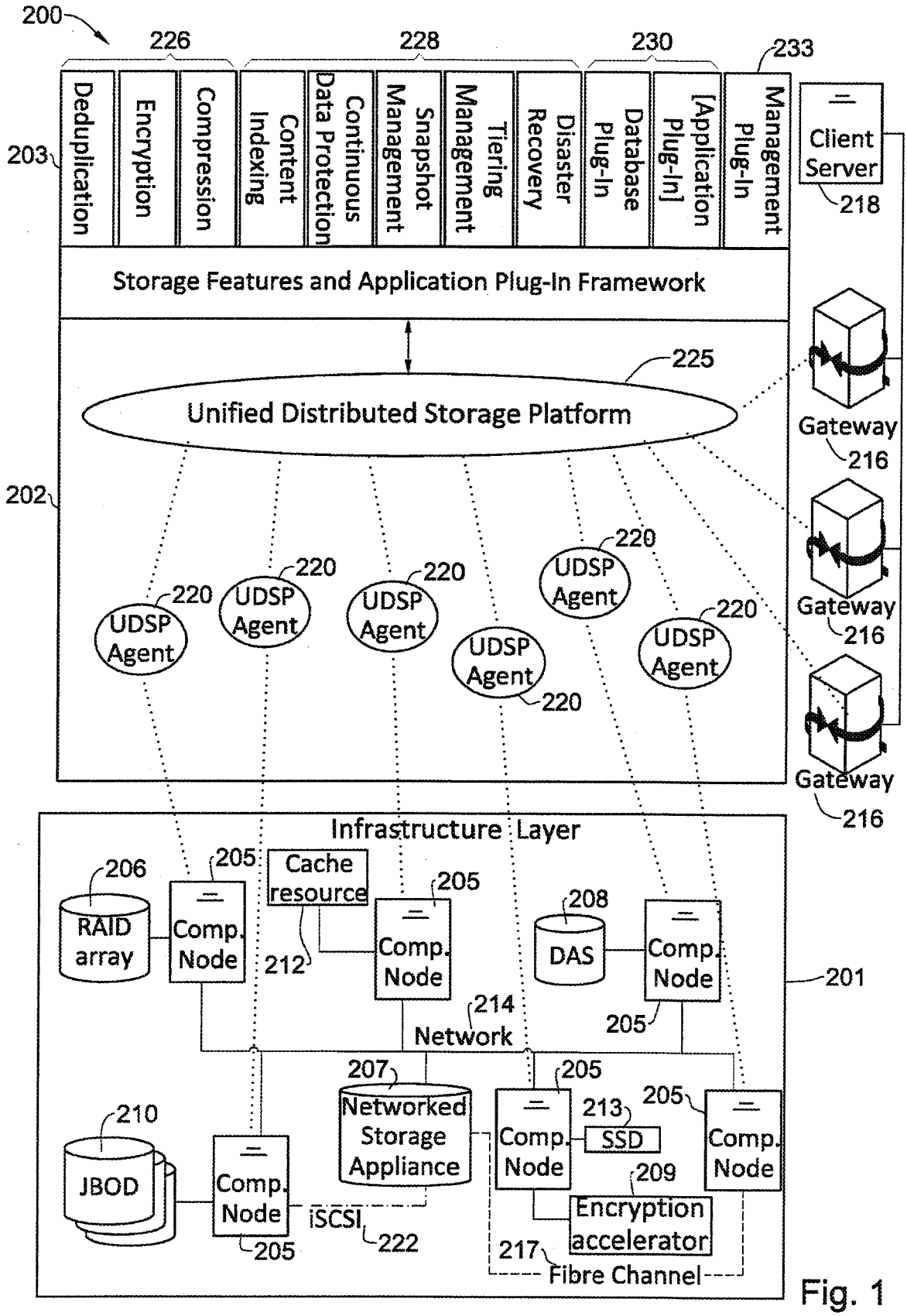
200
226
228
230
233
Deduplication
Encryption
Compression
Content Indexing
Continuous Data Protection
Snapshot Management
Tiering Management
Disaster Recovery
Database Plug-In
[Application Plug-In]
Management Plug-In
203
Client Server
218
Storage Features and Application Plug-In Framework
225
Unified Distributed Storage Platform
Gateway
216
202
UDSP Agent
220
Infrastructure Layer
206
RAID array
205
Comp. Node
Cache resource
212
208
DAS
214
Network
201
207
Networked Storage Appliance
213
SSD
209
Encryption accelerator
210
JBOD
iSCSI
222
217
Fibre Channel

Fig. 1

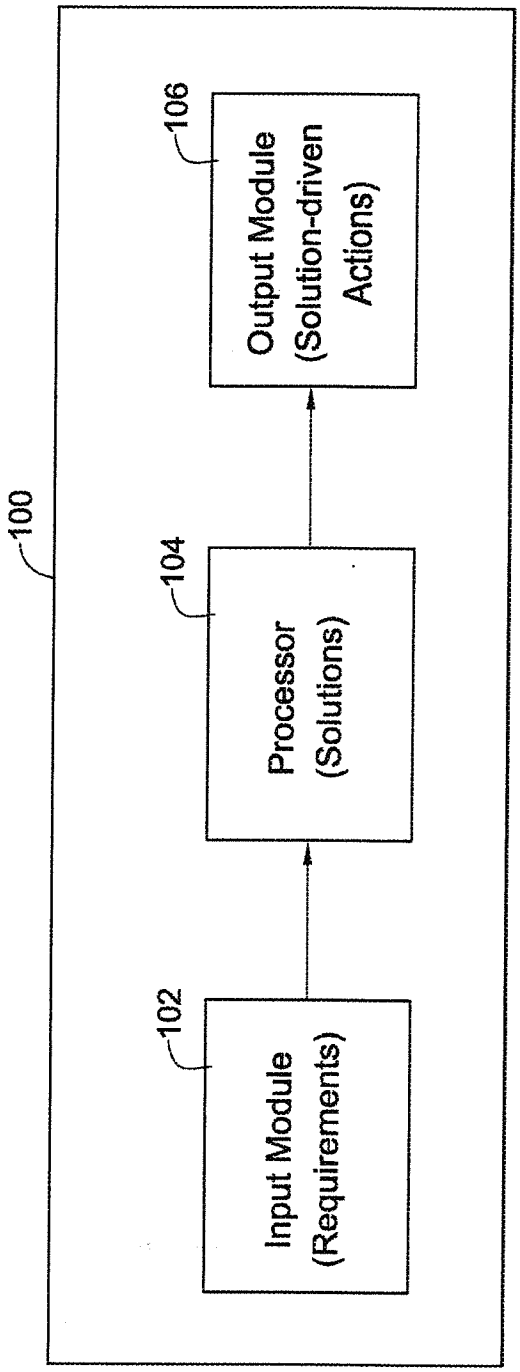
100
102
Input Module (Requirements)
104
Processor (Solutions)
106
Output Module (Solution-driven Actions)

Fig. 2

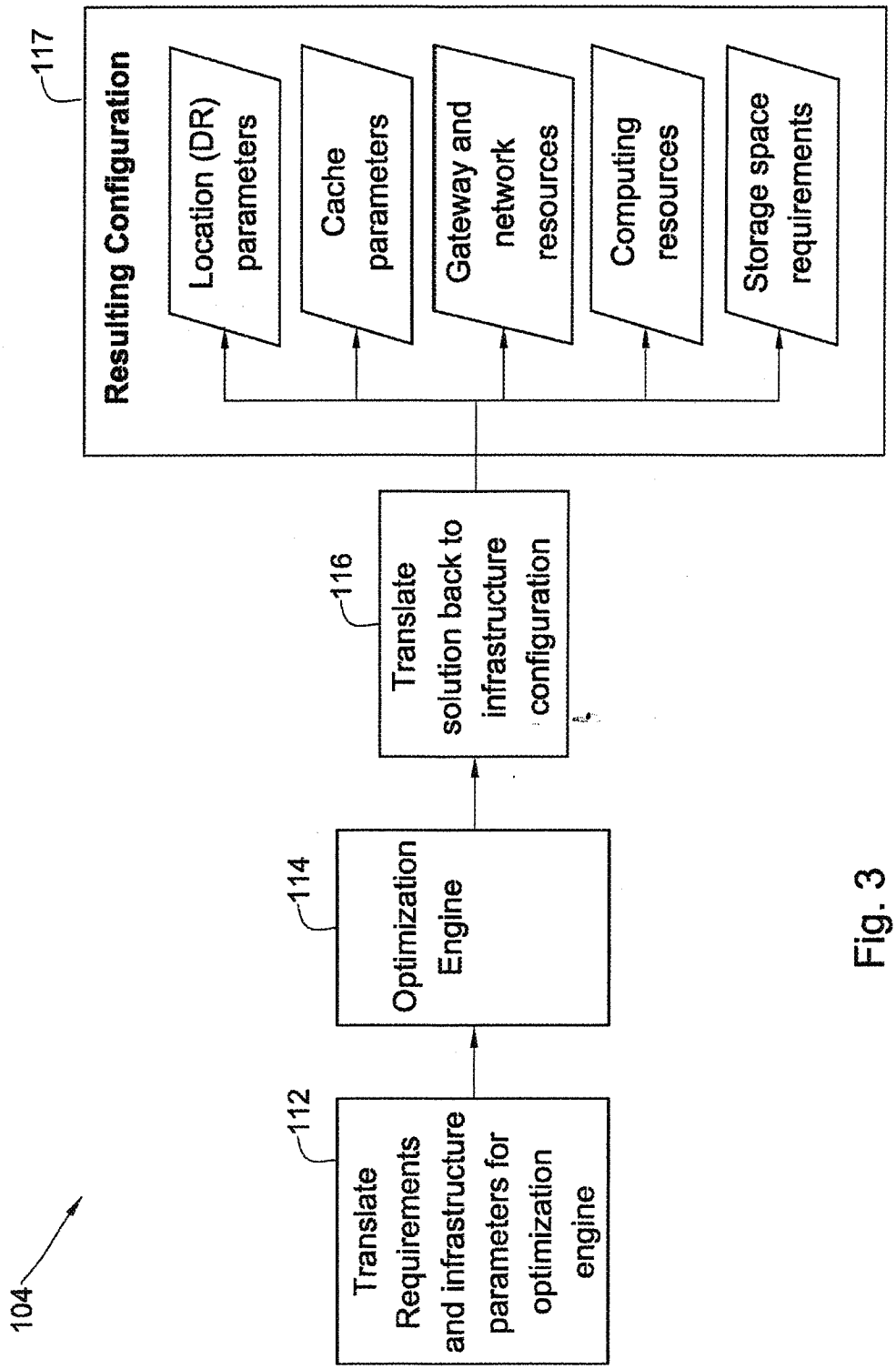
104
112
Translate Requirements and infrastructure parameters for optimization engine
114
Optimization Engine
116
Translate solution back to infrastructure configuration
117
Resulting Configuration
Location (DR) parameters
Cache parameters
Gateway and network resources
Computing resources
Storage space requirements

Fig. 3

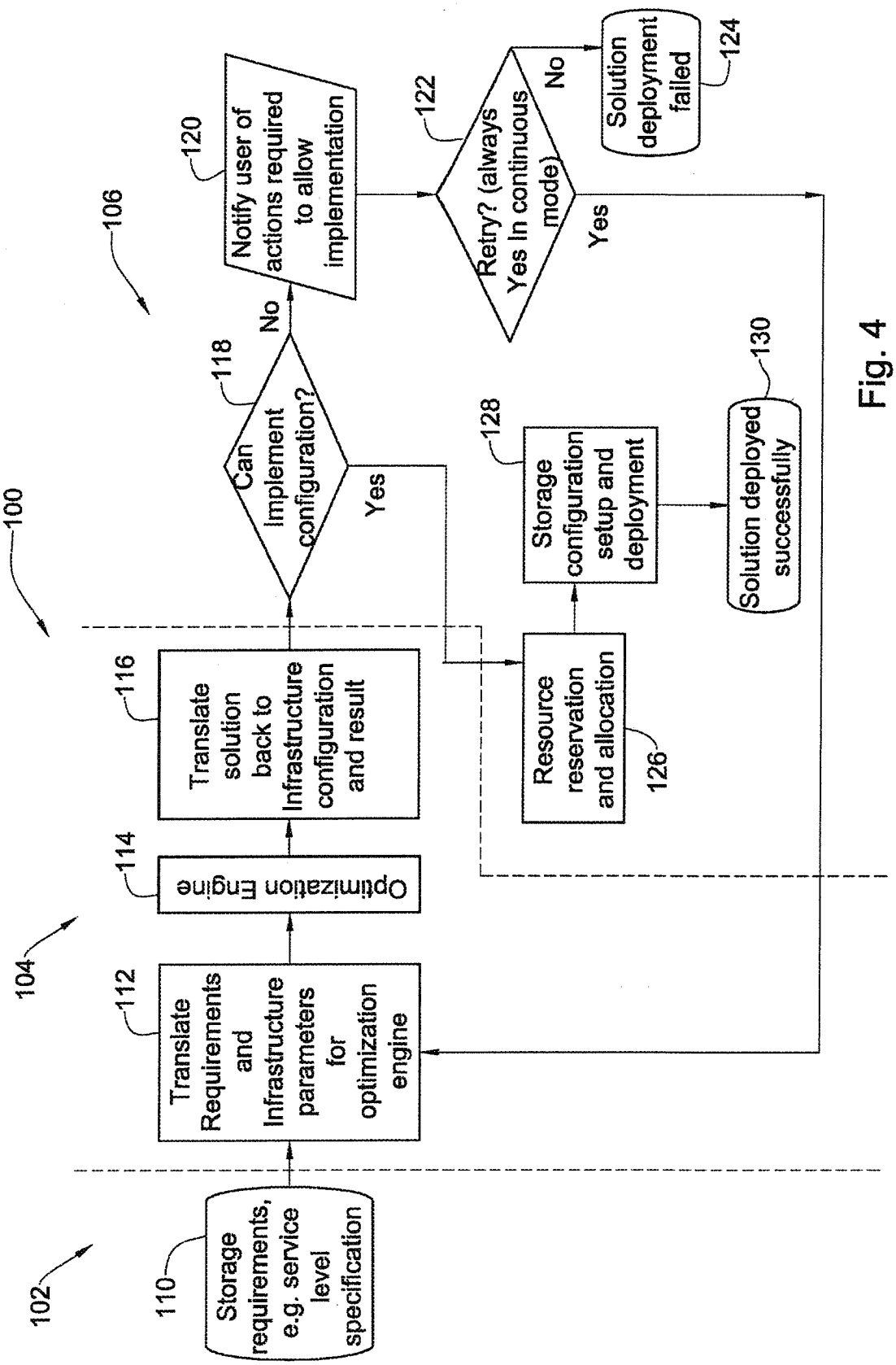
102
110
Storage requirements, e.g. service level specification
104
112
Translate Requirements and Infrastructure parameters for optimization engine
114
Optimization Engine
116
Translate solution back to Infrastructure configuration and result
100
106
118
Can Implement configuration?
No
Yes
120
Notify user of actions required to allow implementation
122
Retry? (always Yes In continuous mode)
No
Yes
124
Solution deployment failed
126
Resource reservation and allocation
128
Storage configuration setup and deployment
130
Solution deployed successfully

Fig. 4

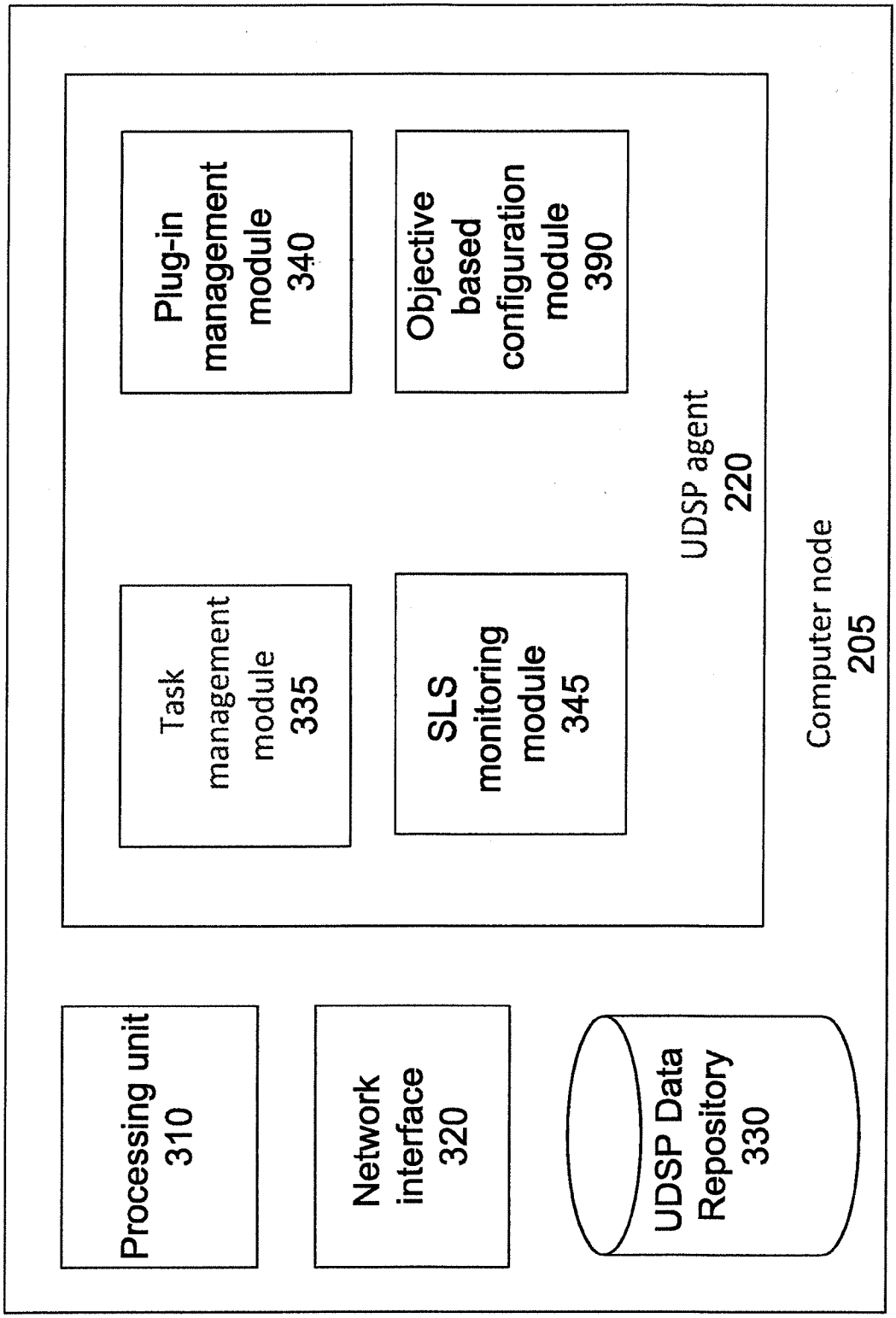
Computer node
205
UDSP agent
220
Plug-in management module
340
Objective based configuration module
390
Task management module
335
SLS monitoring module
345
Processing unit
310
Network interface
320
UDSP Data Repository
330

Fig. 5

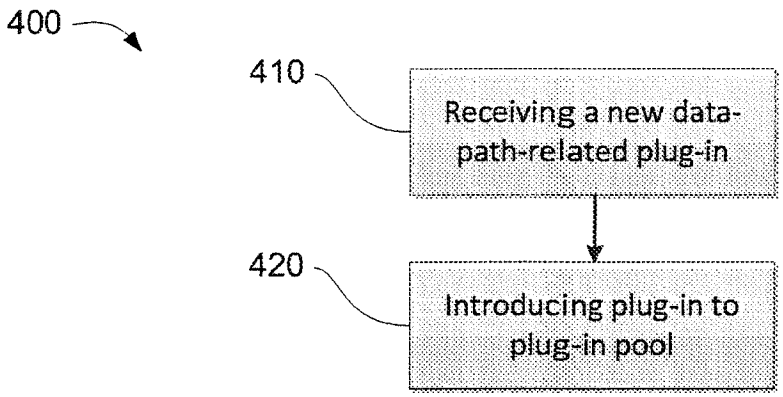
400
410
Receiving a new data-path-related plug-in
420
Introducing plug-in to plug-in pool

Fig. 6

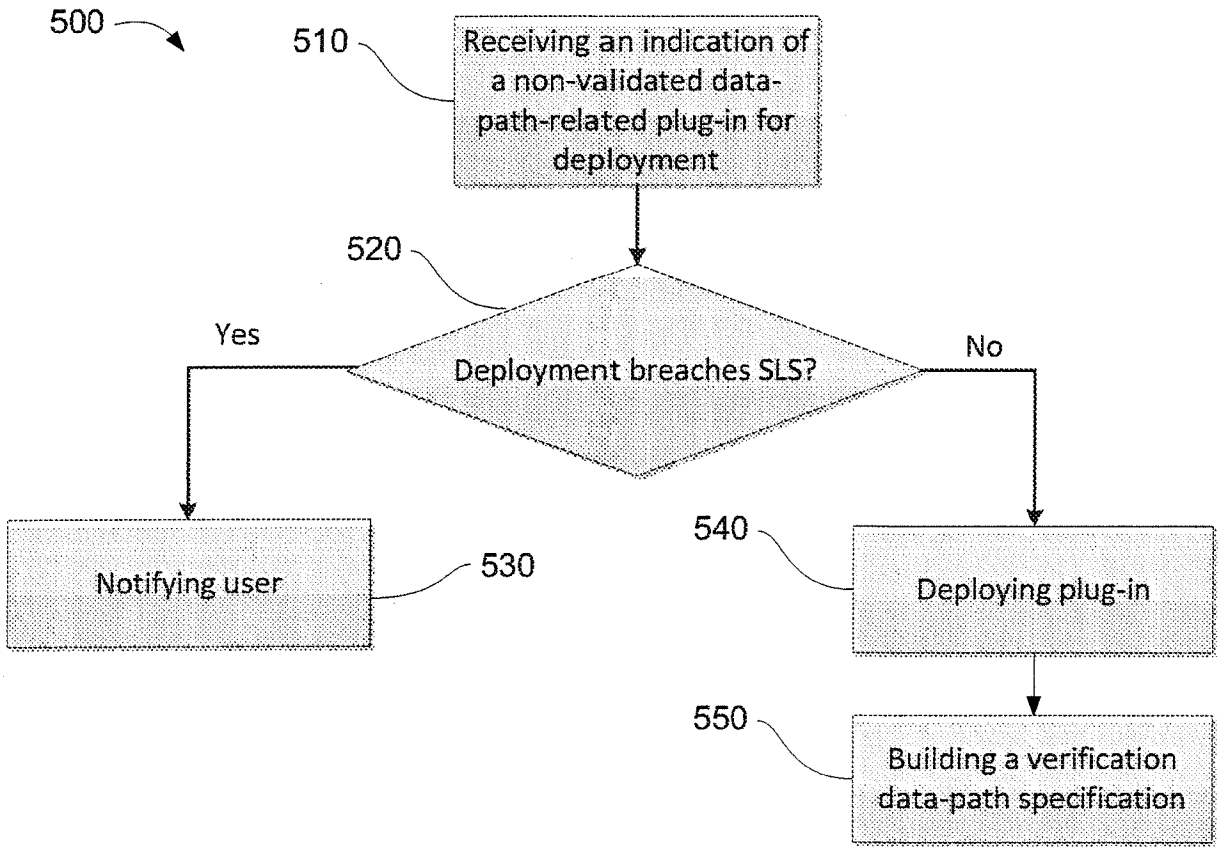
500
510
Receiving an indication of a non-validated data-path-related plug-in for deployment
520
Deployment breaches SLS?
Yes
No
Notifying user
530
540
Deploying plug-in
550
Building a verification data-path specification

Fig. 7

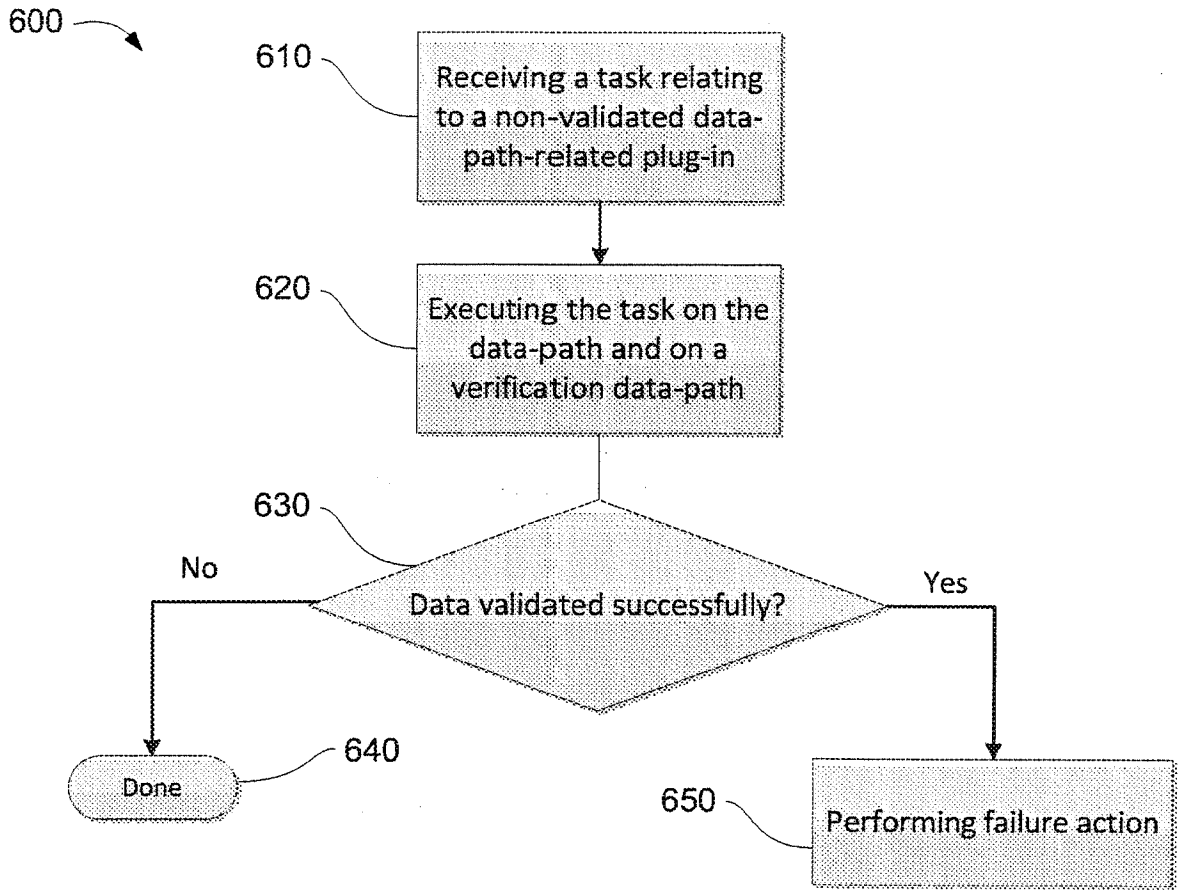
600
610
Receiving a task relating to a non-validated data-path-related plug-in
620
Executing the task on the data-path and on a verification data-path
630
Data validated successfully?
No
Yes
Done
640
650
Performing failure action

Fig. 8

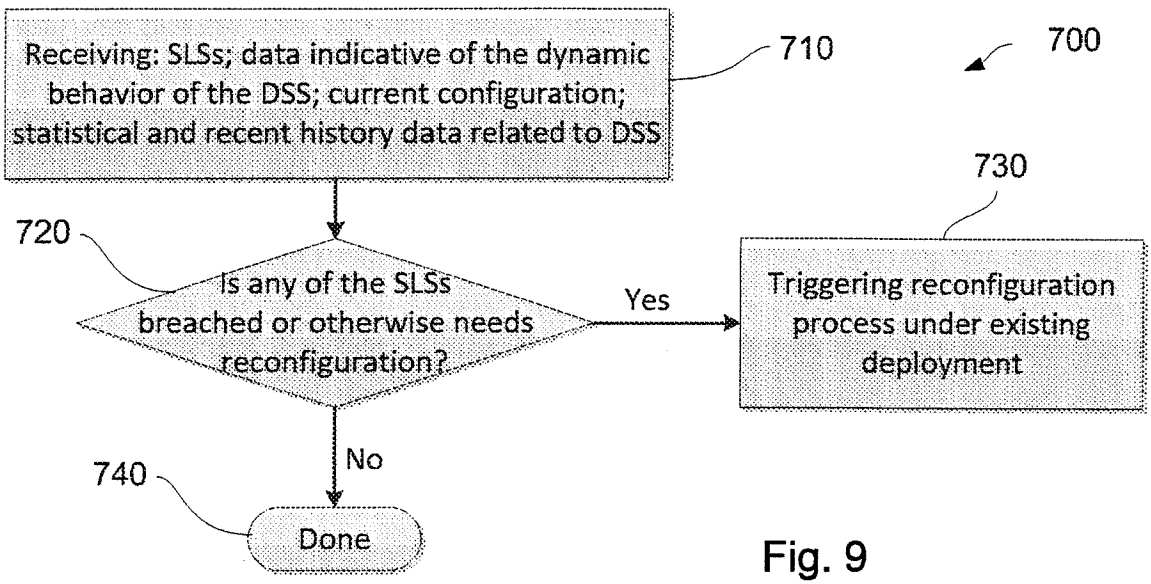
Receiving: SLSs; data indicative of the dynamic behavior of the DSS; current configuration; statistical and recent history data related to DSS
710
700
730
720
Is any of the SLSs breached or otherwise needs reconfiguration?
Yes
Triggering reconfiguration process under existing deployment
No
740
Done

Fig. 9

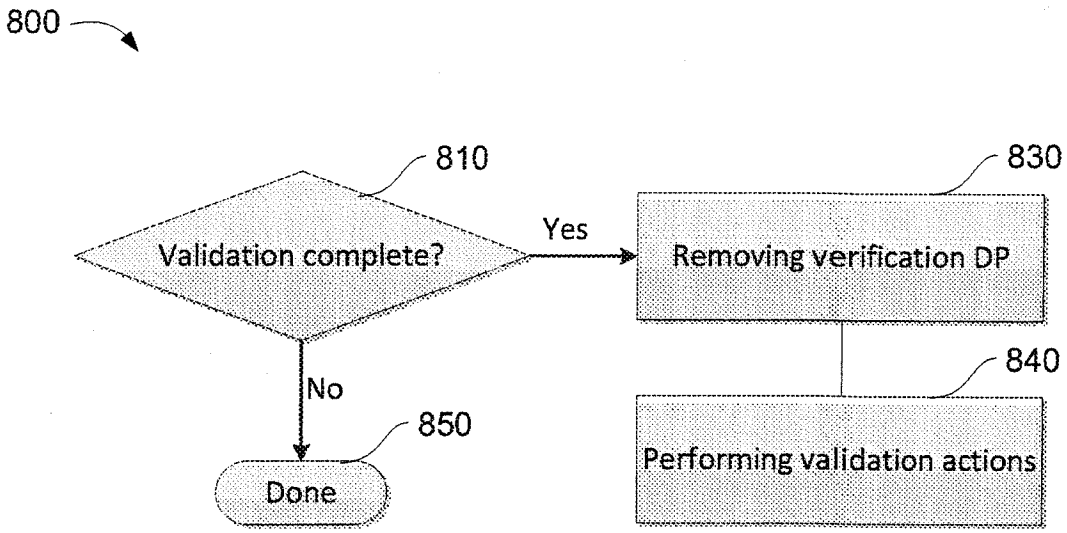
800
810
Validation complete?
Yes
830
Removing verification DP
840
Performing validation actions
No
850
Done

Fig. 10