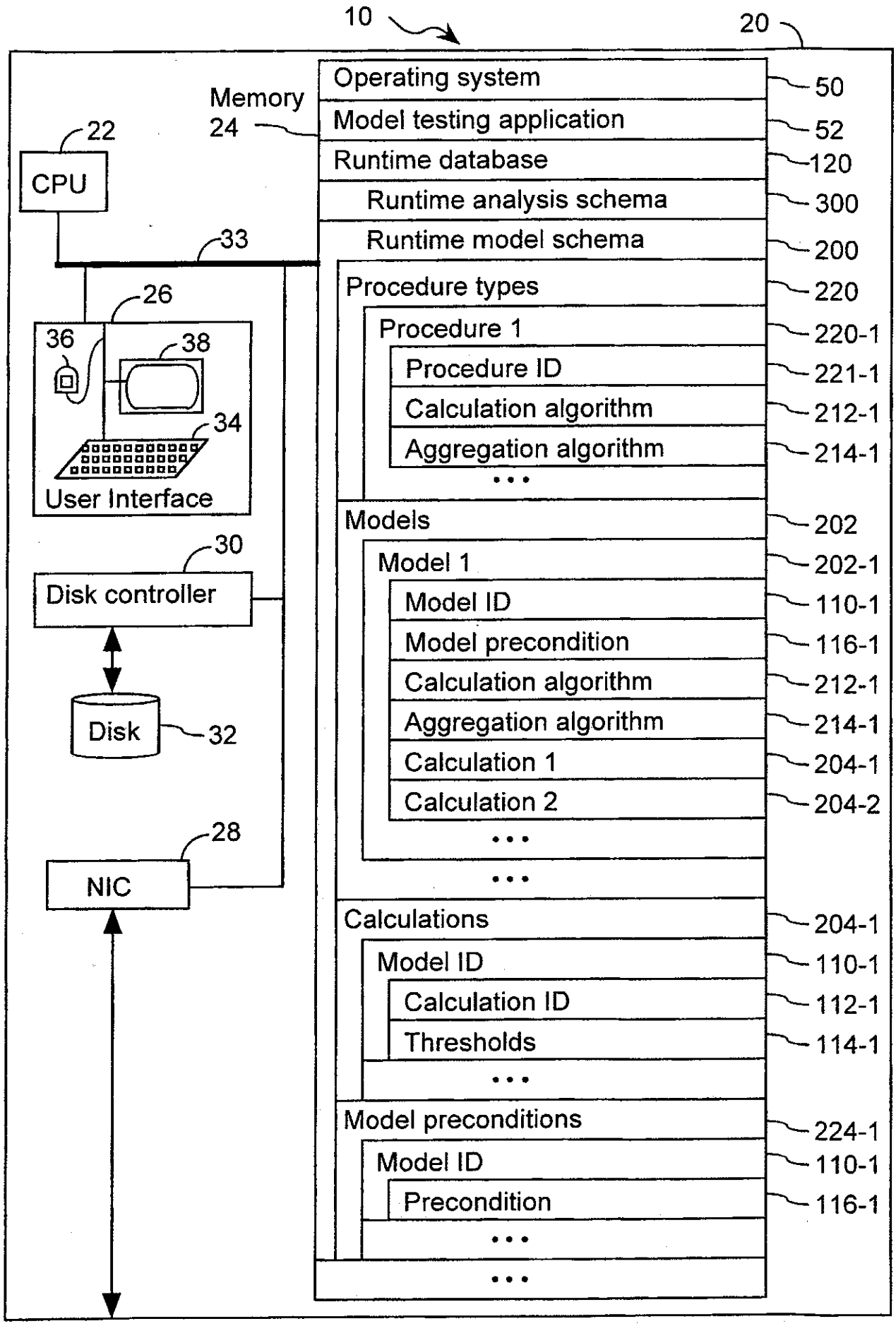

10
20
Memory
24
22
CPU
33
26
36
38
34
User Interface
30
Disk controller
Disk
32
28
NIC
Operating system
50
Model testing application
52
Runtime database
120
Runtime analysis schema
300
Runtime model schema
200
Procedure types
220
Procedure 1
220-1
Procedure ID
221-1
Calculation algorithm
212-1
Aggregation algorithm
214-1
Models
202
Model 1
202-1
Model ID
110-1
Model precondition
116-1
Calculation algorithm
212-1
Aggregation algorithm
214-1
Calculation 1
204-1
Calculation 2
204-2
Calculations
204-1
Model ID
110-1
Calculation ID
112-1
Thresholds
114-1
Model preconditions
224-1
Model ID
110-1
Precondition
116-1

FIG. 1

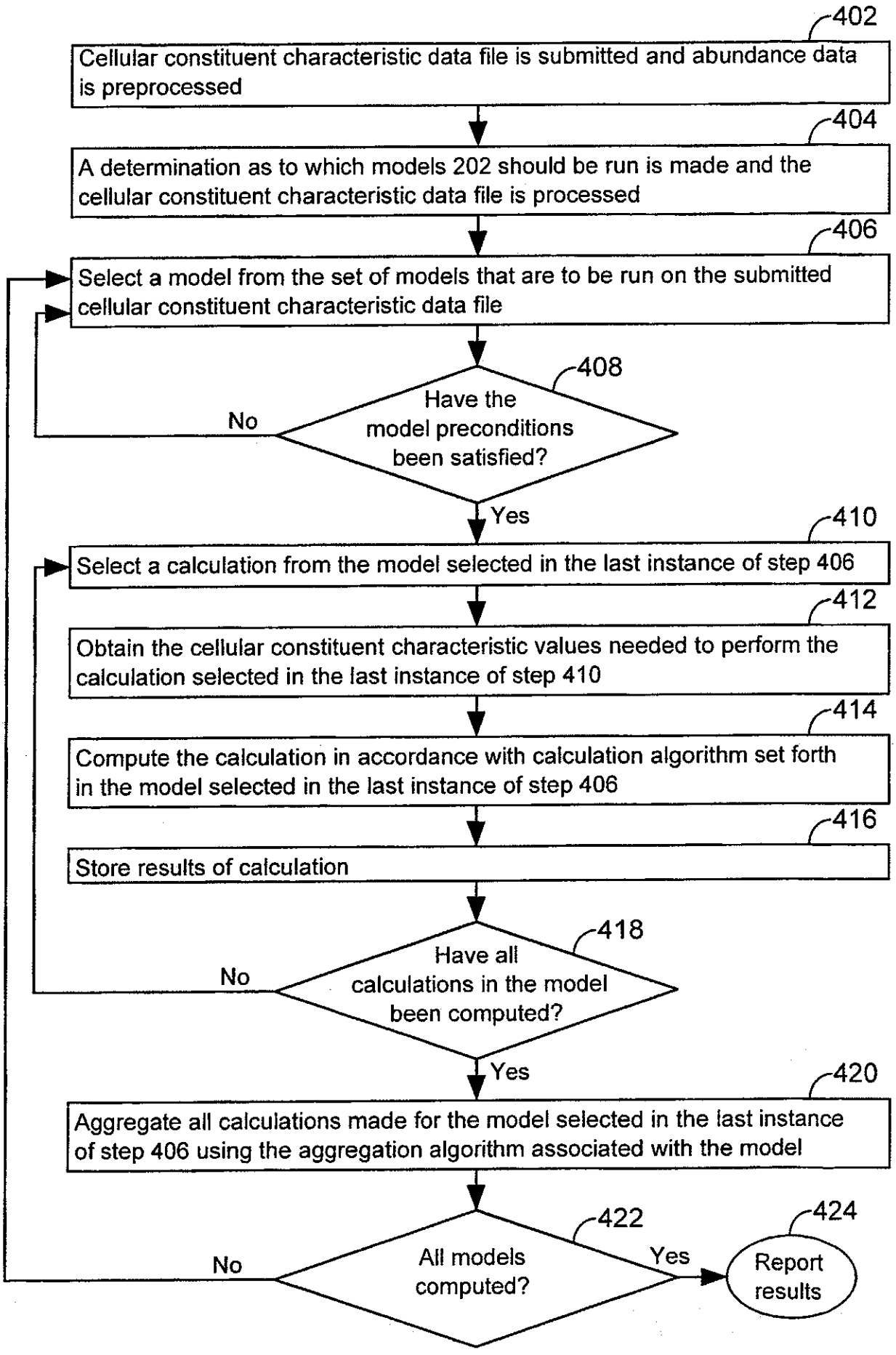

402
Cellular constituent characteristic data file is submitted and abundance data is preprocessed
404
A determination as to which models 202 should be run is made and the cellular constituent characteristic data file is processed
406
Select a model from the set of models that are to be run on the submitted cellular constituent characteristic data file
408
Have the model preconditions been satisfied?
No
Yes
410
Select a calculation from the model selected in the last instance of step 406
412
Obtain the cellular constituent characteristic values needed to perform the calculation selected in the last instance of step 410
414
Compute the calculation in accordance with calculation algorithm set forth in the model selected in the last instance of step 406
416
Store results of calculation
418
Have all calculations in the model been computed?
No
Yes
420
Aggregate all calculations made for the model selected in the last instance of step 406 using the aggregation algorithm associated with the model
422
All models computed?
No
Yes
424
Report results

FIG. 2

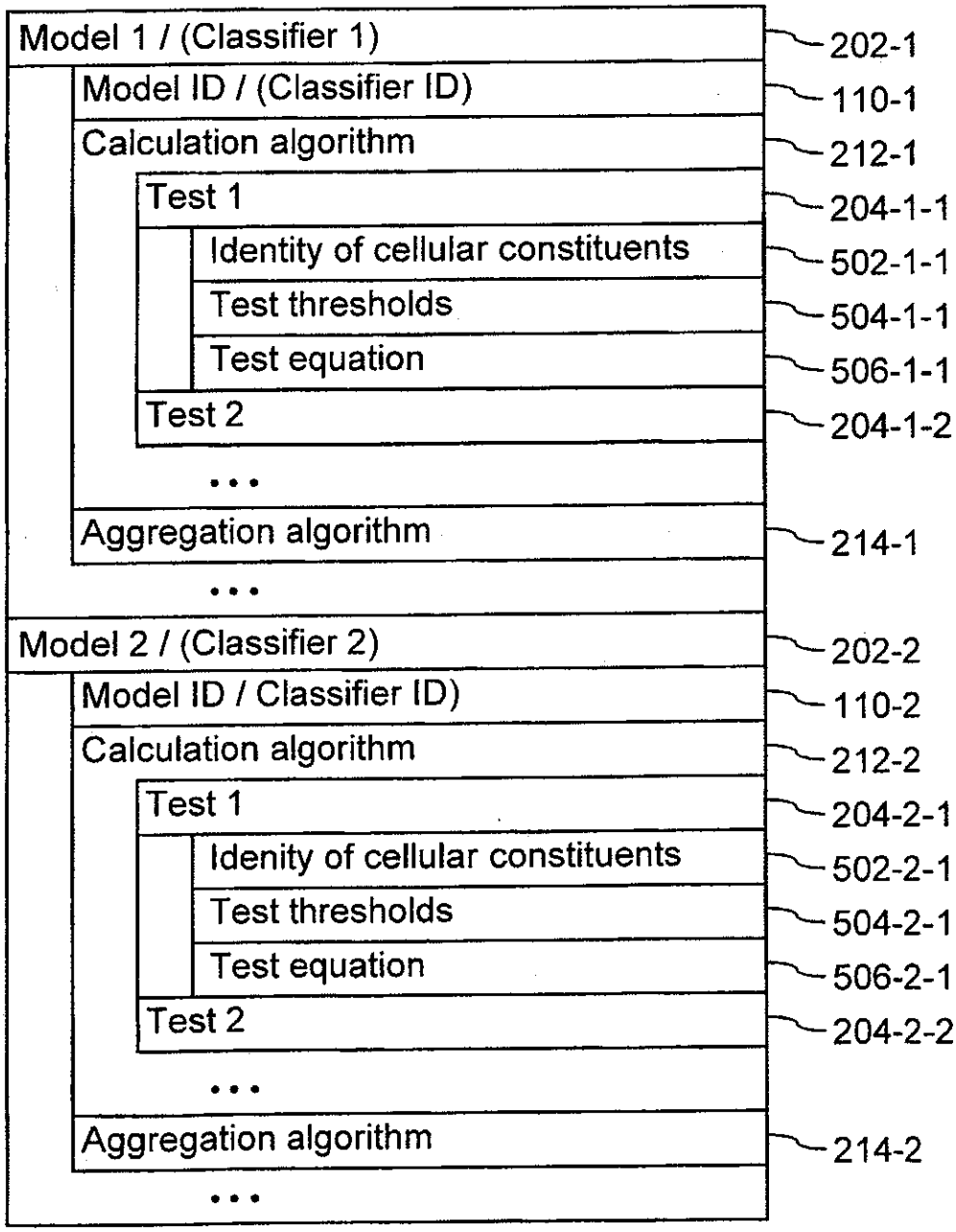

Model 1 / (Classifier 1)
202-1
Model ID / (Classifier ID)
110-1
Calculation algorithm
212-1
Test 1
204-1-1
Identity of cellular constituents
502-1-1
Test thresholds
504-1-1
Test equation
506-1-1
Test 2
204-1-2
• • •
Aggregation algorithm
214-1
• • •
Model 2 / (Classifier 2)
202-2
Model ID / Classifier ID)
110-2
Calculation algorithm
212-2
Test 1
204-2-1
Idenity of cellular constituents
502-2-1
Test thresholds
504-2-1
Test equation
506-2-1
Test 2
204-2-2
• • •
Aggregation algorithm
214-2
• • •

FIG. 3