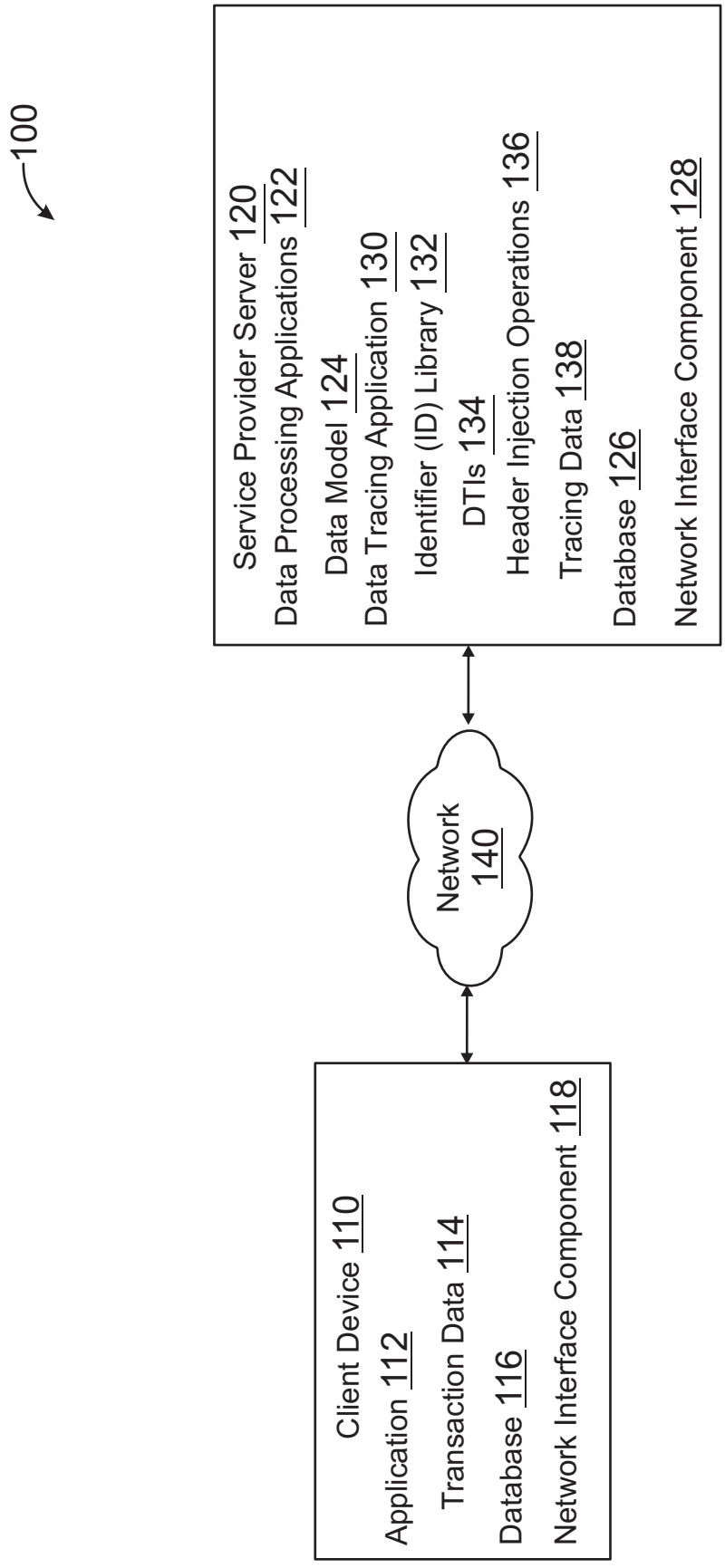

100
Service Provider Server 120
Data Processing Applications 122
Data Model 124
Data Tracing Application 130
Identifier (ID) Library 132
DTIs 134
Header Injection Operations 136
Tracing Data 138
Database 126
Network Interface Component 128
Network 140
Client Device 110
Application 112
Transaction Data 114
Database 116
Network Interface Component 118

FIG. 1

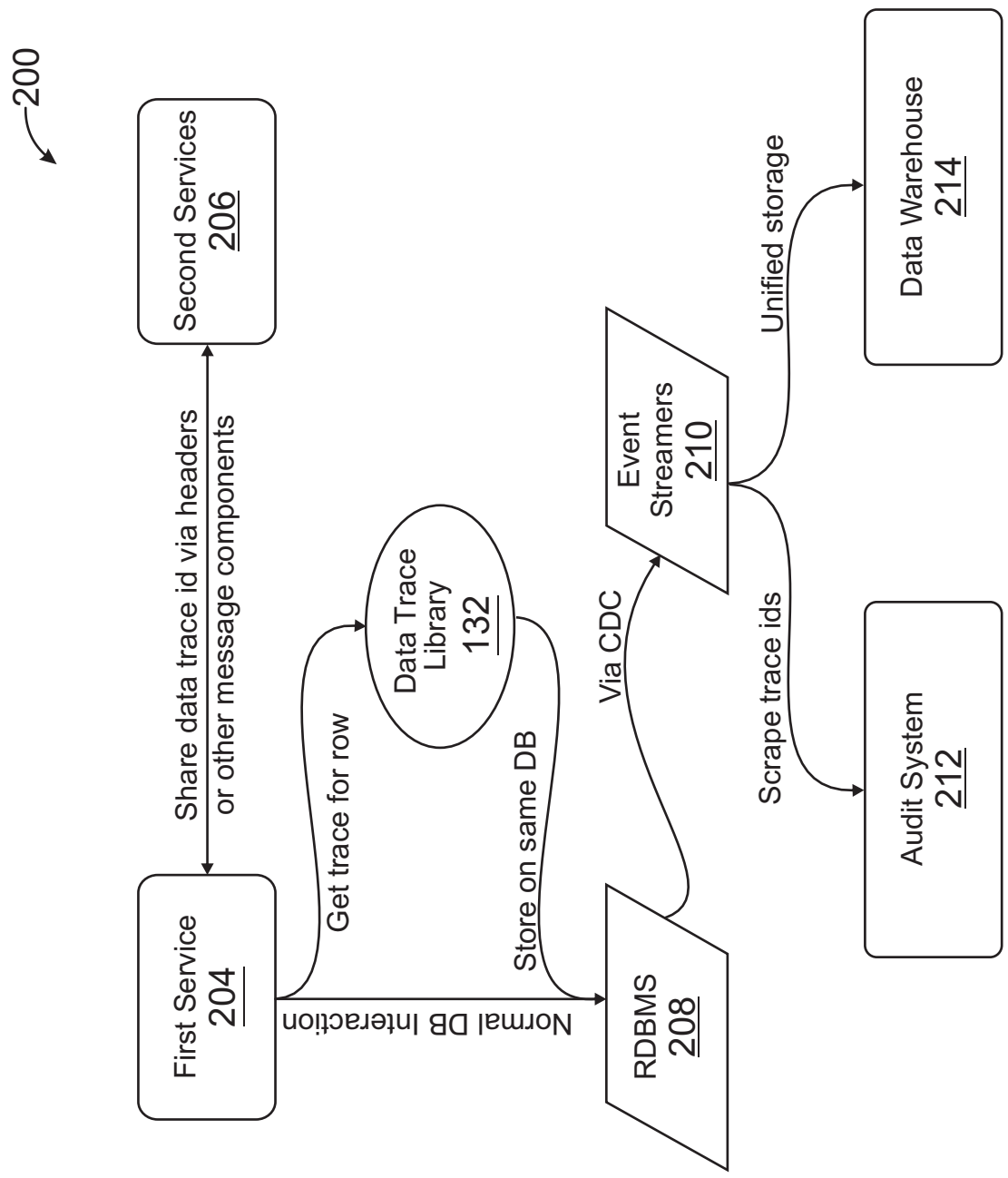

200
First Service
204
Second Services
206
Share data trace id via headers
or other message components
Normal DB Interaction
Get trace for row
Data Trace
Library
132
Store on same DB
RDBMS
208
Via CDC
Event
Streamers
210
Unified storage
Scrape trace ids
Data Warehouse
214
Audit System
212

FIG. 2

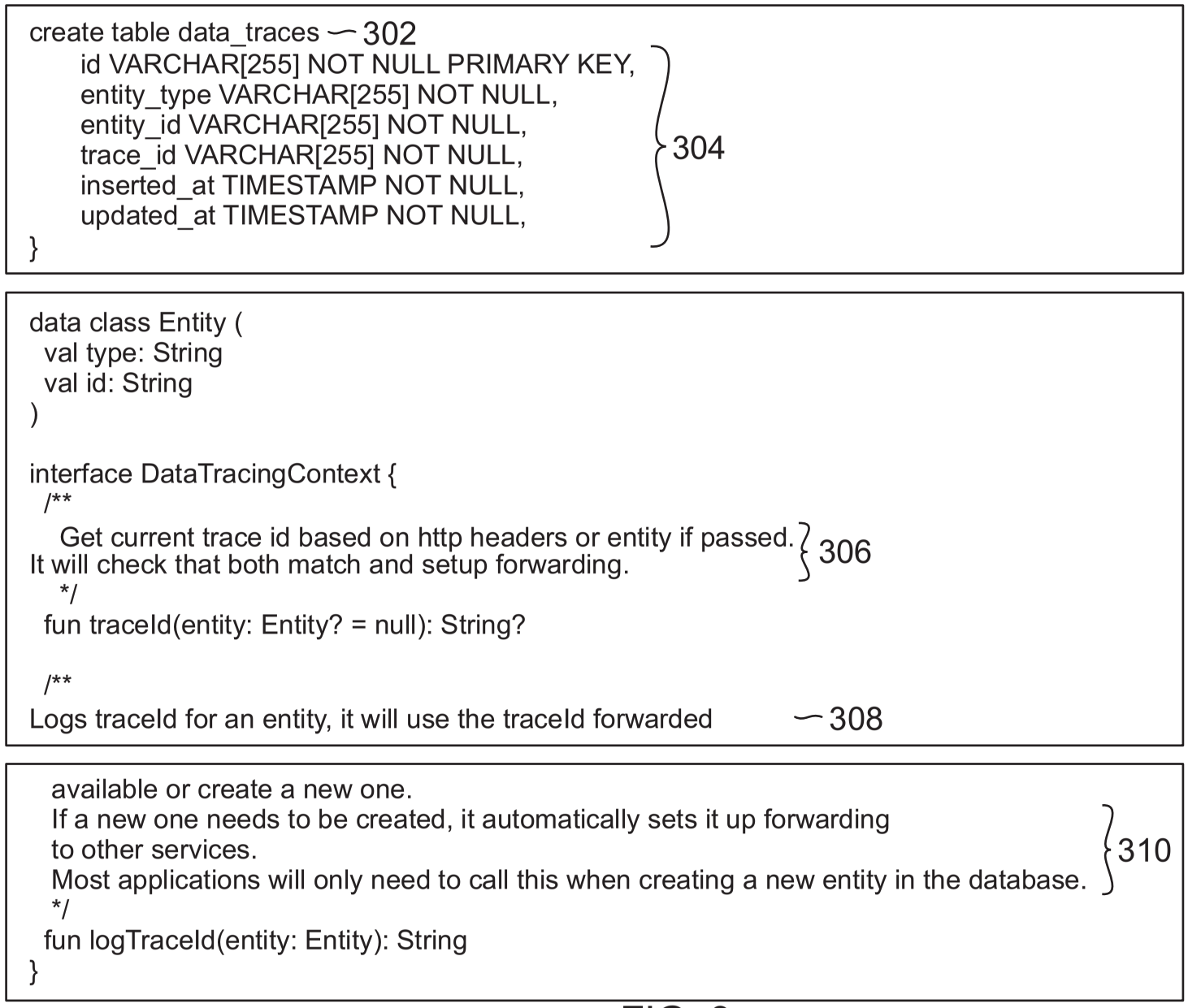

300
create table data_traces
302
id VARCHAR[255] NOT NULL PRIMARY KEY,
entity_type VARCHAR[255] NOT NULL,
entity_id VARCHAR[255] NOT NULL,
trace_id VARCHAR[255] NOT NULL,
inserted_at TIMESTAMP NOT NULL,
updated_at TIMESTAMP NOT NULL,
}
304
data class Entity (
val type: String
val id: String
)
interface DataTracingContext {
/**
Get current trace id based on http headers or entity if passed.
It will check that both match and setup forwarding.
306
*/
fun traceId(entity: Entity? = null): String?
/**
Logs traceId for an entity, it will use the traceId forwarded
308
available or create a new one.
If a new one needs to be created, it automatically sets it up forwarding
to other services.
Most applications will only need to call this when creating a new entity in the database.
310
*/
fun logTraceId(entity: Entity): String
}

FIG. 3

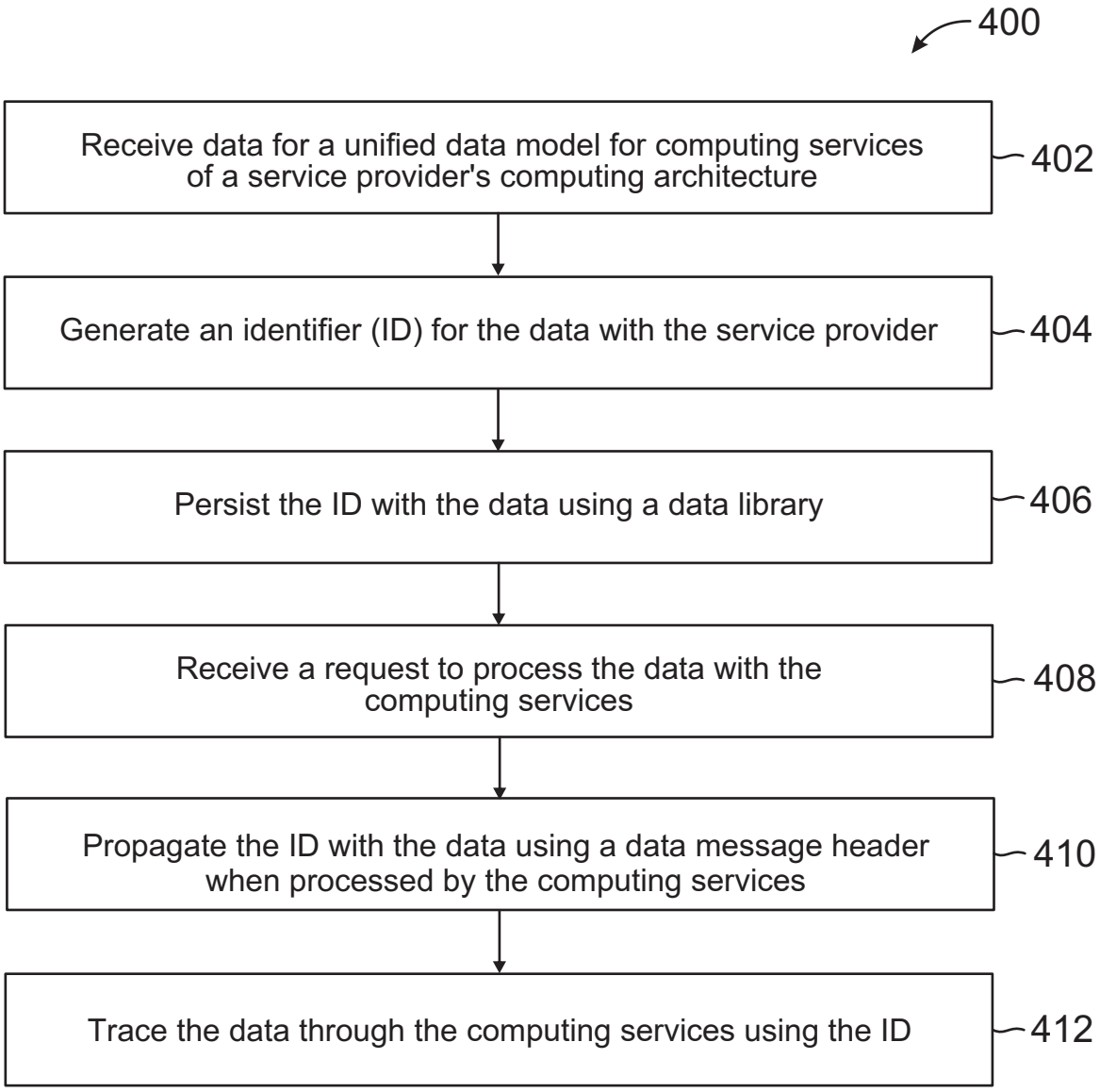

400
Receive data for a unified data model for computing services of a service provider's computing architecture
402
Generate an identifier (ID) for the data with the service provider
404
Persist the ID with the data using a data library
406
Receive a request to process the data with the computing services
408
Propagate the ID with the data using a data message header when processed by the computing services
410
Trace the data through the computing services using the ID
412

FIG. 4

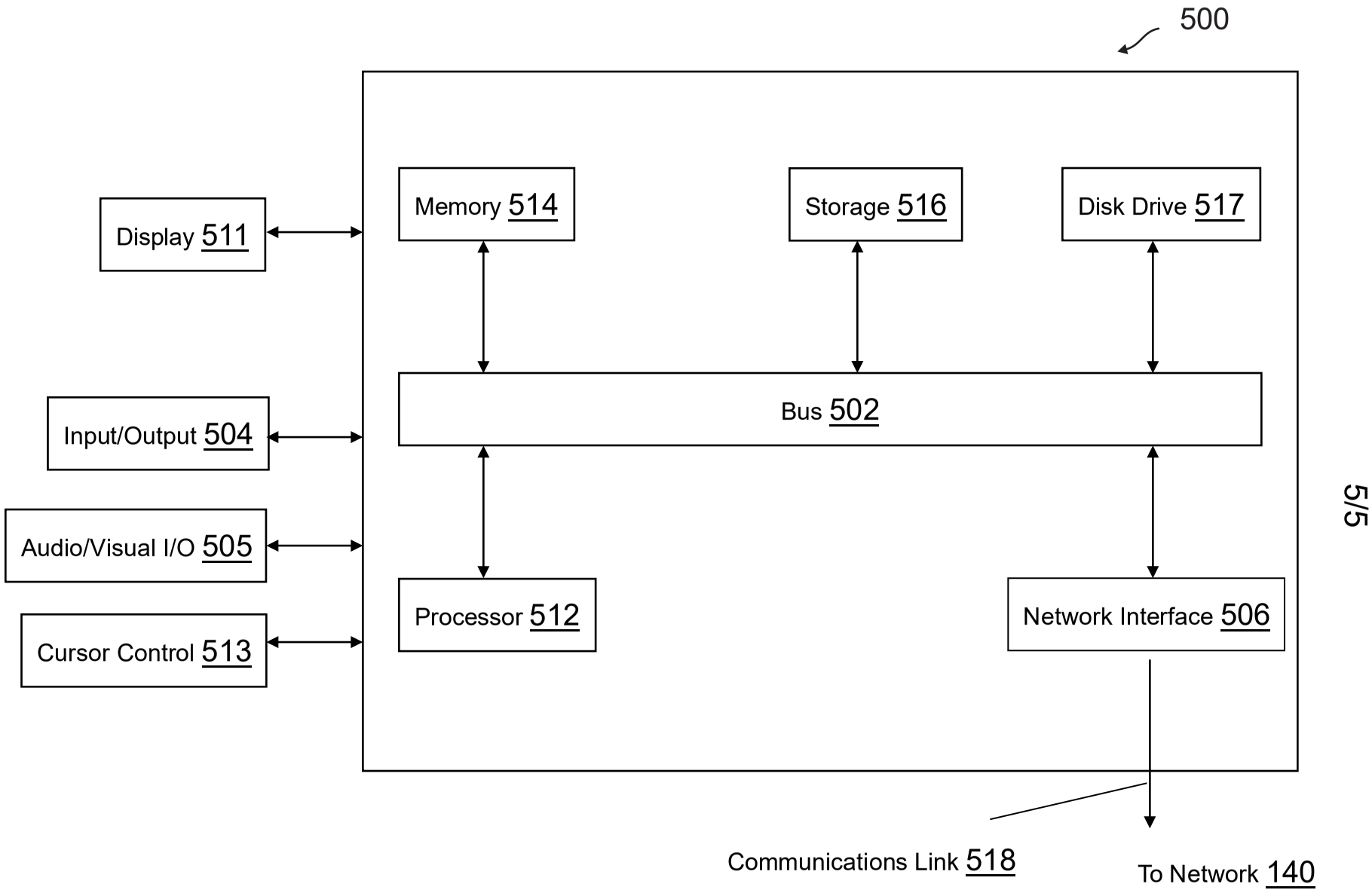

500
Display 511
Memory 514
Storage 516
Disk Drive 517
Bus 502
Input/Output 504
Audio/Visual I/O 505
Cursor Control 513
Processor 512
Network Interface 506
Communications Link 518
To Network 140

FIG. 5