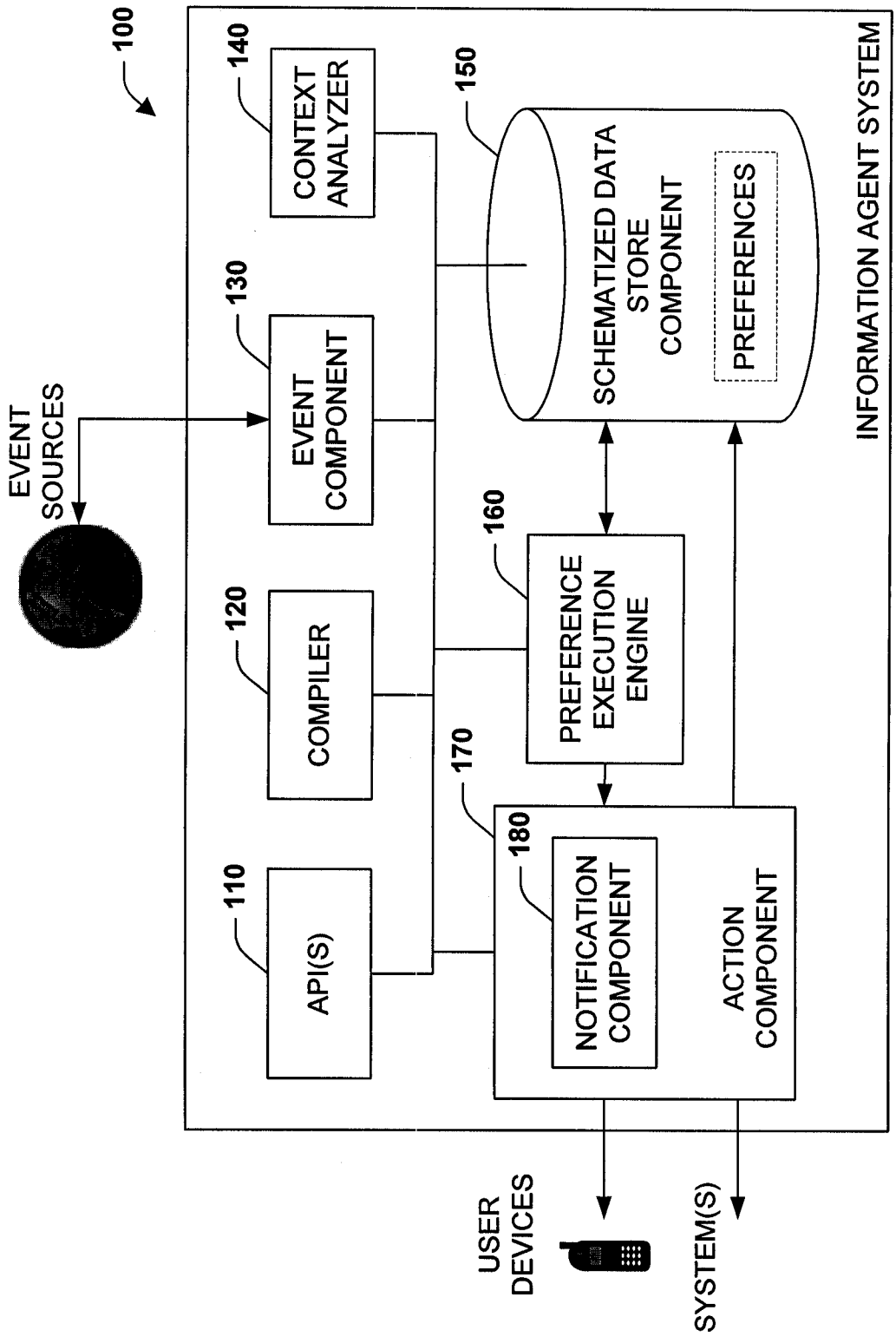

100
INFORMATION AGENT SYSTEM
EVENT SOURCES
140
CONTEXT ANALYZER
130
EVENT COMPONENT
120
COMPILER
110
API(S)
150
SCHEMATIZED DATA STORE COMPONENT
PREFERENCES
160
PREFERENCE EXECUTION ENGINE
170
180
NOTIFICATION COMPONENT
ACTION COMPONENT
USER DEVICES
SYSTEM(S)

Fig. 1

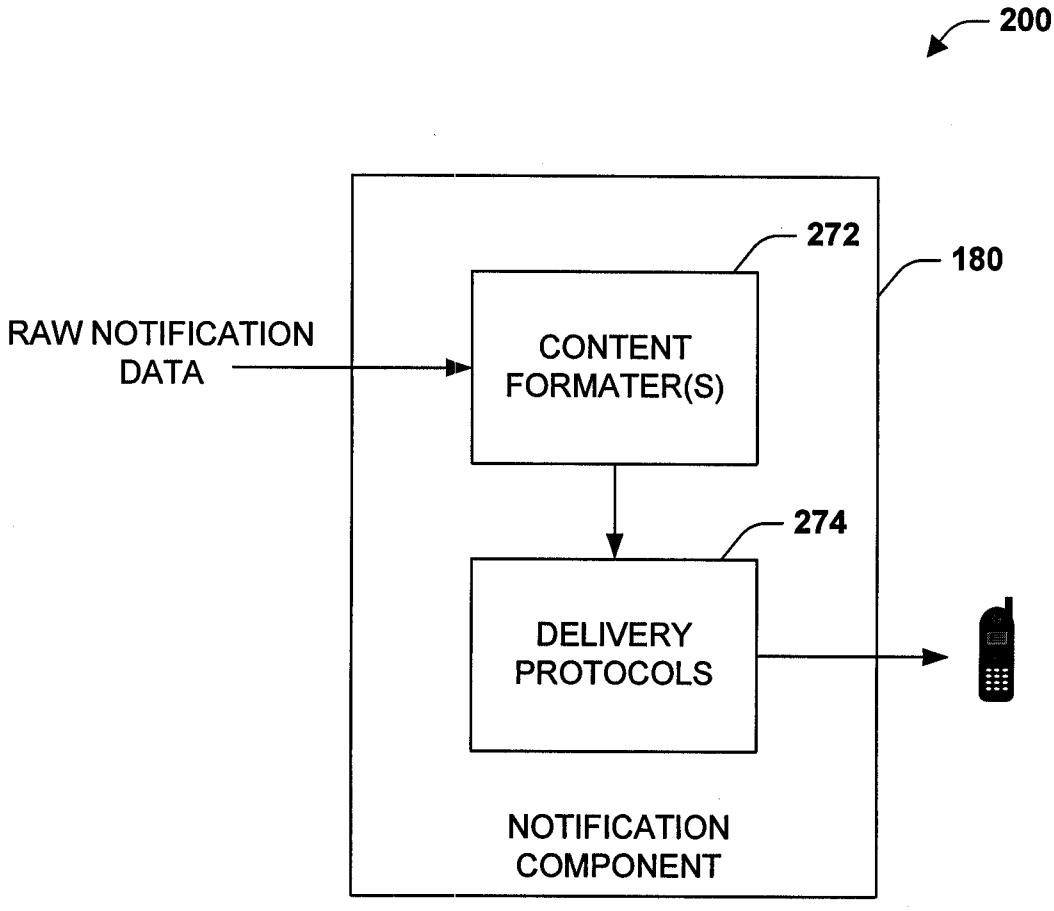

200
272
180
RAW NOTIFICATION DATA
CONTENT FORMATER(S)
274
DELIVERY PROTOCOLS
NOTIFICATION COMPONENT

Fig. 2

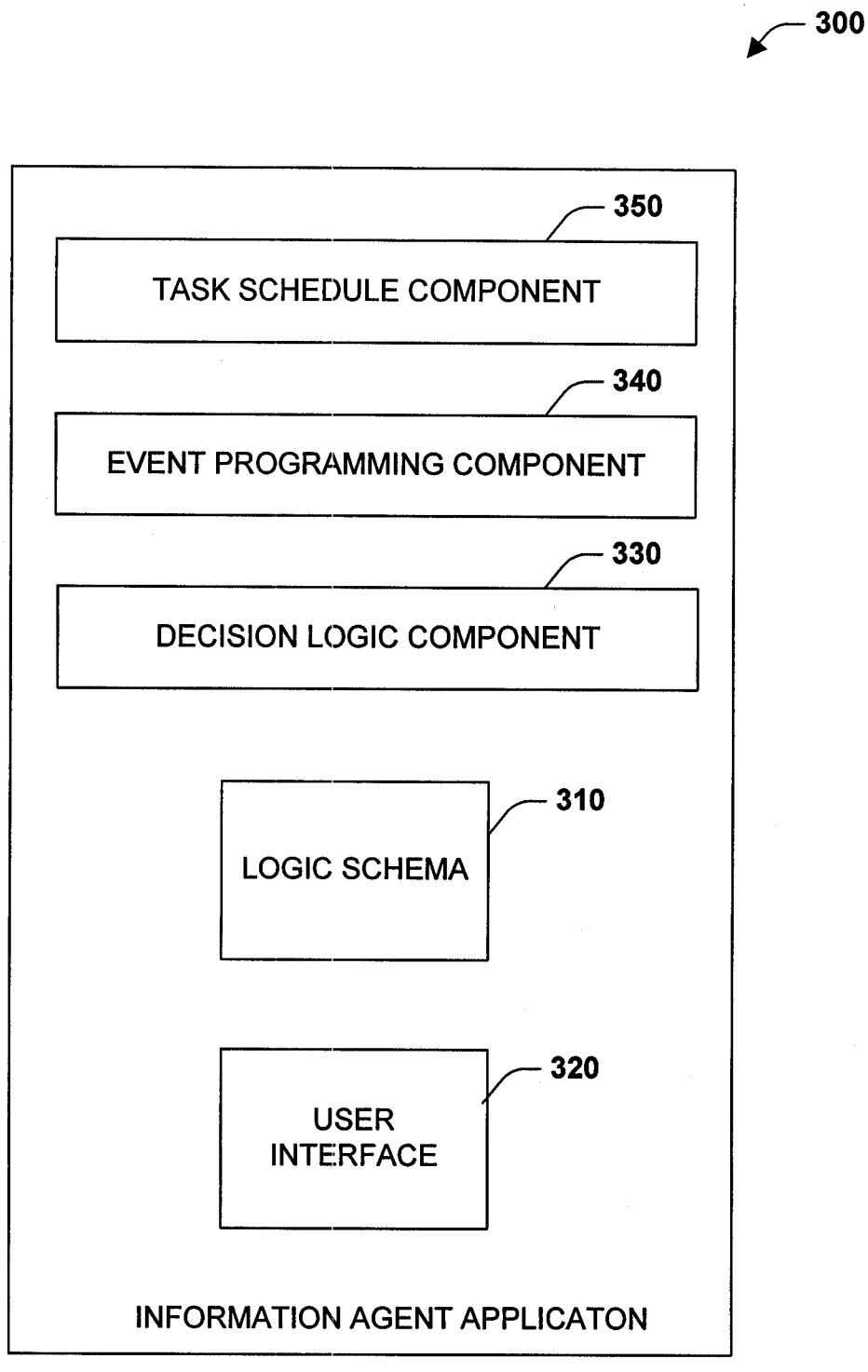

300
350
TASK SCHEDULE COMPONENT
340
EVENT PROGRAMMING COMPONENT
330
DECISION LOGIC COMPONENT
310
LOGIC SCHEMA
320
USER INTERFACE
INFORMATION AGENT APPLICATON

Fig. 3

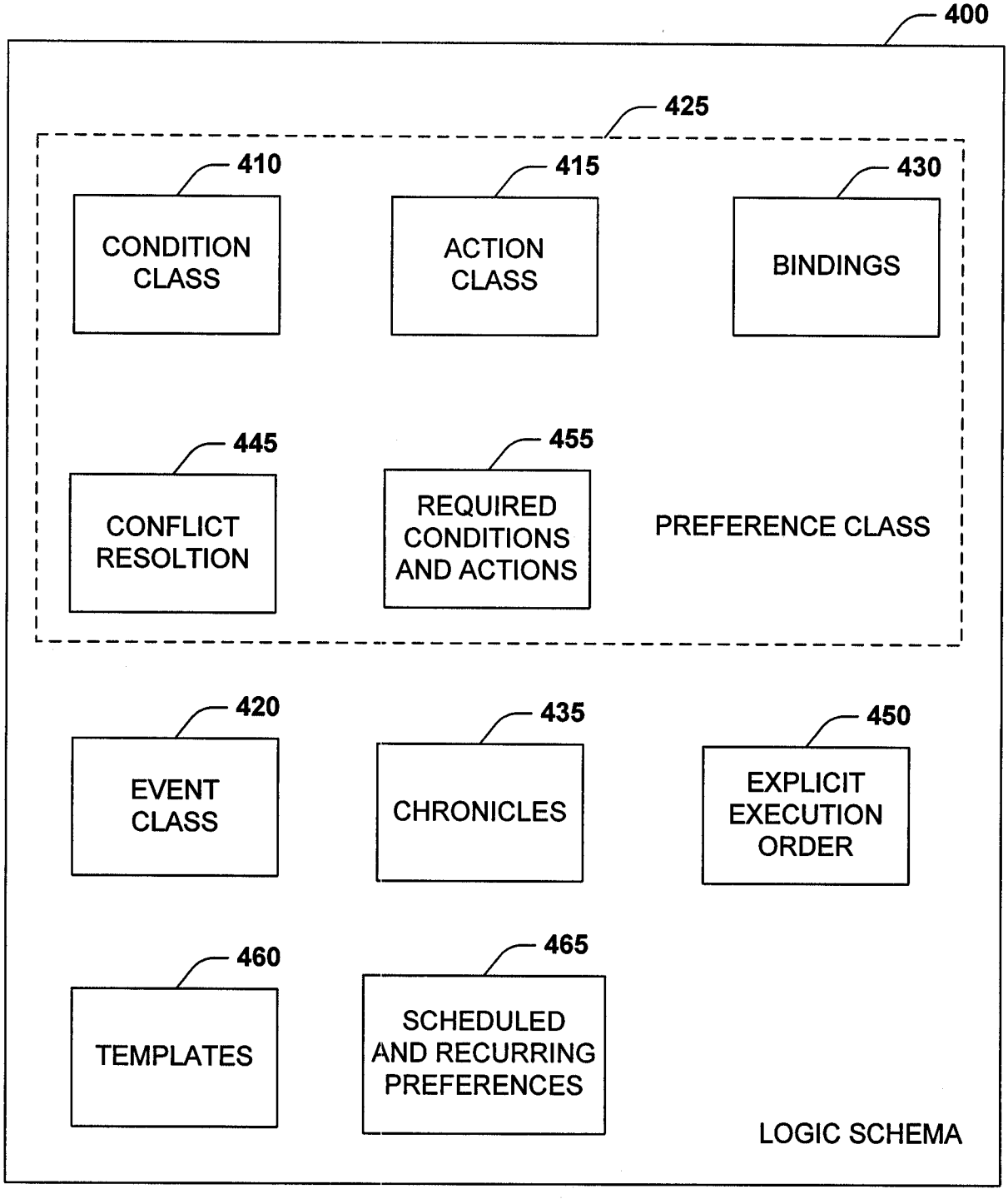

400
425
410
CONDITION CLASS
415
ACTION CLASS
430
BINDINGS
445
CONFLICT RESOLTION
455
REQUIRED CONDITIONS AND ACTIONS
PREFERENCE CLASS
420
EVENT CLASS
435
CHRONICLES
450
EXPLICIT EXECUTION ORDER
460
TEMPLATES
465
SCHEDULED AND RECURRING PREFERENCES
LOGIC SCHEMA

Fig. 4

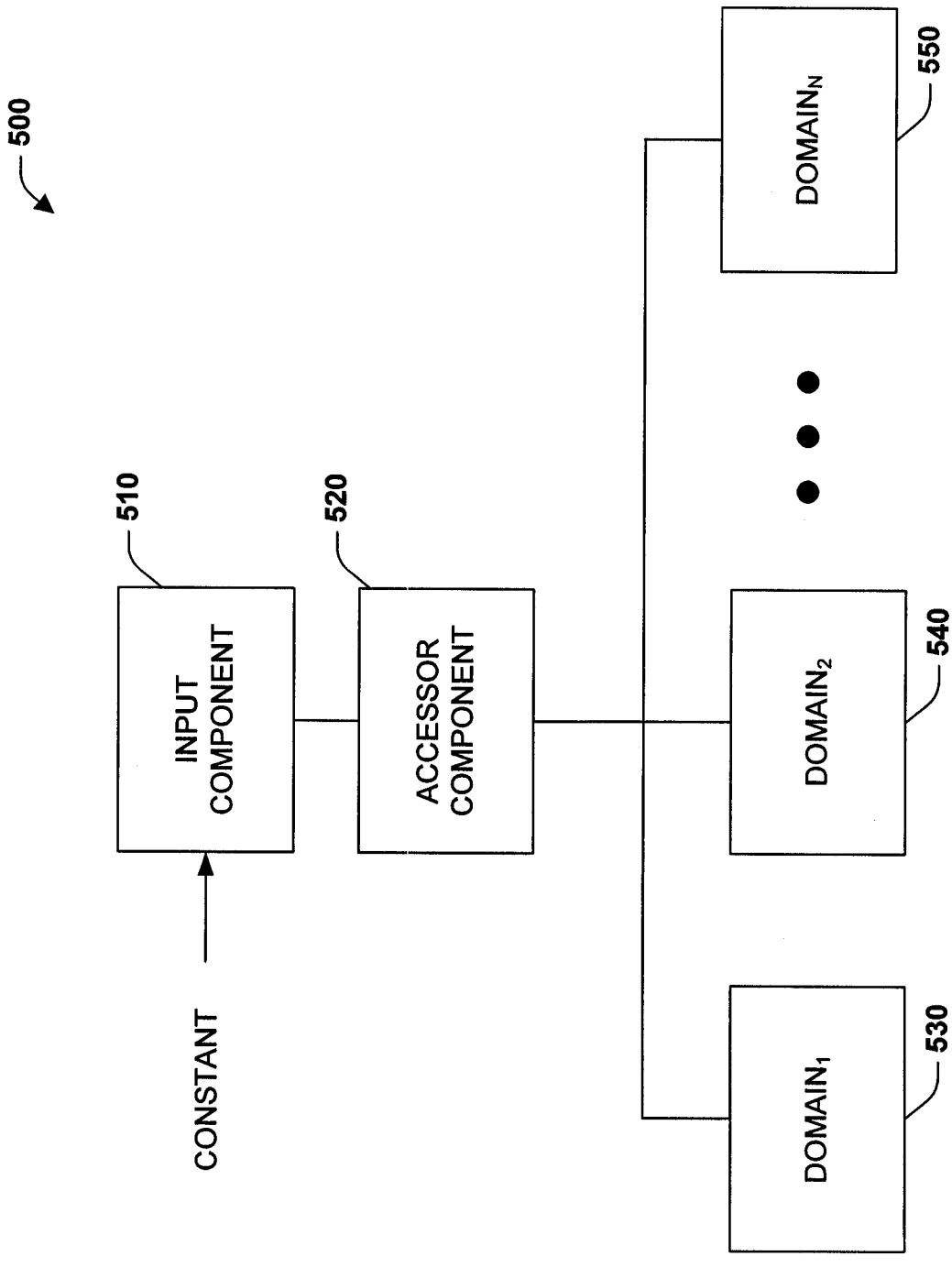

500
510
INPUT COMPONENT
520
ACCESSOR COMPONENT
CONSTANT
DOMAIN$_N$
550
DOMAIN$_2$
540
DOMAIN$_1$
530

Fig. 5

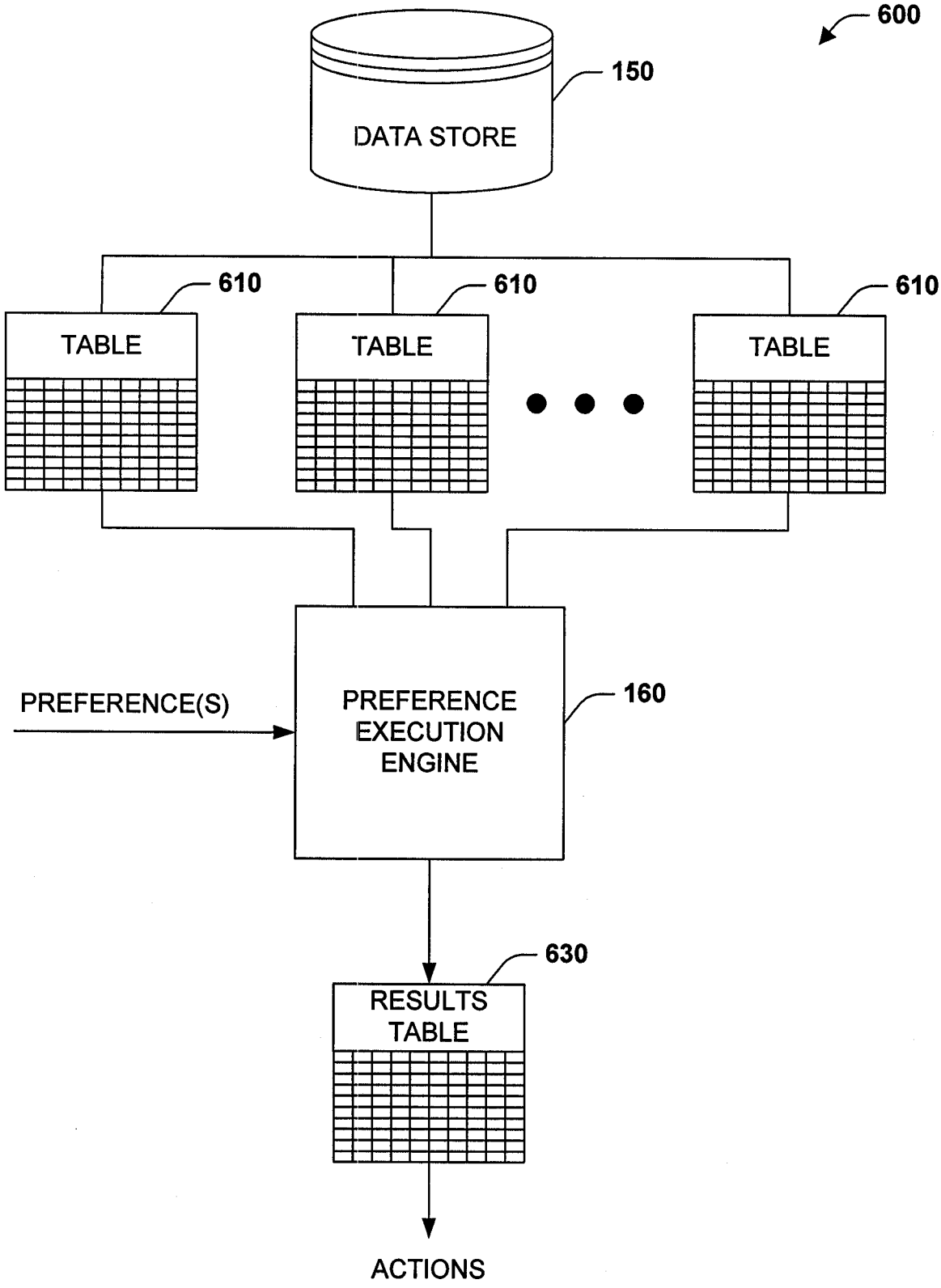

600
DATA STORE
150
TABLE
610
TABLE
610
TABLE
610
PREFERENCE(S)
PREFERENCE EXECUTION ENGINE
160
RESULTS TABLE
630
ACTIONS

FIG. 6

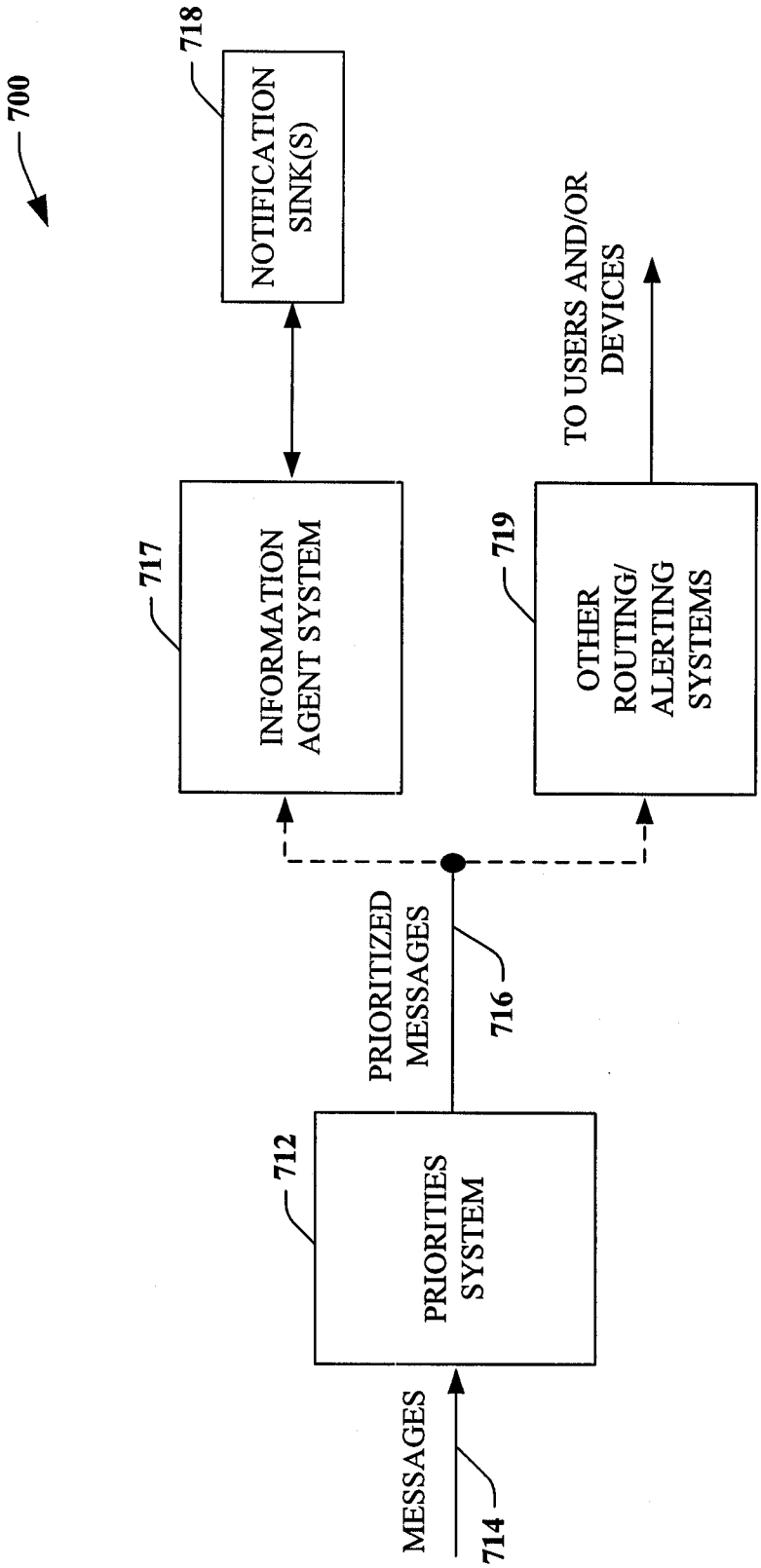

700
718
NOTIFICATION SINK(S)
717
INFORMATION AGENT SYSTEM
719
OTHER ROUTING/ ALERTING SYSTEMS
TO USERS AND/OR DEVICES
PRIORITIZED MESSAGES
716
712
PRIORITIES SYSTEM
MESSAGES
714

Fig. 7

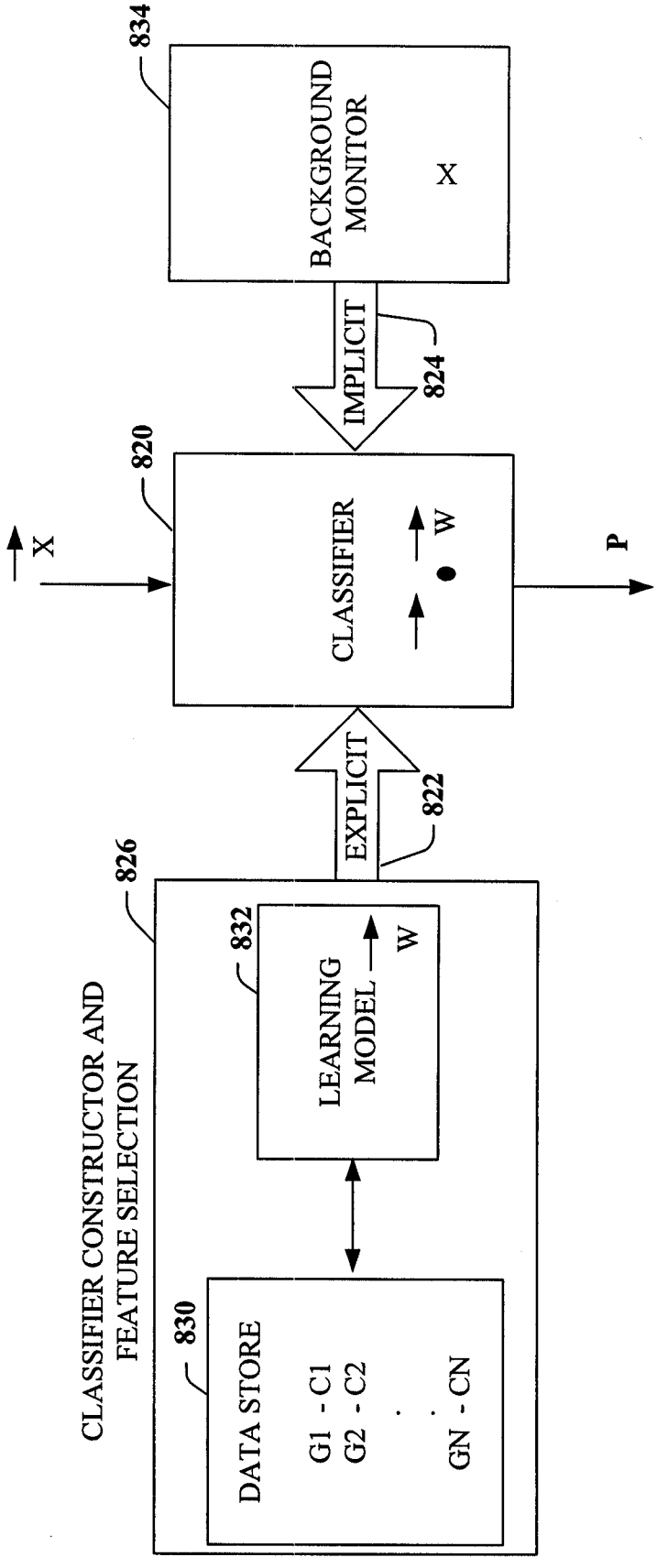

834
BACKGROUND MONITOR
X
IMPLICIT
824
820
X
CLASSIFIER
W
P
EXPLICIT
822
826
CLASSIFIER CONSTRUCTOR AND FEATURE SELECTION
832
LEARNING MODEL
W
830
DATA STORE
G1 - C1
G2 - C2
GN - CN

Fig. 8

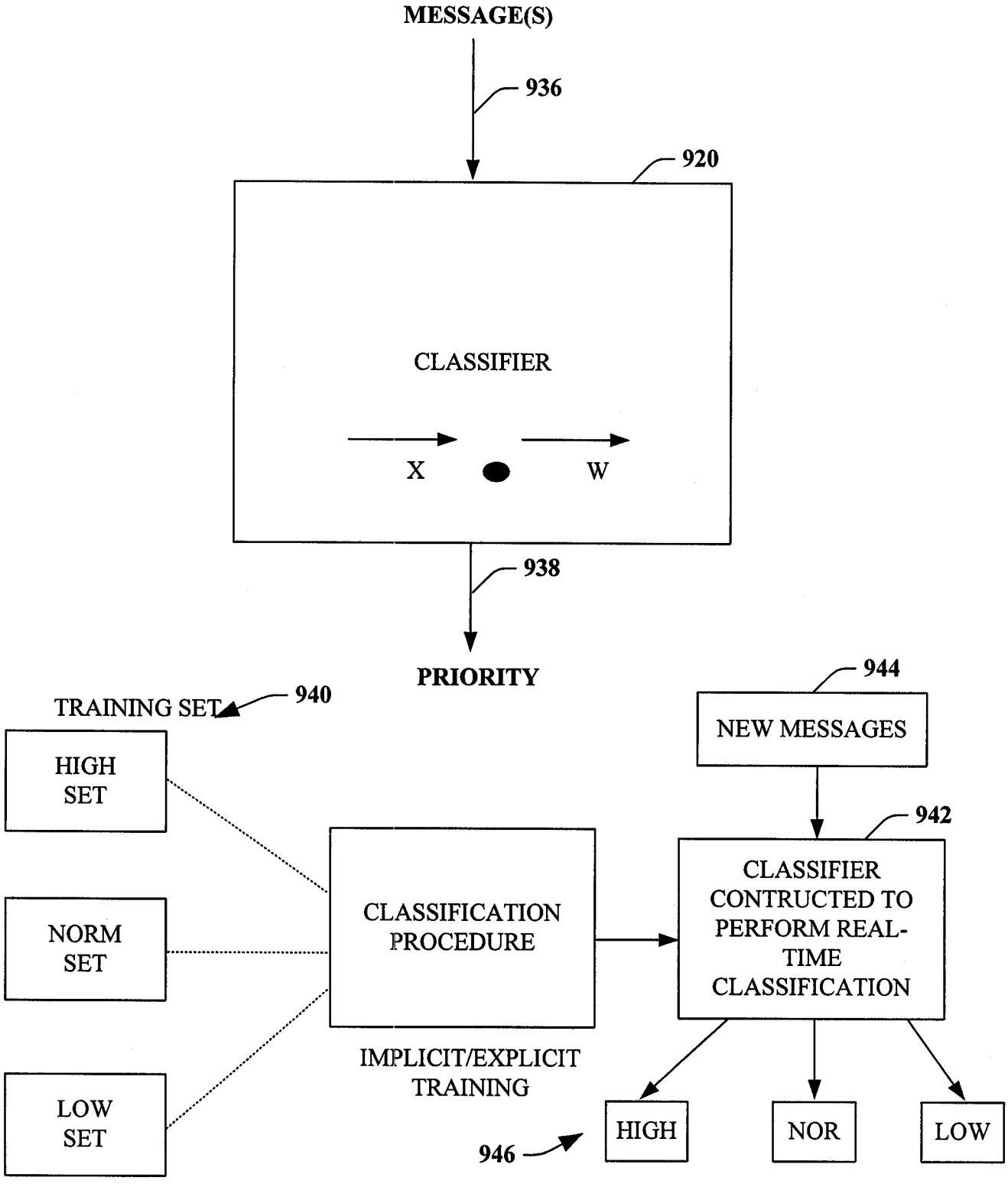

MESSAGE(S)
936
920
CLASSIFIER
X
W
938
PRIORITY
TRAINING SET
940
HIGH SET
NORM SET
LOW SET
CLASSIFICATION PROCEDURE
IMPLICIT/EXPLICIT TRAINING
946
944
NEW MESSAGES
942
CLASSIFIER CONTRUCTED TO PERFORM REAL-TIME CLASSIFICATION
HIGH
NOR
LOW

Fig. 9

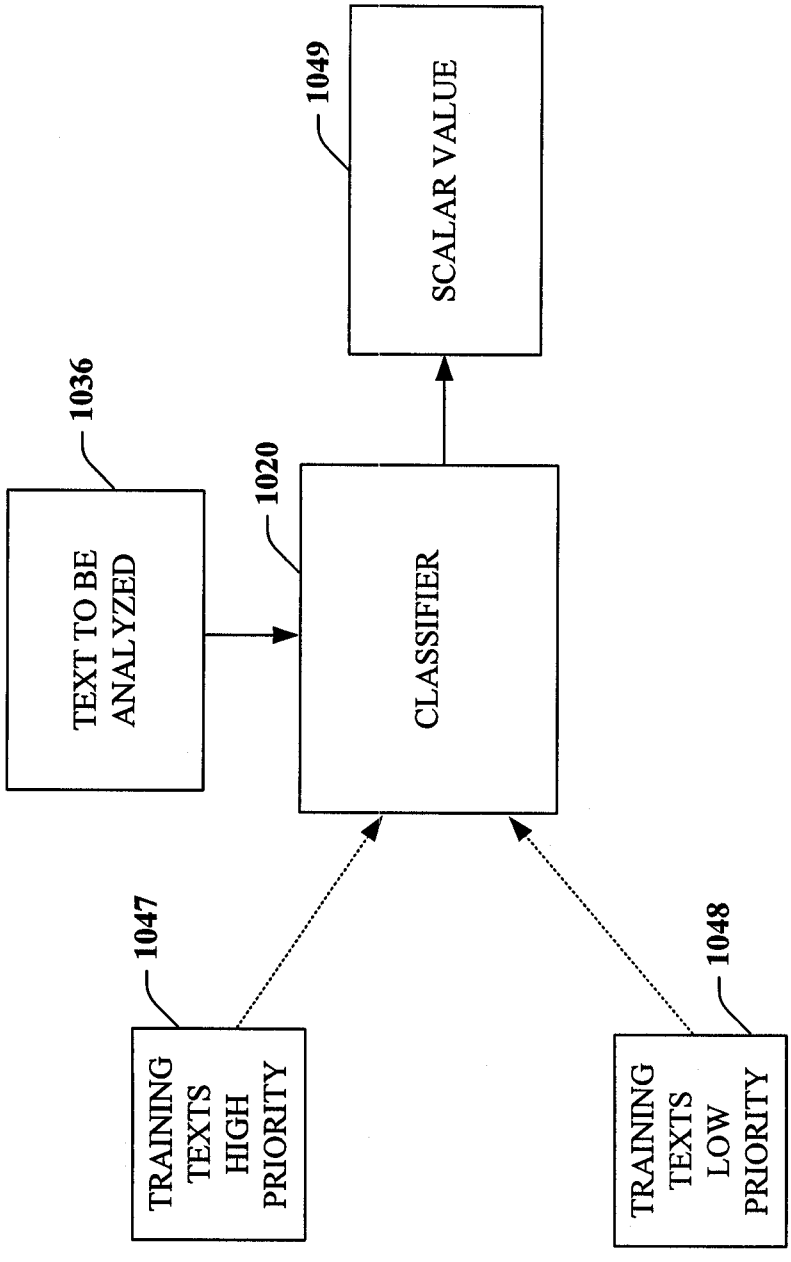

1049
SCALAR VALUE
1036
TEXT TO BE ANALYZED
1020
CLASSIFIER
1047
TRAINING TEXTS HIGH PRIORITY
1048
TRAINING TEXTS LOW PRIORITY

Fig. 10

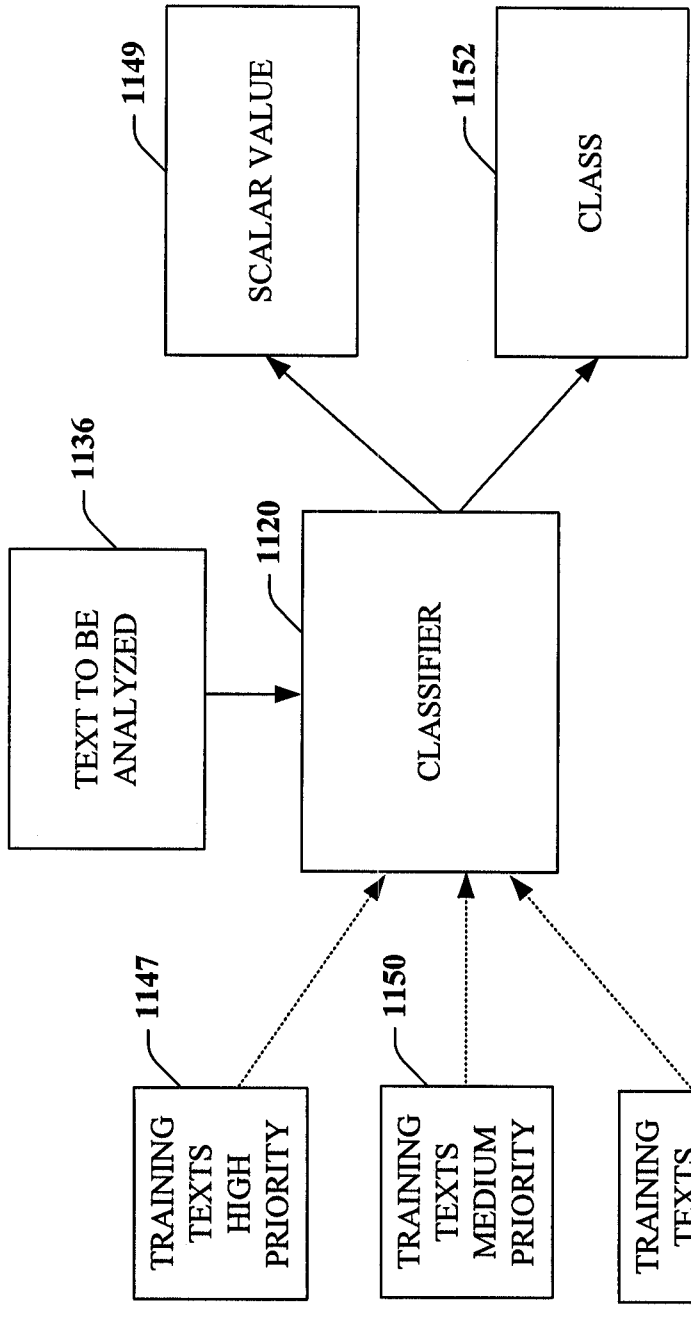

1149
SCALAR VALUE
1152
CLASS
1136
TEXT TO BE ANALYZED
1120
CLASSIFIER
1147
TRAINING TEXTS HIGH PRIORITY
1150
TRAINING TEXTS MEDIUM PRIORITY
1148
TRAINING TEXTS LOW PRIORITY

Fig. 11

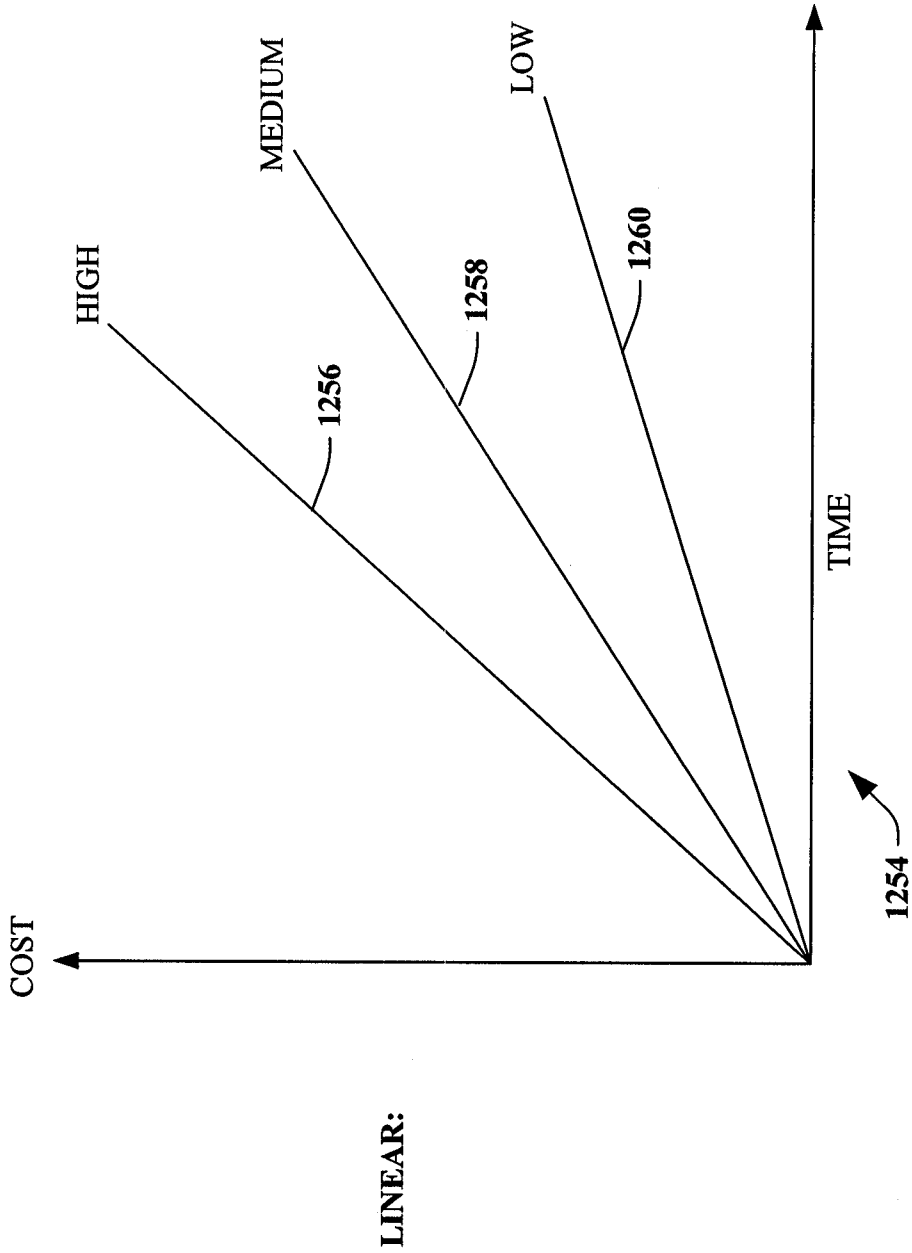


Fig. 12

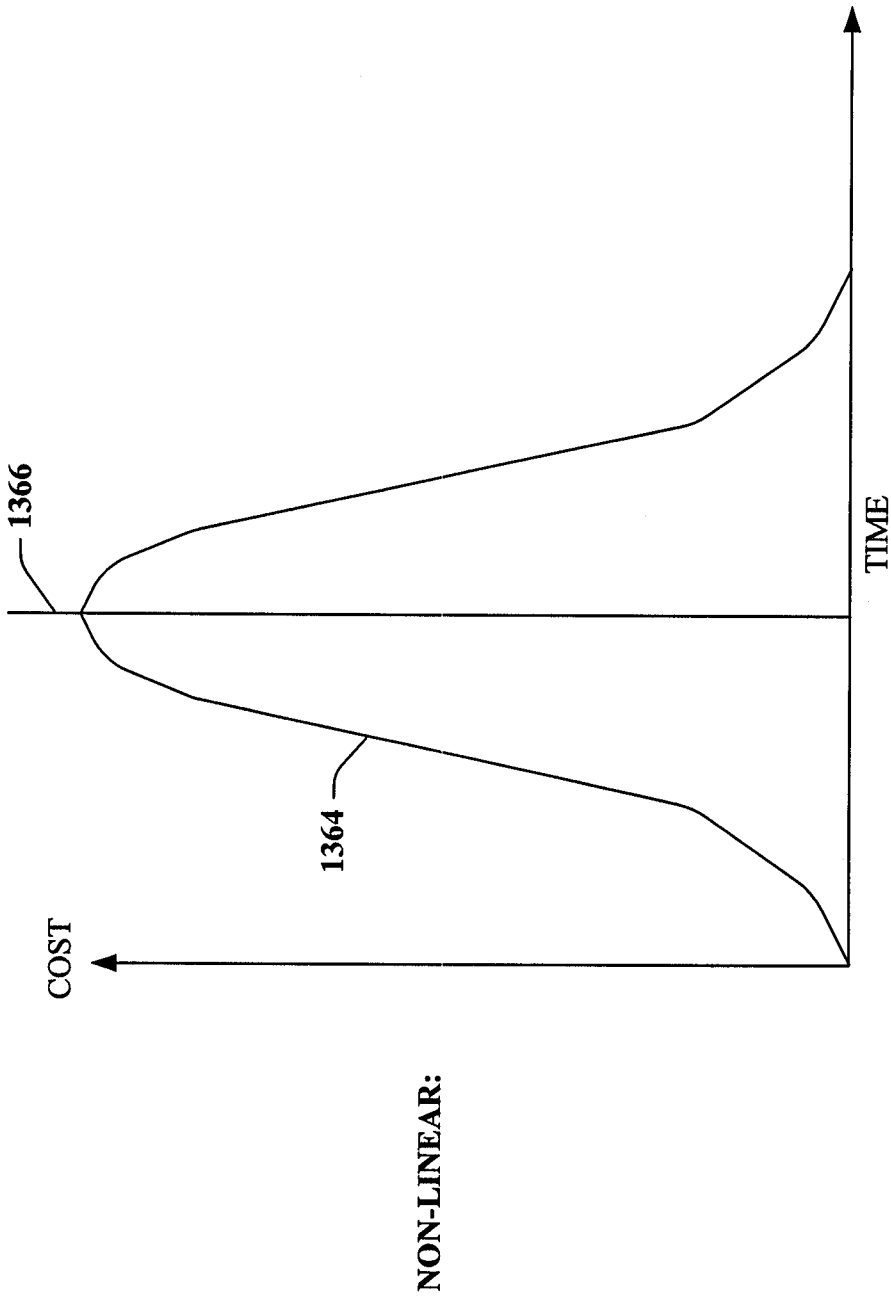


Fig. 13

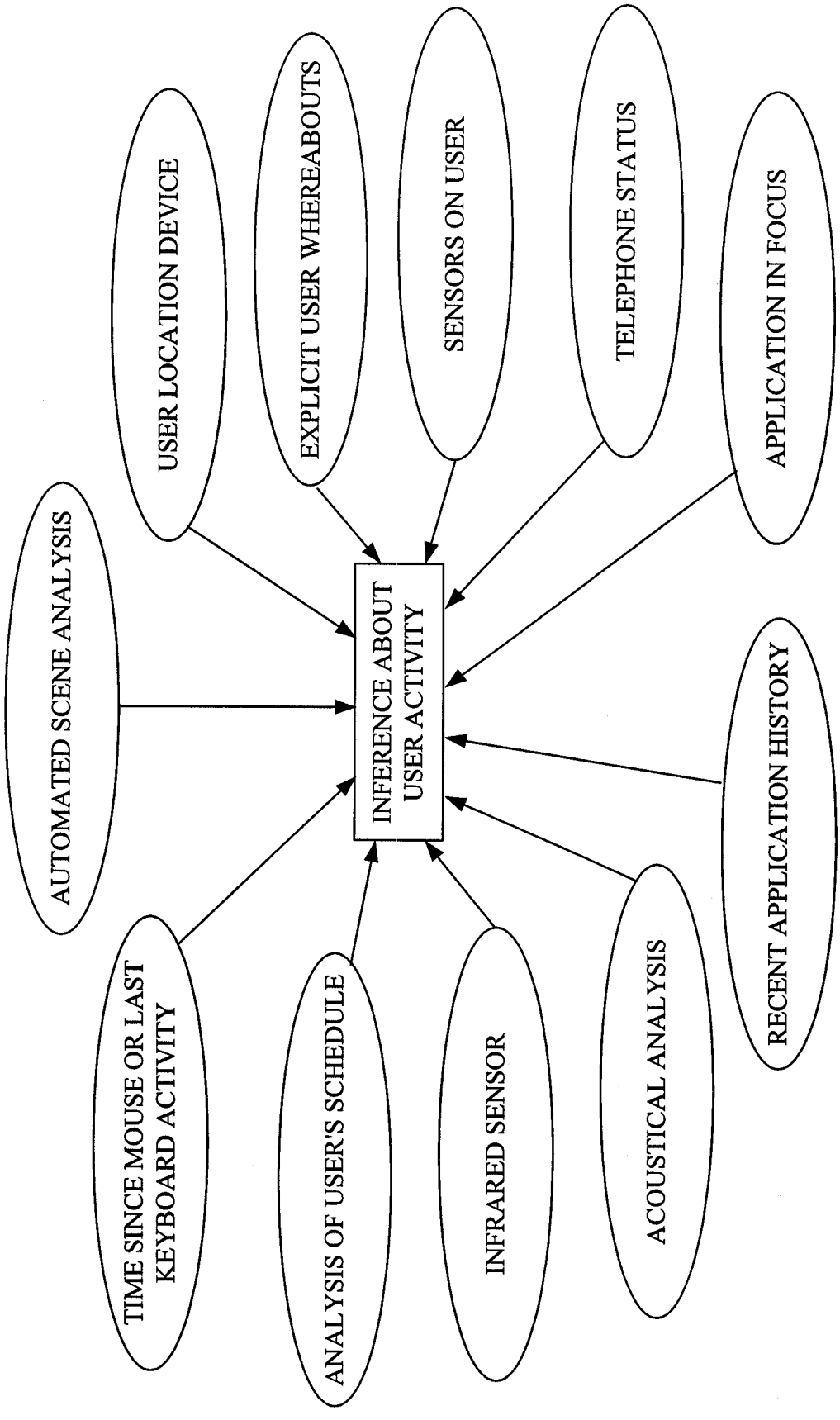

AUTOMATED SCENE ANALYSIS
USER LOCATION DEVICE
EXPLICIT USER WHEREABOUTS
SENSORS ON USER
TELEPHONE STATUS
APPLICATION IN FOCUS
INFERENCE ABOUT USER ACTIVITY
TIME SINCE MOUSE OR LAST KEYBOARD ACTIVITY
ANALYSIS OF USER'S SCHEDULE
INFRARED SENSOR
ACOUSTICAL ANALYSIS
RECENT APPLICATION HISTORY

Fig. 14

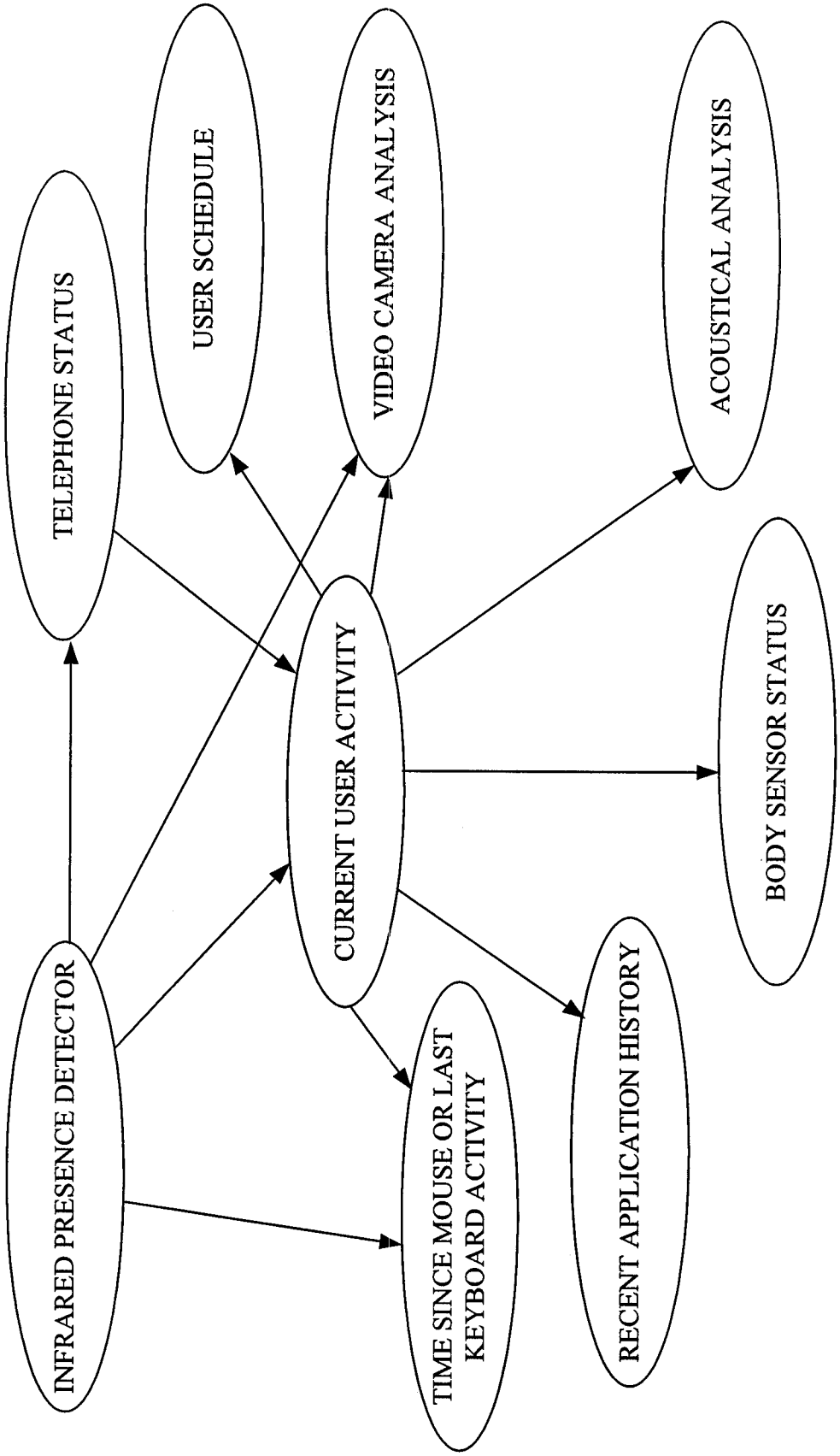

INFRARED PRESENCE DETECTOR
TELEPHONE STATUS
USER SCHEDULE
VIDEO CAMERA ANALYSIS
ACOUSTICAL ANALYSIS
CURRENT USER ACTIVITY
BODY SENSOR STATUS
TIME SINCE MOUSE OR LAST KEYBOARD ACTIVITY
RECENT APPLICATION HISTORY

Fig. 15

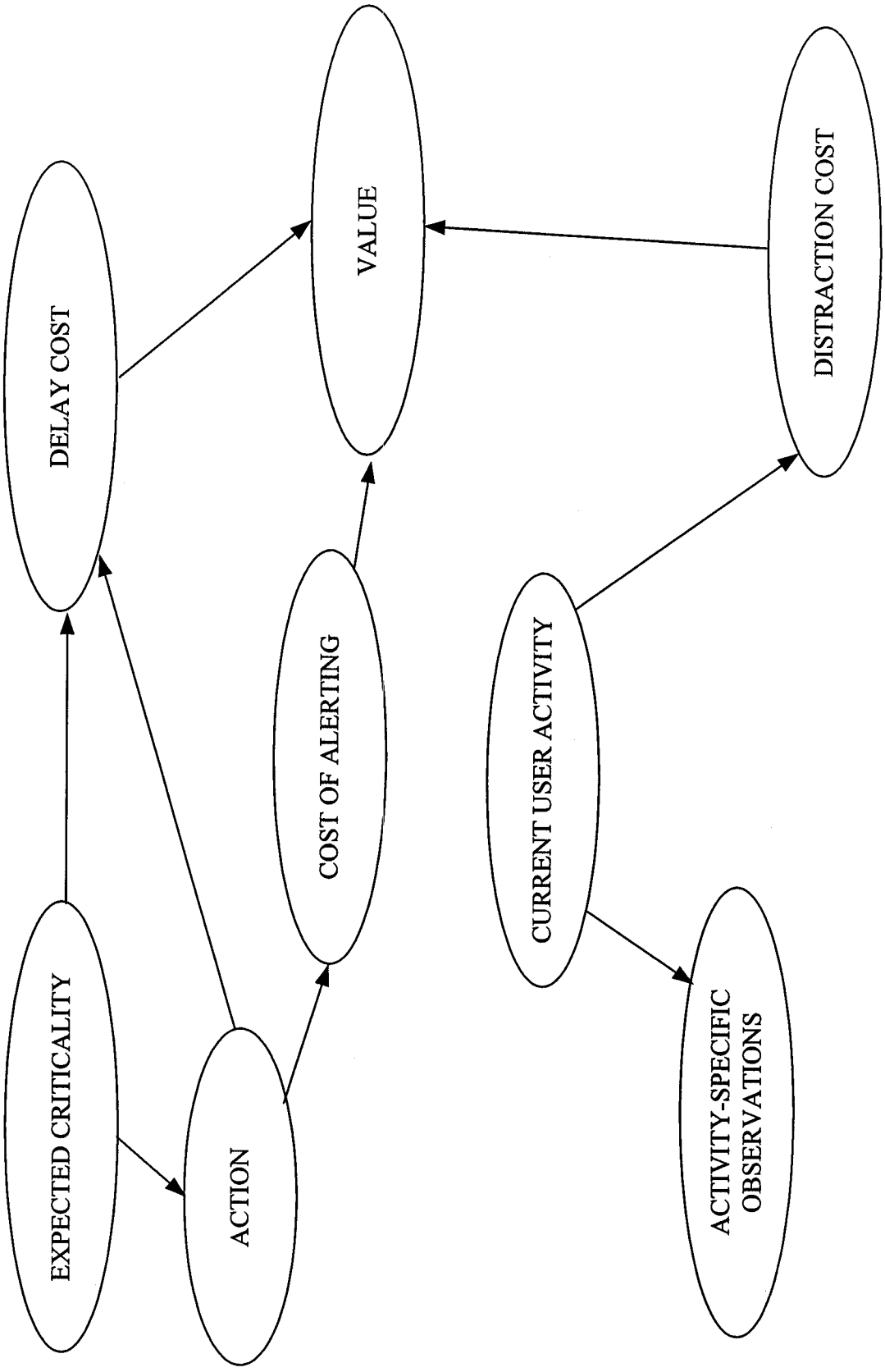

EXPECTED CRITICALITY
DELAY COST
ACTION
COST OF ALERTING
VALUE
CURRENT USER ACTIVITY
ACTIVITY-SPECIFIC OBSERVATIONS
DISTRACTION COST

Fig. 16

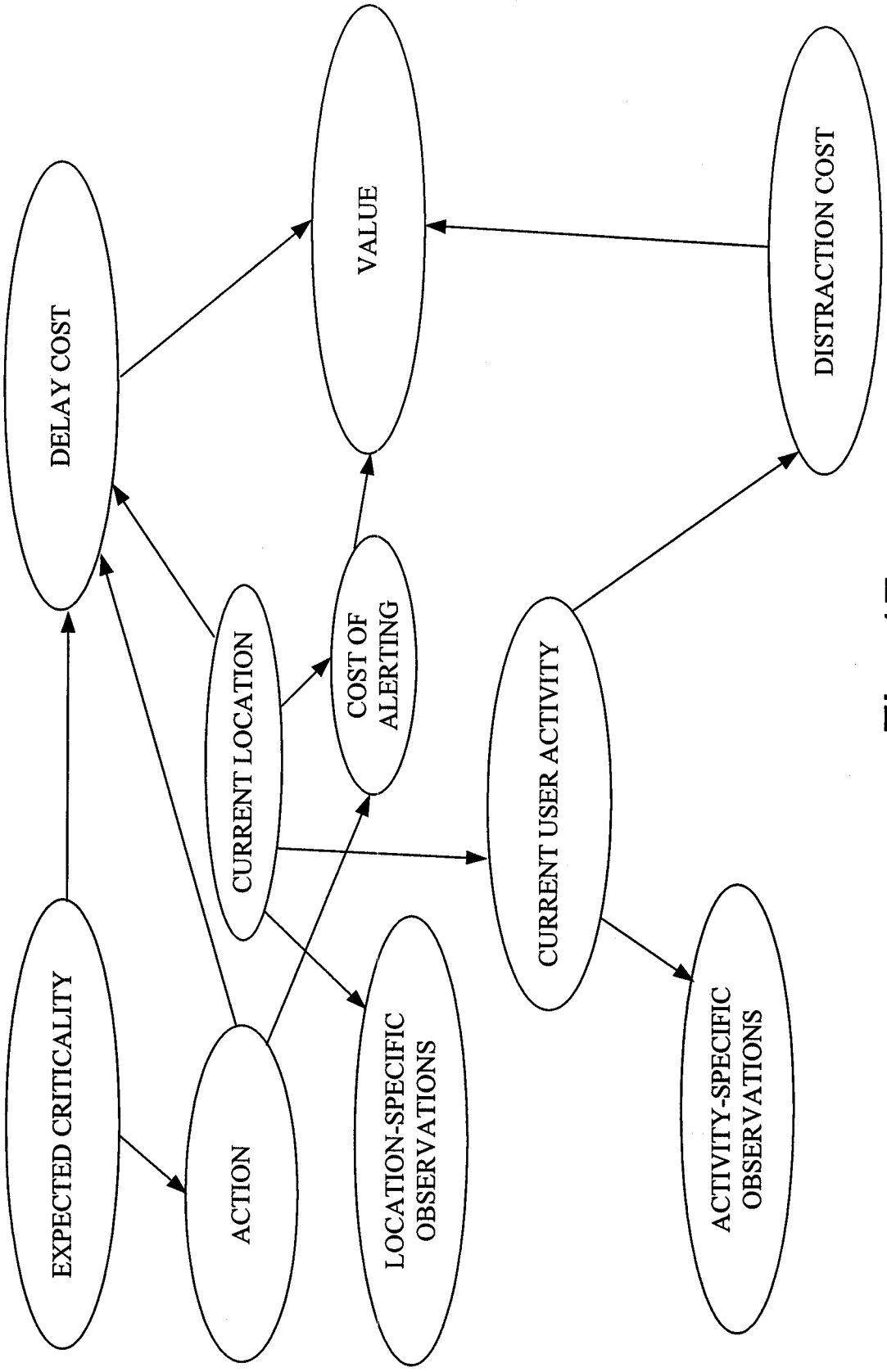

EXPECTED CRITICALITY
DELAY COST
VALUE
DISTRACTION COST
CURRENT LOCATION
COST OF ALERTING
CURRENT USER ACTIVITY
ACTION
LOCATION-SPECIFIC OBSERVATIONS
ACTIVITY-SPECIFIC OBSERVATIONS

Fig. 17

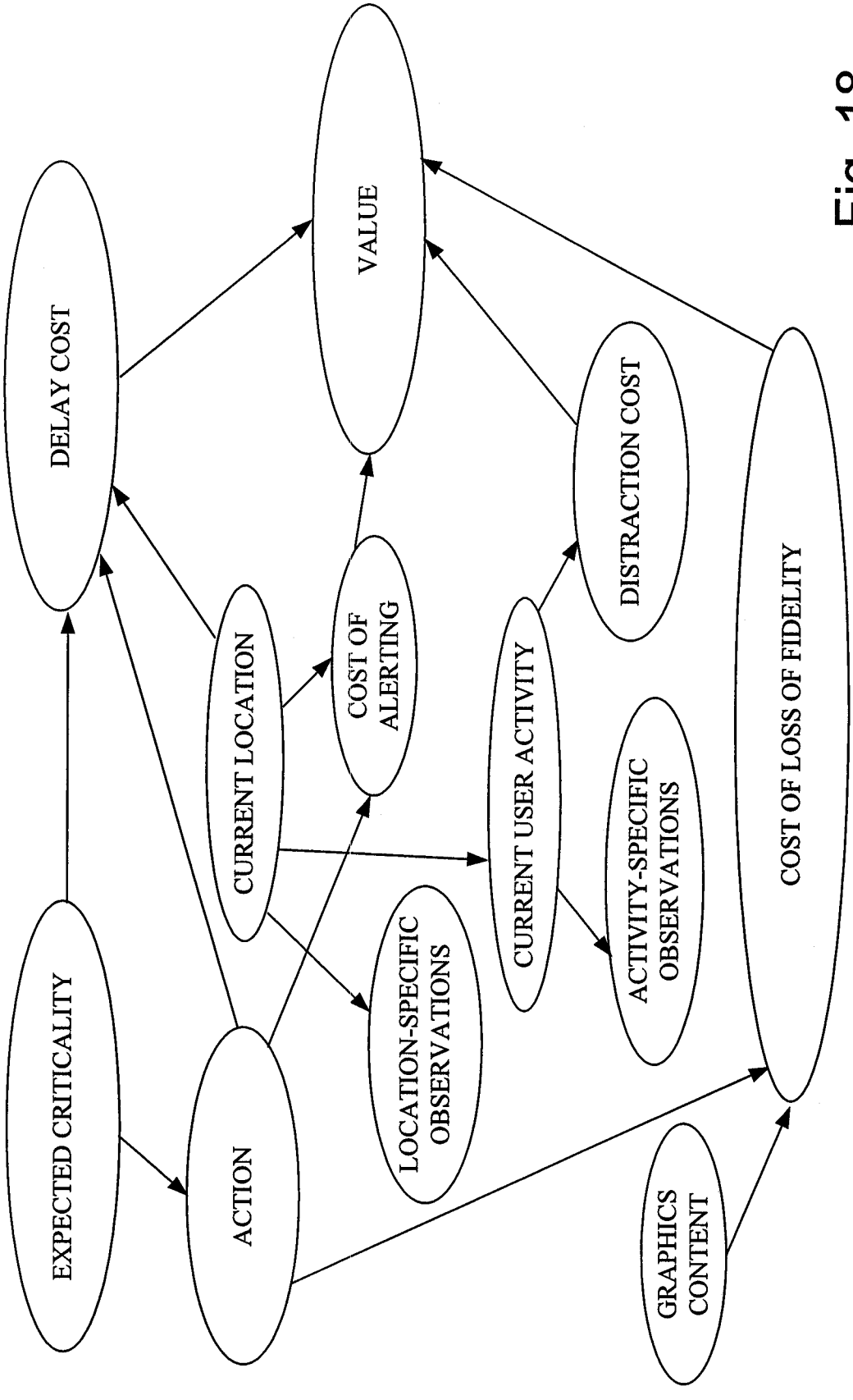

EXPECTED CRITICALITY
DELAY COST
VALUE
ACTION
CURRENT LOCATION
COST OF ALERTING
LOCATION-SPECIFIC OBSERVATIONS
CURRENT USER ACTIVITY
DISTRACTION COST
ACTIVITY-SPECIFIC OBSERVATIONS
GRAPHICS CONTENT
COST OF LOSS OF FIDELITY

Fig. 18

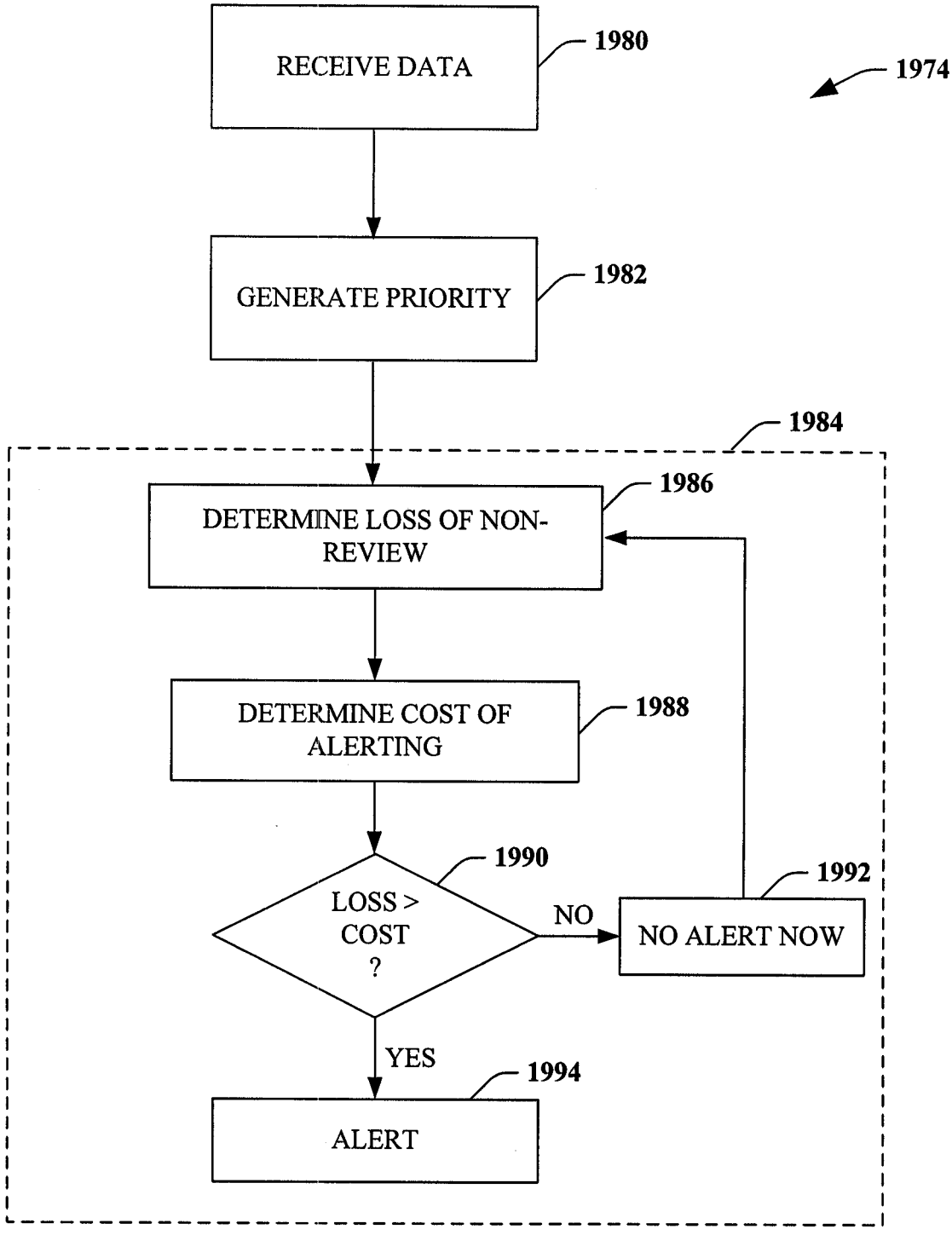

RECEIVE DATA
1980
1974
GENERATE PRIORITY
1982
1984
DETERMINE LOSS OF NON-REVIEW
1986
DETERMINE COST OF ALERTING
1988
LOSS > COST ?
1990
NO
NO ALERT NOW
1992
YES
ALERT
1994

Fig. 19

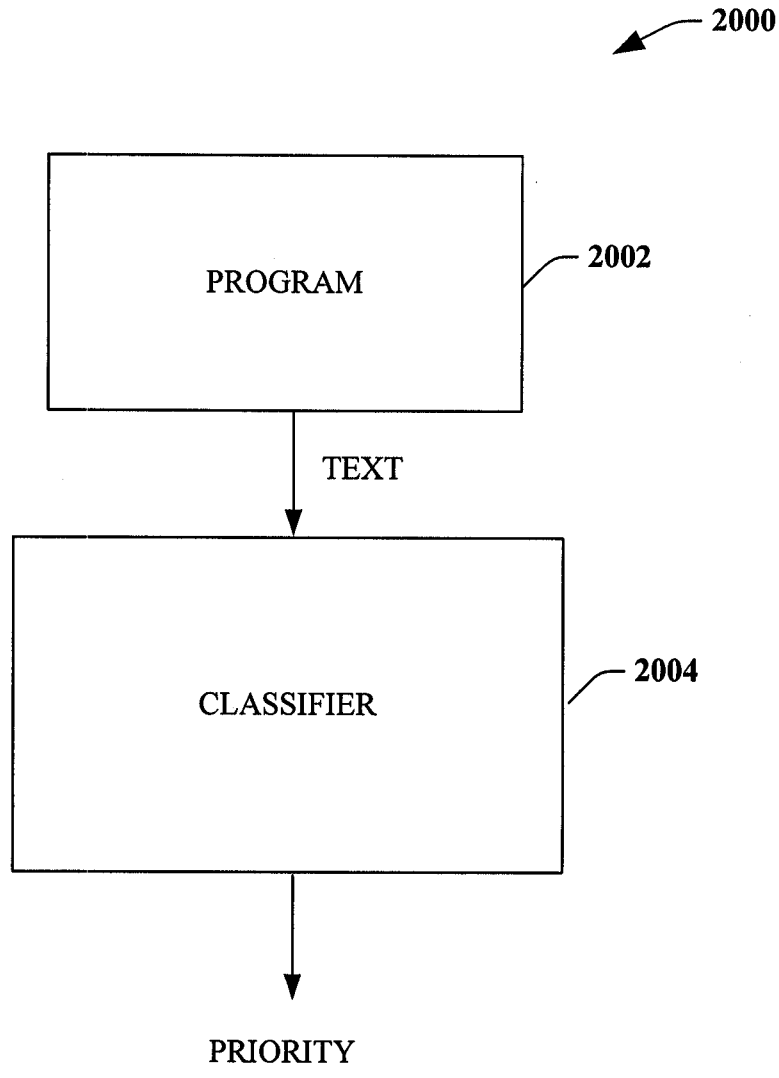


Fig. 20

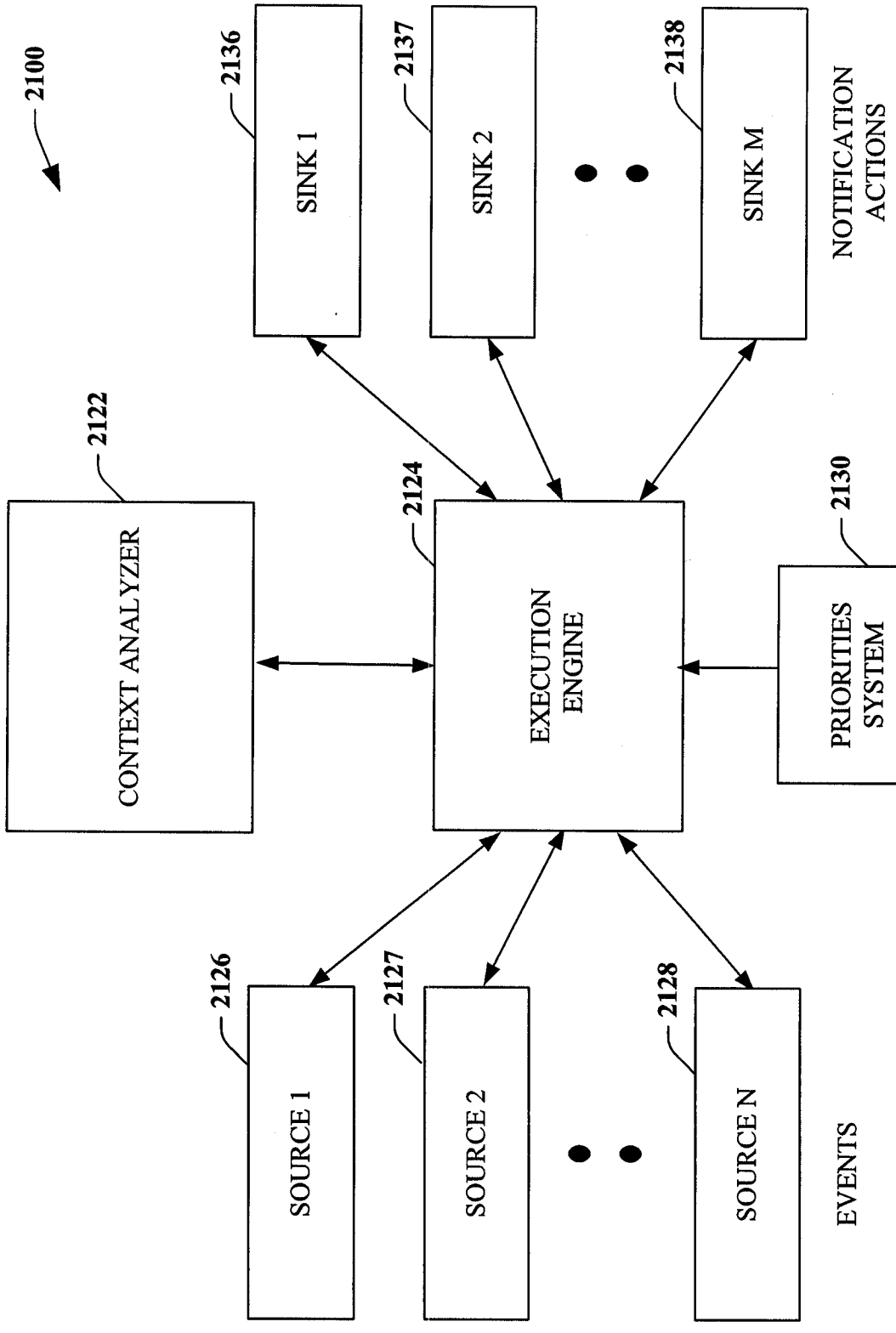

2100
2136
SINK 1
2137
SINK 2
2138
SINK M
NOTIFICATION ACTIONS
2122
CONTEXT ANALYZER
2124
EXECUTION ENGINE
2130
PRIORITIES SYSTEM
2126
SOURCE 1
2127
SOURCE 2
2128
SOURCE N
EVENTS

Fig. 21

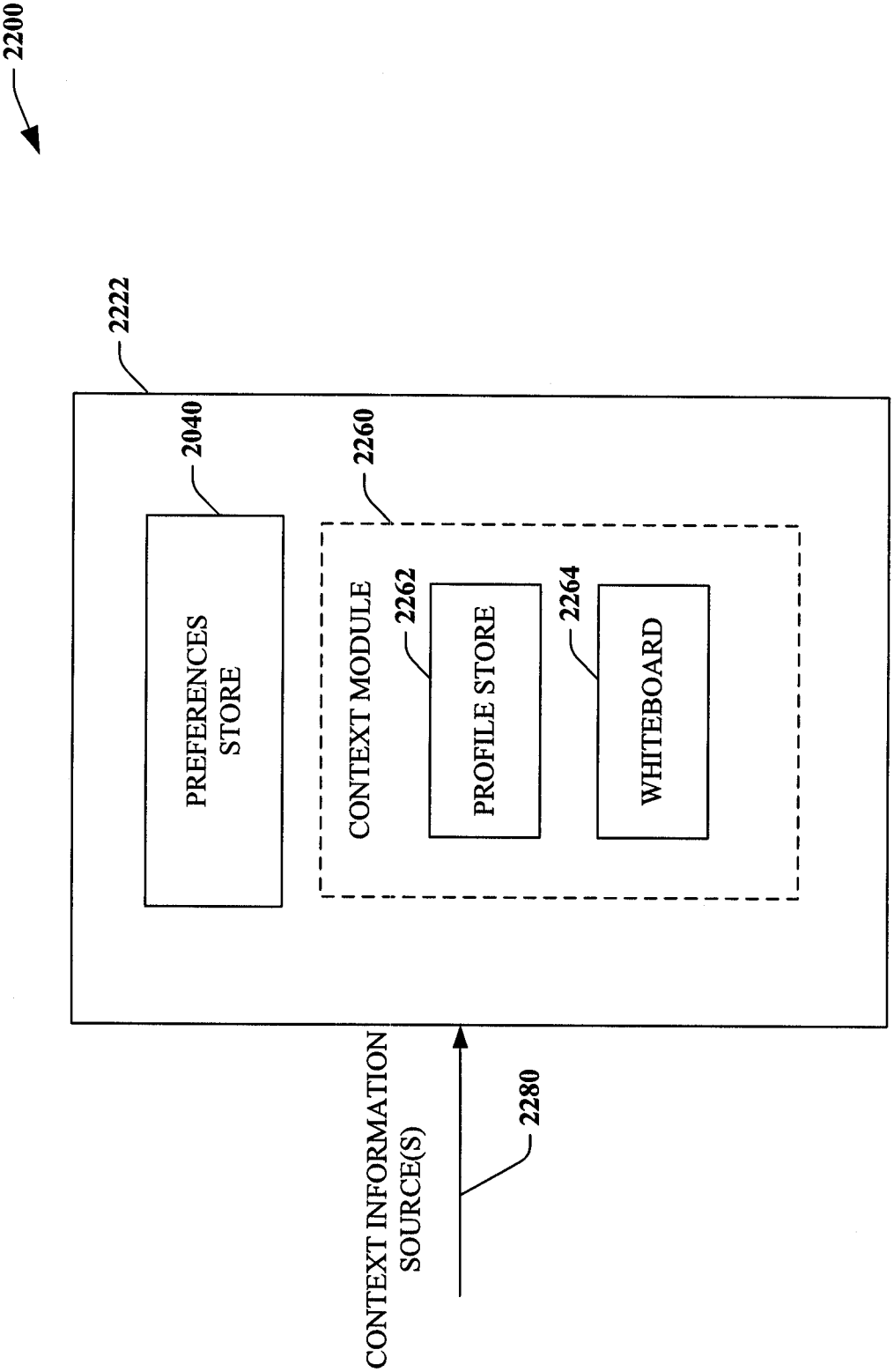

2200
2222
2040
PREFERENCES STORE
2260
CONTEXT MODULE
2262
PROFILE STORE
2264
WHITEBOARD
CONTEXT INFORMATION SOURCE(S)
2280

Fig. 22

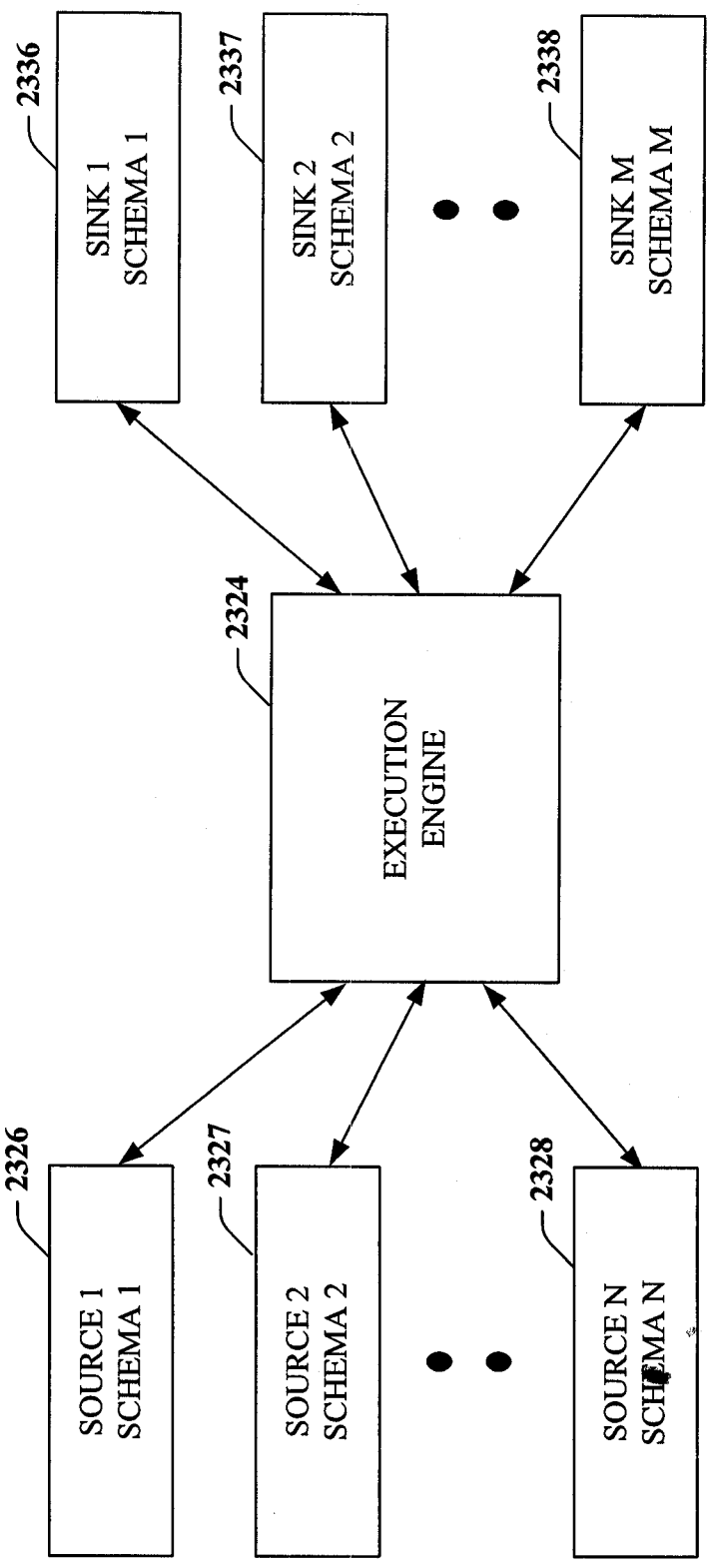

2336
SINK 1
SCHEMA 1
2337
SINK 2
SCHEMA 2
2338
SINK M
SCHEMA M
2324
EXECUTION
ENGINE
2326
SOURCE 1
SCHEMA 1
2327
SOURCE 2
SCHEMA 2
2328
SOURCE N
SCHEMA N

Fig. 23

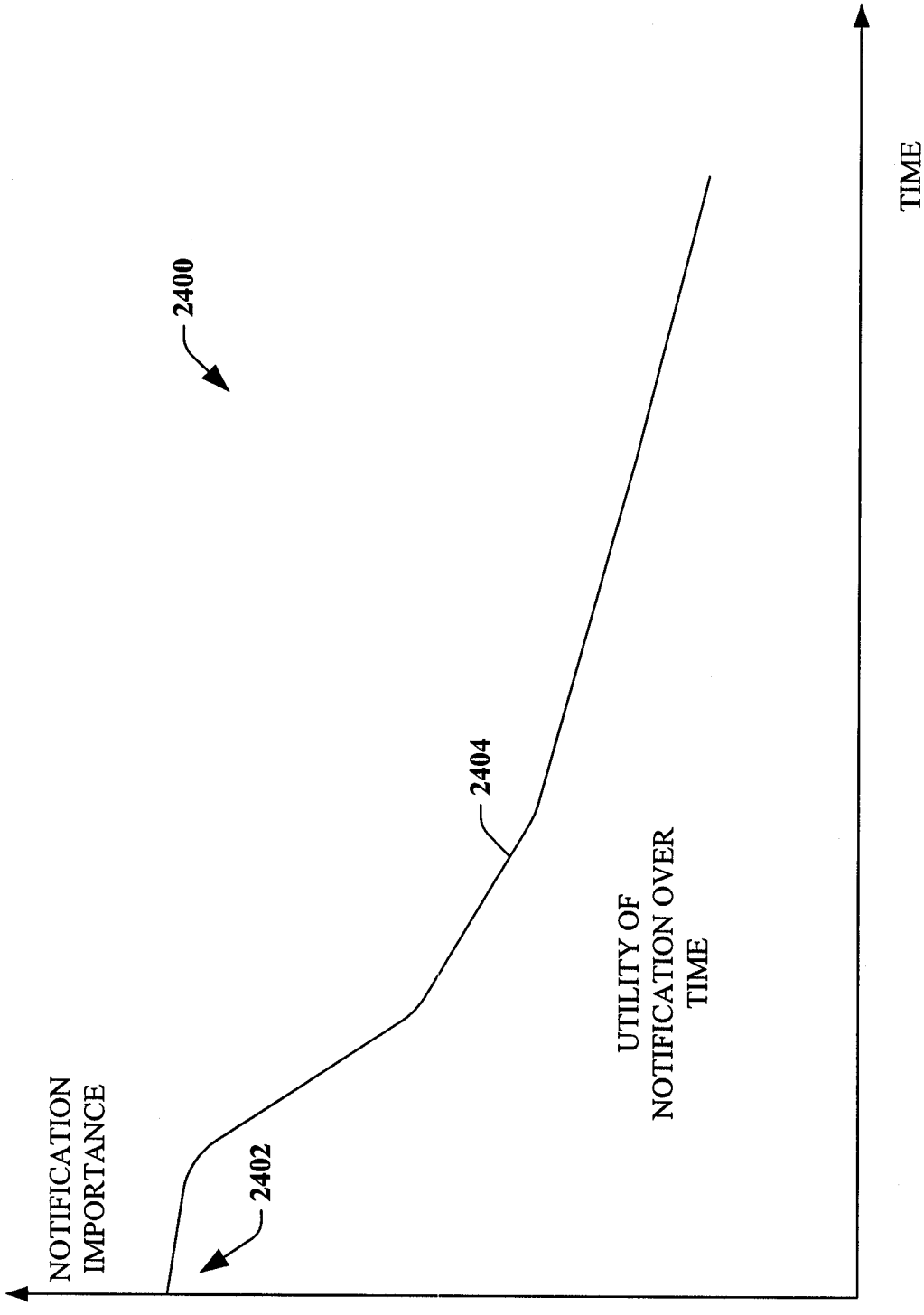

2400
NOTIFICATION IMPORTANCE
2402
2404
UTILITY OF NOTIFICATION OVER TIME
TIME

Fig. 24

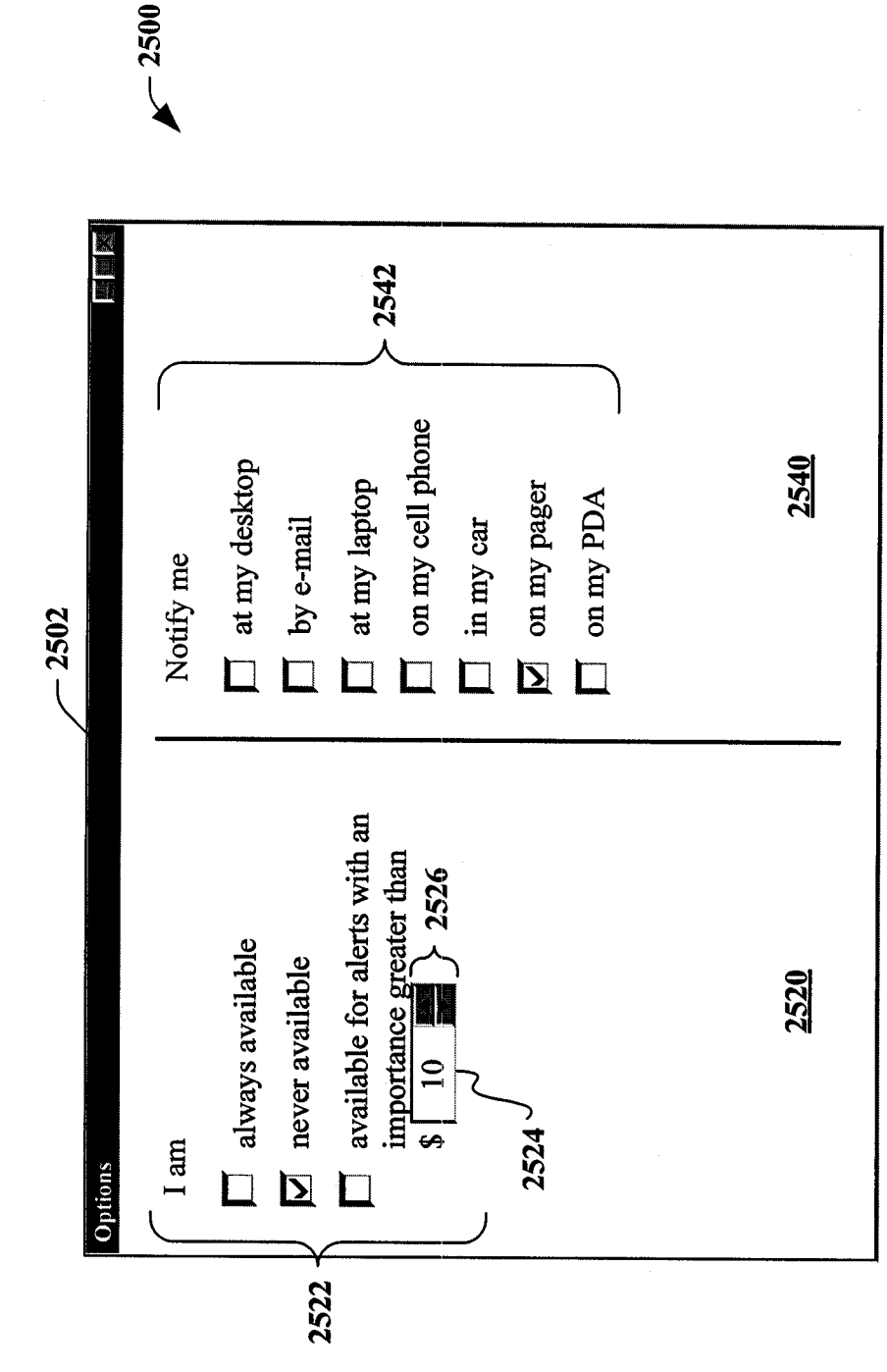

2500
2502
Options
I am
always available
never available
available for alerts with an importance greater than
$ 10
2526
2524
2522
2520
Notify me
at my desktop
by e-mail
at my laptop
on my cell phone
in my car
on my pager
on my PDA
2542
2540

Fig. 25

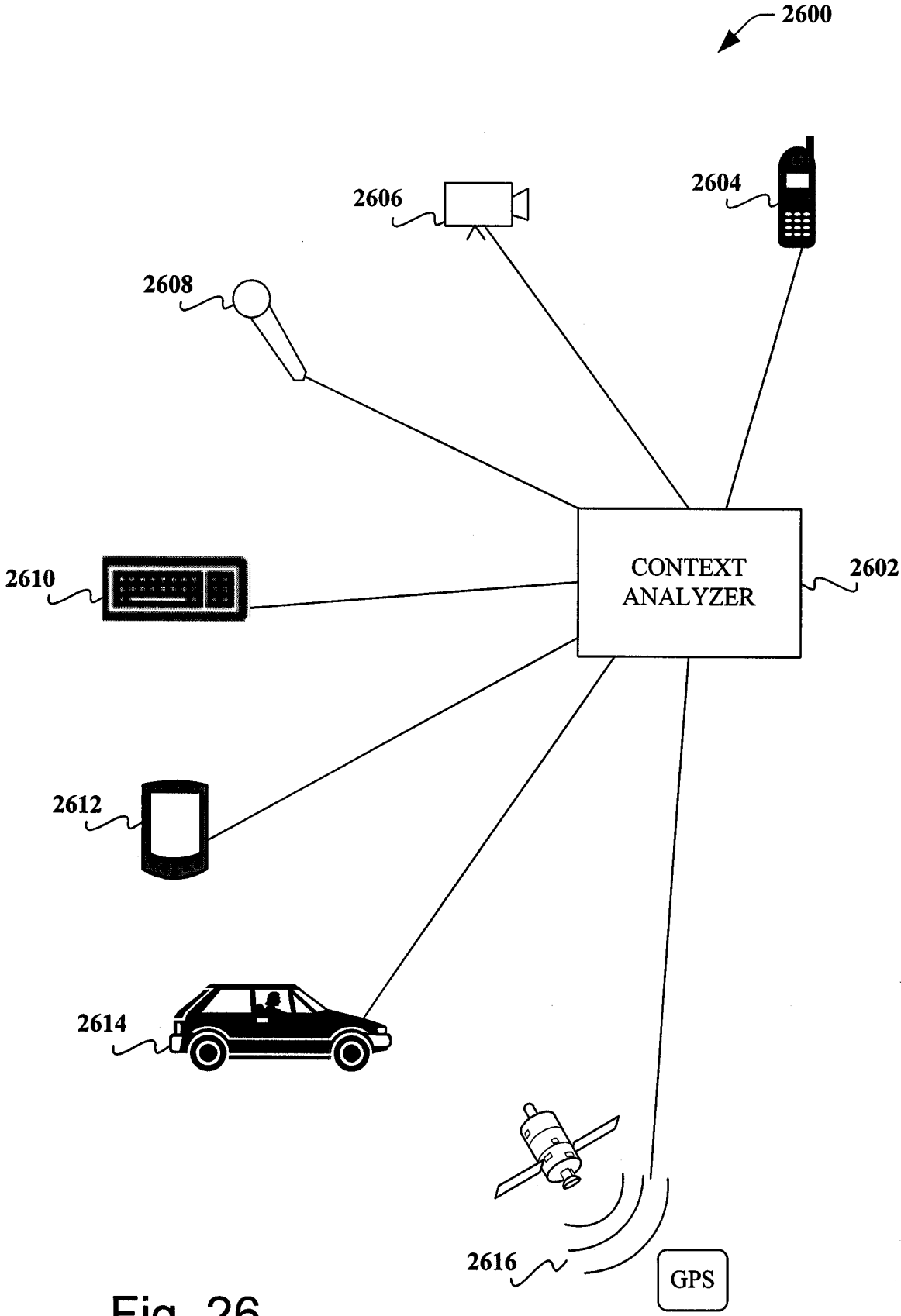

2600
2606
2604
2608
CONTEXT ANALYZER
2602
2610
2612
2614
2616
GPS

Fig. 26

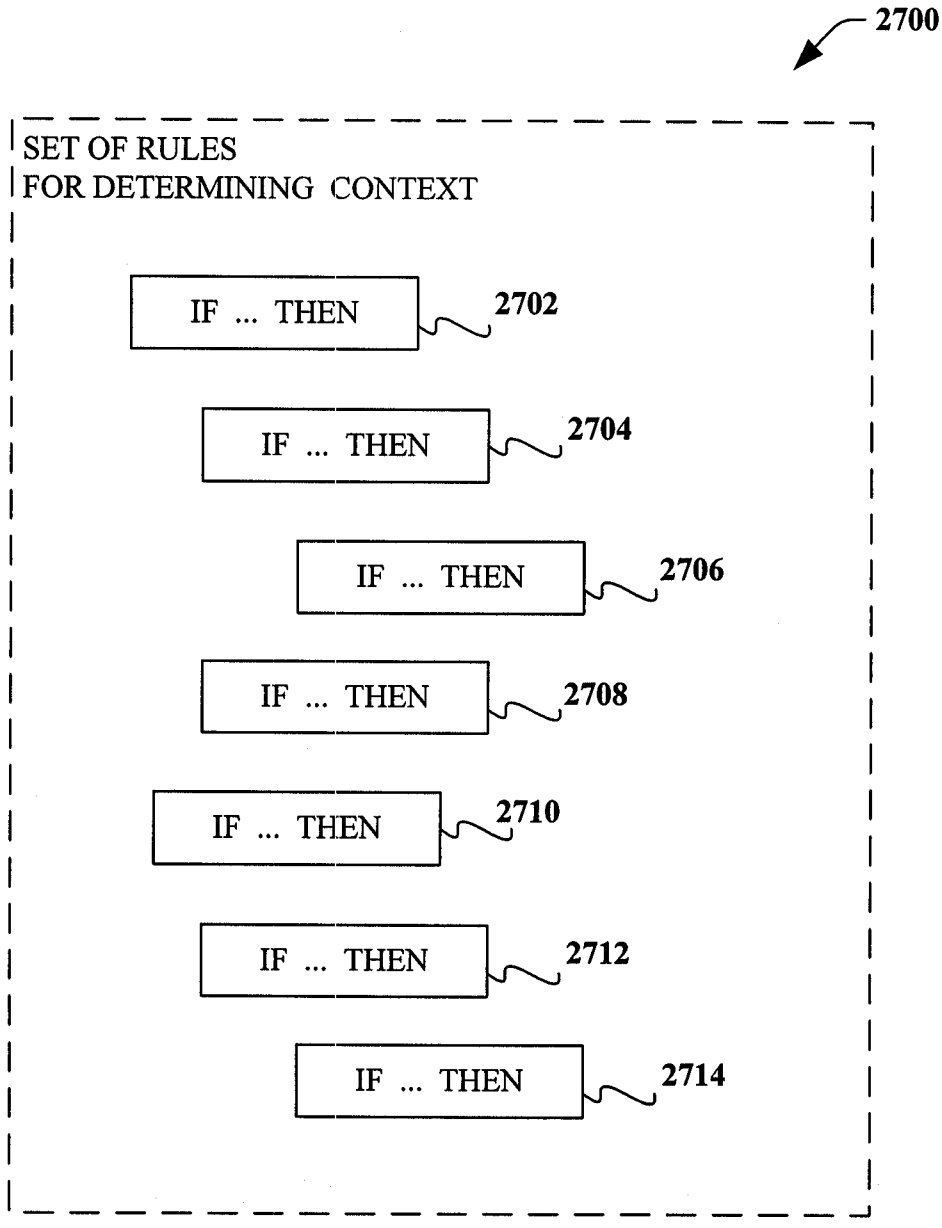

2700
SET OF RULES
FOR DETERMINING CONTEXT
IF ... THEN
2702
IF ... THEN
2704
IF ... THEN
2706
IF ... THEN
2708
IF ... THEN
2710
IF ... THEN
2712
IF ... THEN
2714

Fig. 27

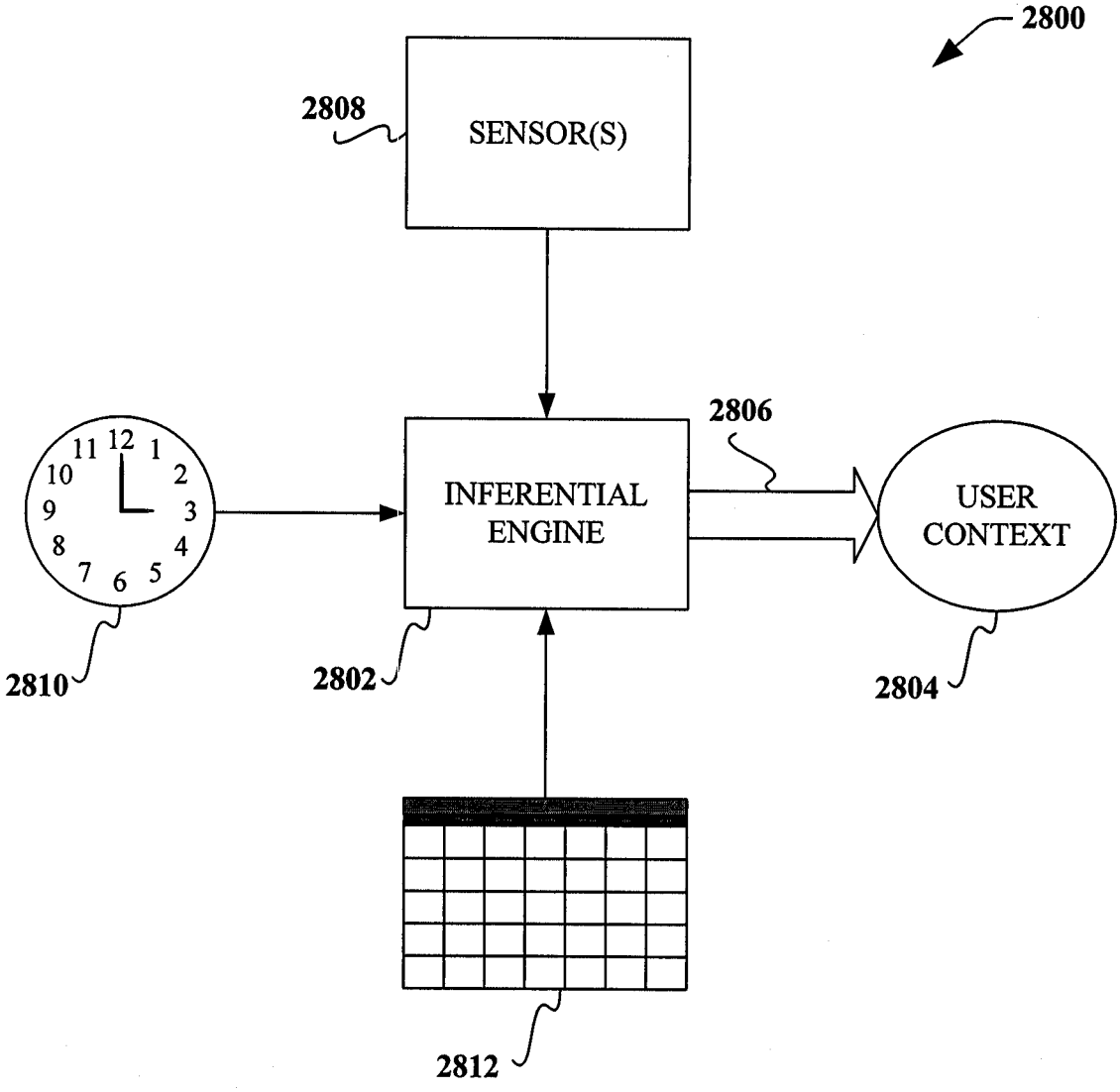

2800
2808
SENSOR(S)
2806
INFERENTIAL ENGINE
USER CONTEXT
2810
2802
2804
2812

Fig. 28

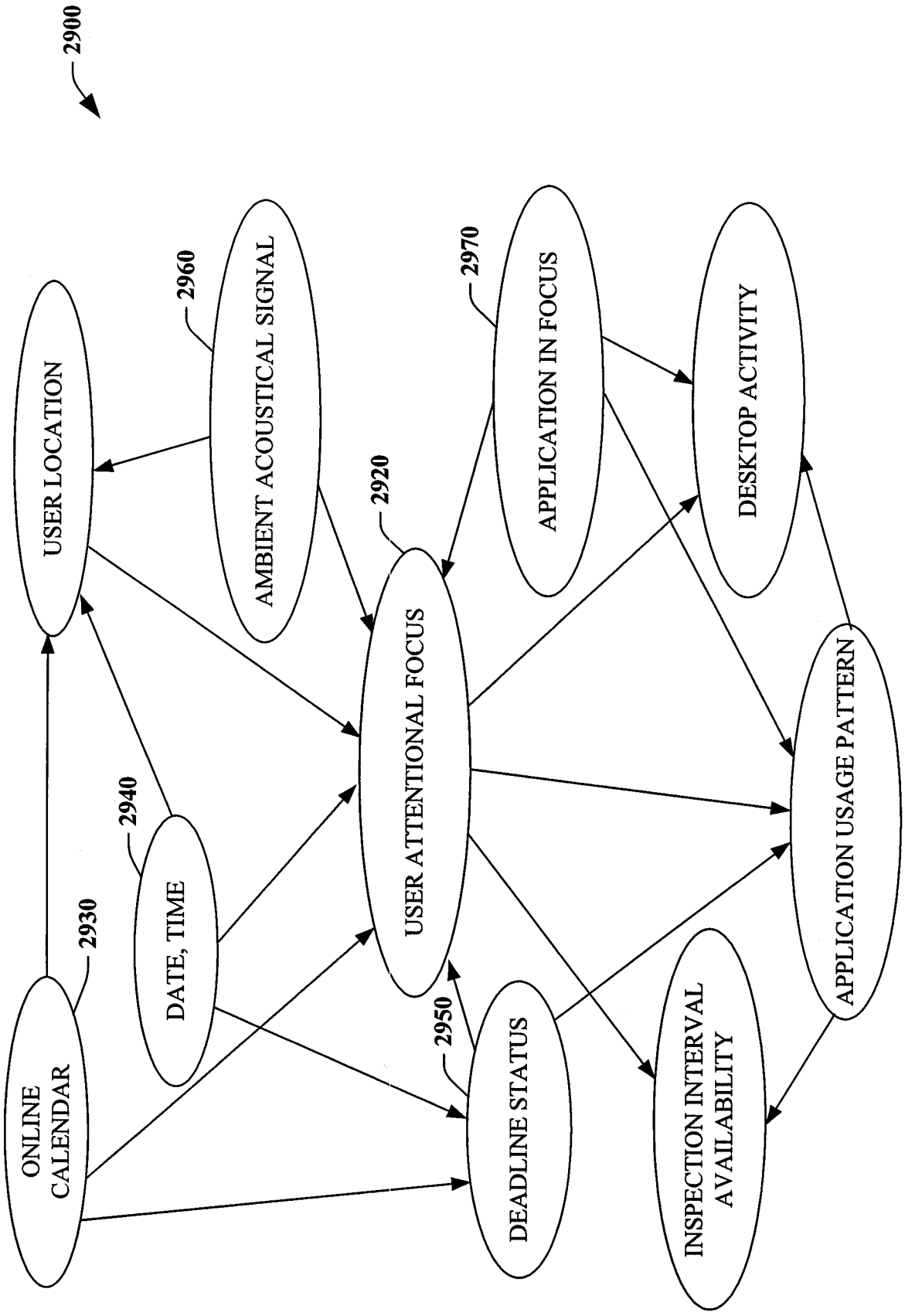

2900
USER LOCATION
2960
AMBIENT ACOUSTICAL SIGNAL
2970
APPLICATION IN FOCUS
DESKTOP ACTIVITY
2920
USER ATTENTIONAL FOCUS
2930
ONLINE CALENDAR
2940
DATE, TIME
2950
DEADLINE STATUS
INSPECTION INTERVAL AVAILABILITY
APPLICATION USAGE PATTERN

Fig. 29

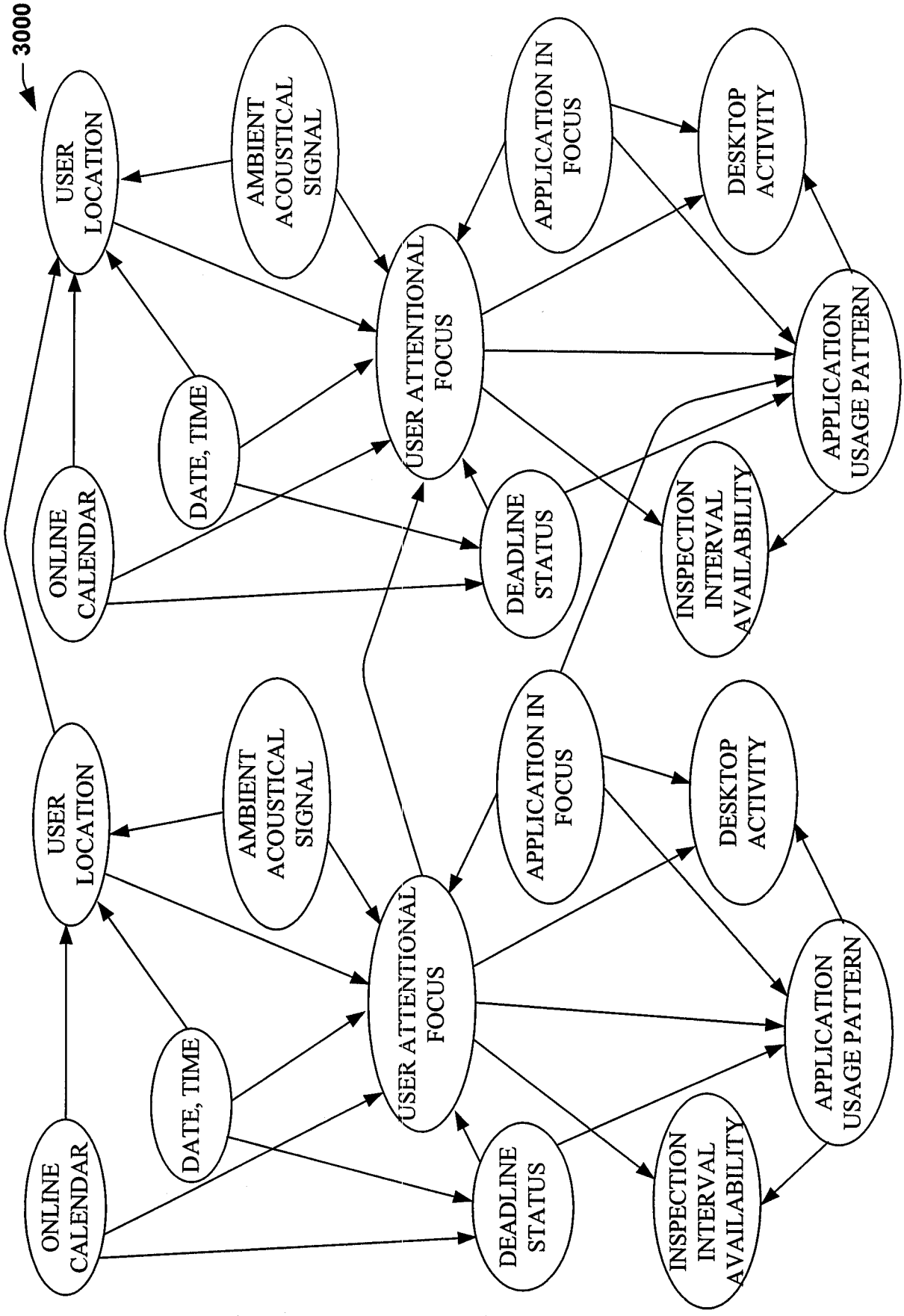

3000
ONLINE CALENDAR
DATE, TIME
USER LOCATION
AMBIENT ACOUSTICAL SIGNAL
USER ATTENTIONAL FOCUS
DEADLINE STATUS
APPLICATION IN FOCUS
DESKTOP ACTIVITY
INSPECTION INTERVAL AVAILABILITY
APPLICATION USAGE PATTERN
ONLINE CALENDAR
DATE, TIME
USER LOCATION
AMBIENT ACOUSTICAL SIGNAL
USER ATTENTIONAL FOCUS
DEADLINE STATUS
APPLICATION IN FOCUS
DESKTOP ACTIVITY
INSPECTION INTERVAL AVAILABILITY
APPLICATION USAGE PATTERN

Fig. 30

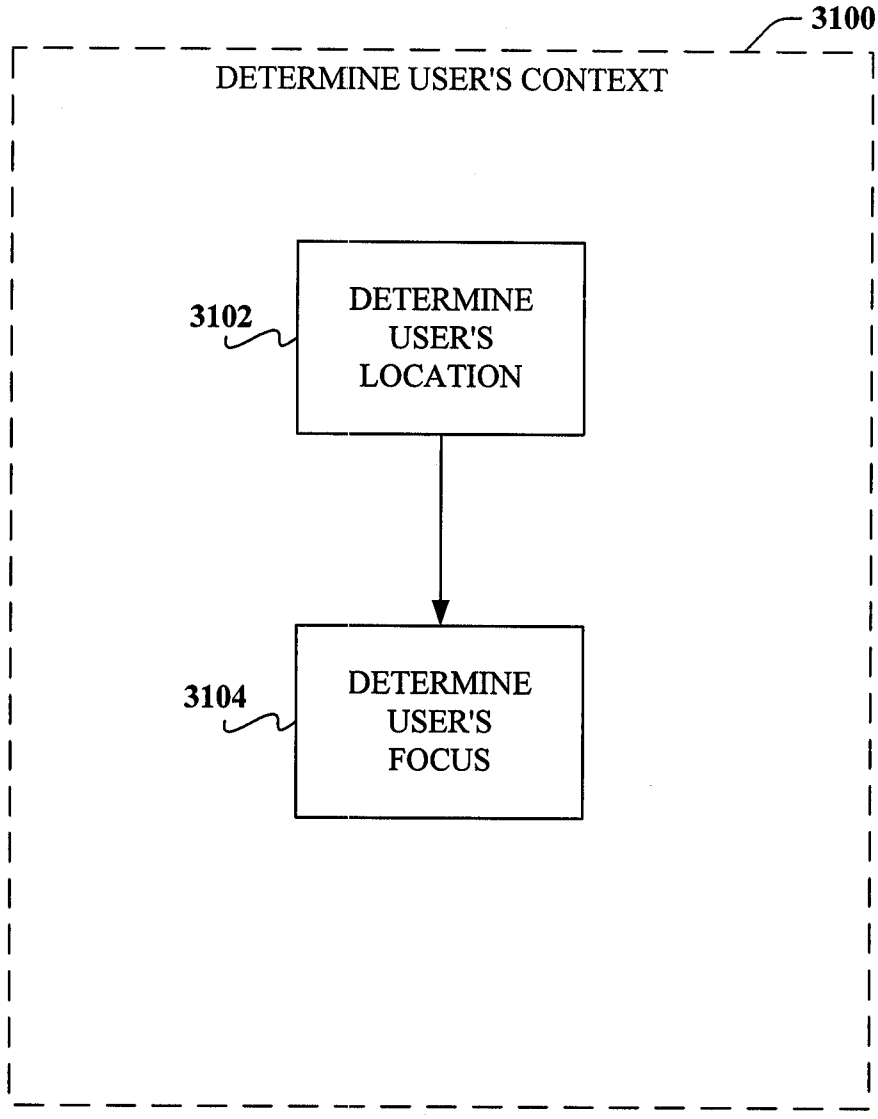

3100
DETERMINE USER'S CONTEXT
3102
DETERMINE USER'S LOCATION
3104
DETERMINE USER'S FOCUS

Fig. 31

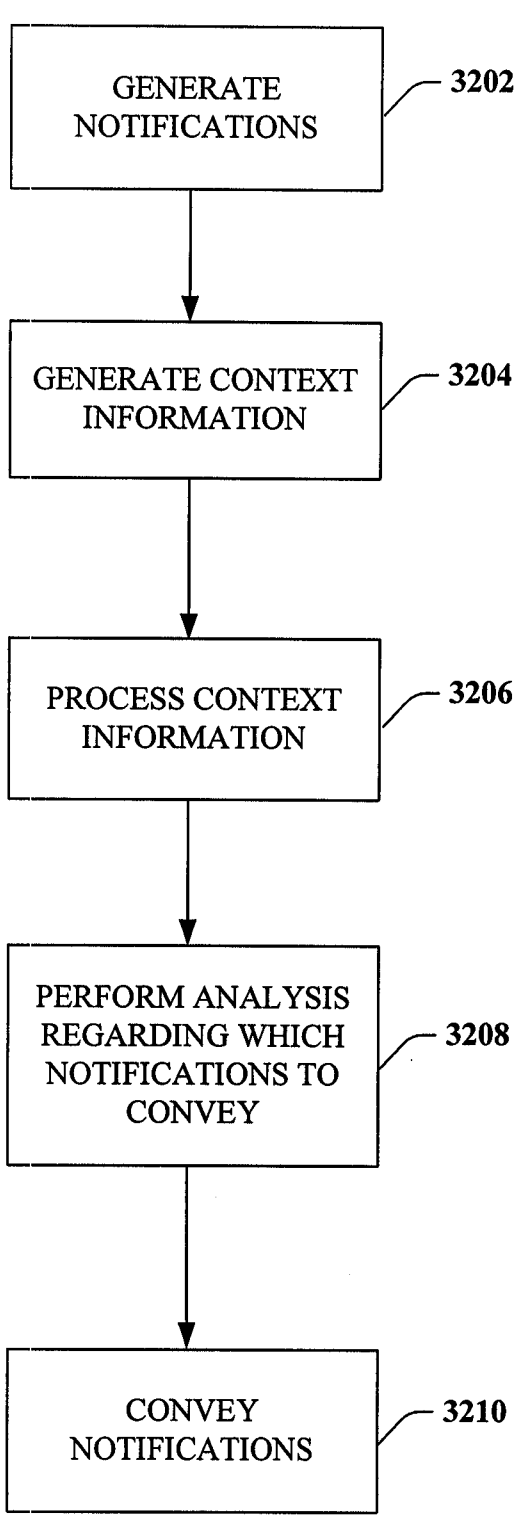

3200
GENERATE NOTIFICATIONS
3202
GENERATE CONTEXT INFORMATION
3204
PROCESS CONTEXT INFORMATION
3206
PERFORM ANALYSIS REGARDING WHICH NOTIFICATIONS TO CONVEY
3208
CONVEY NOTIFICATIONS
3210

Fig. 32

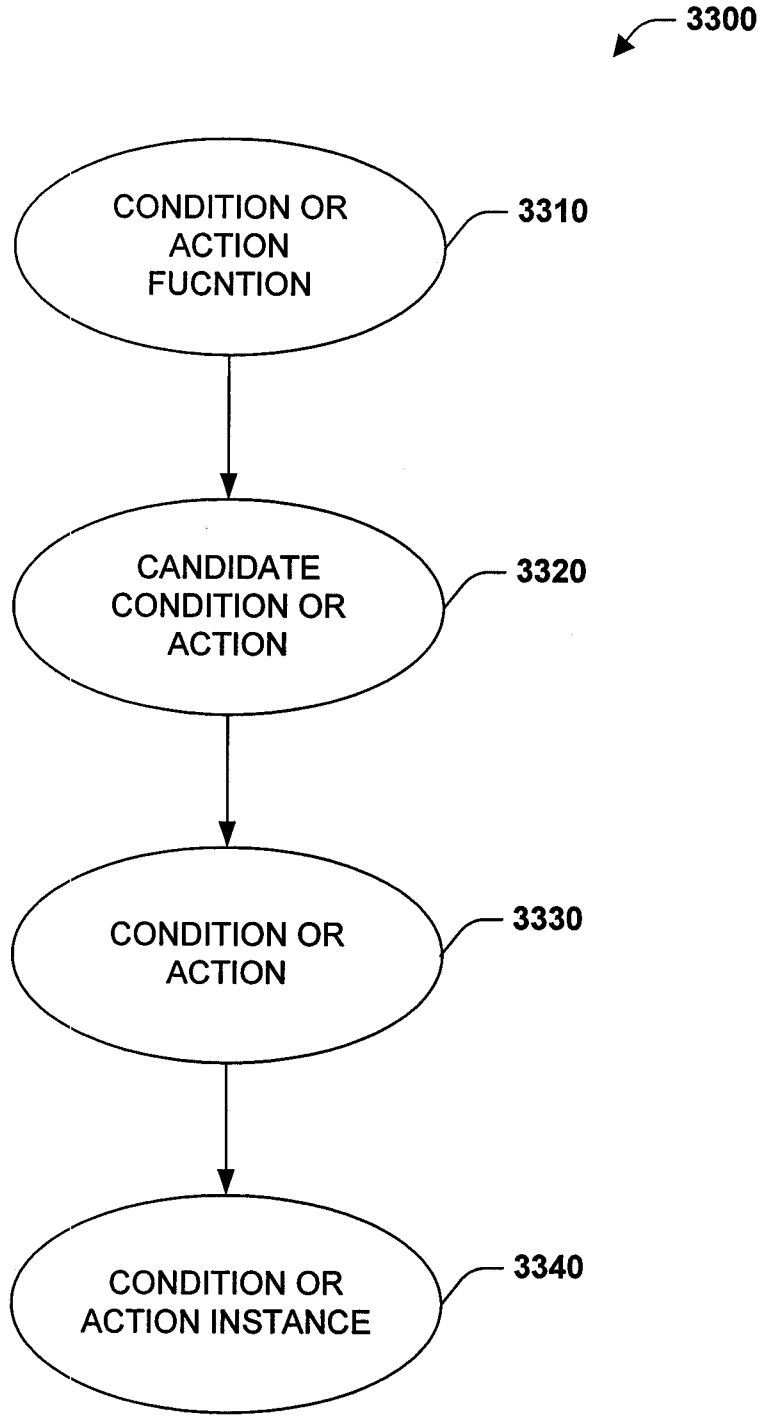

3300
CONDITION OR ACTION FUCNTION
3310
CANDIDATE CONDITION OR ACTION
3320
CONDITION OR ACTION
3330
CONDITION OR ACTION INSTANCE
3340

Fig. 33

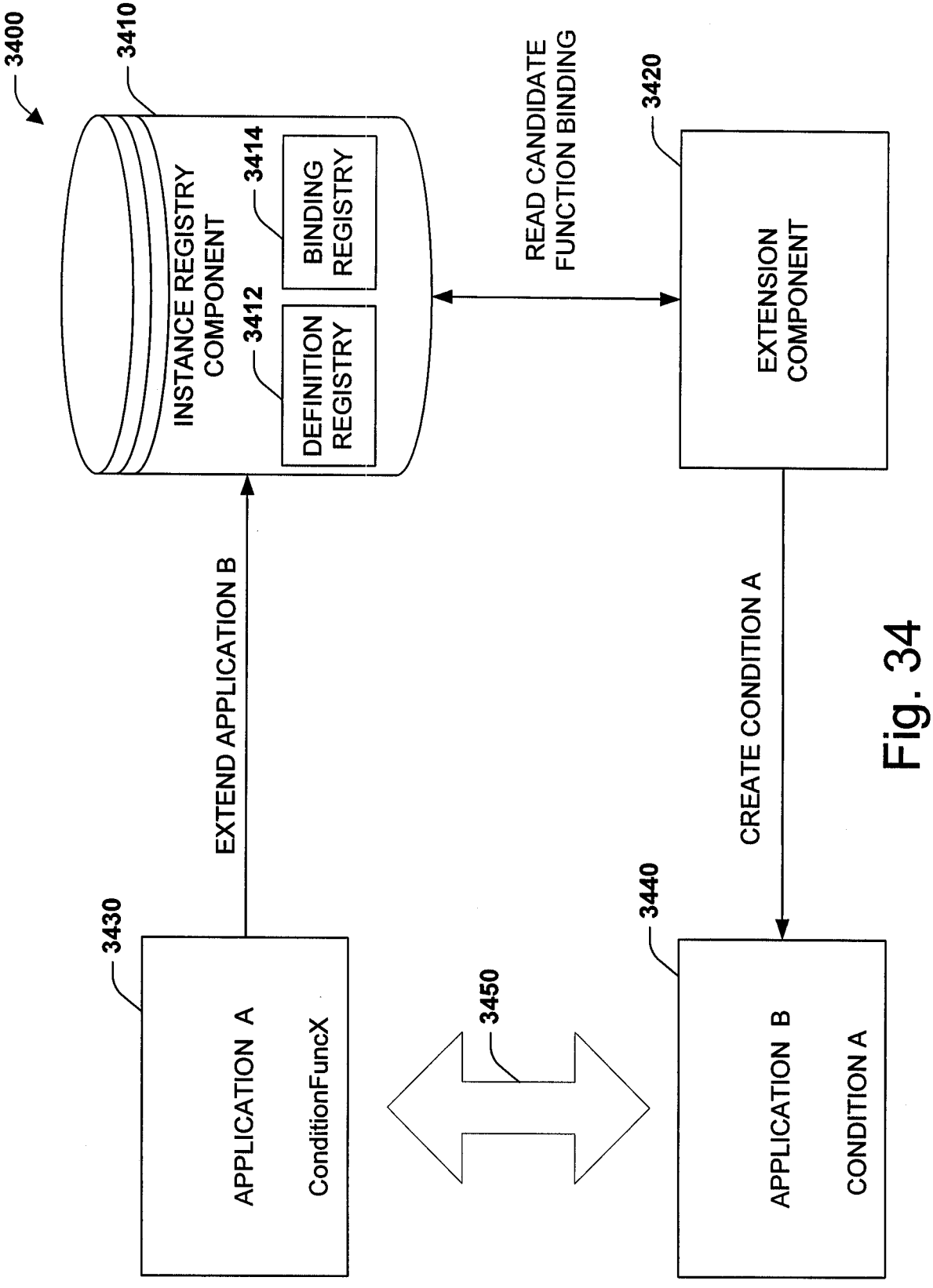

3400
3410
INSTANCE REGISTRY COMPONENT
3414
BINDING REGISTRY
3412
DEFINITION REGISTRY
READ CANDIDATE FUNCTION BINDING
3420
EXTENSION COMPONENT
EXTEND APPLICATION B
CREATE CONDITION A
3430
APPLICATION A
ConditionFuncX
3450
3440
APPLICATION B
CONDITION A

Fig. 34

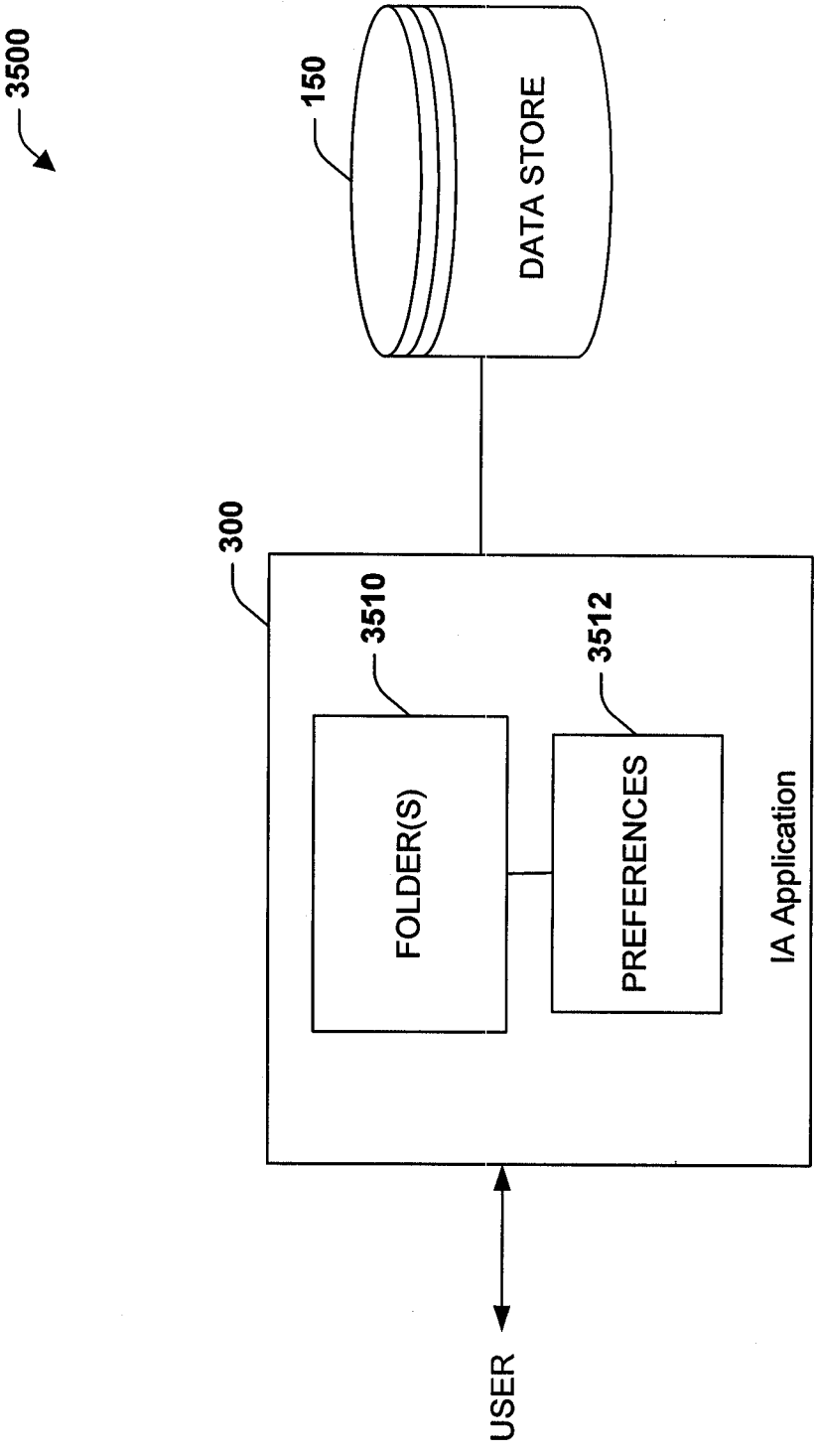

3500
150
DATA STORE
300
3510
FOLDER(S)
3512
PREFERENCES
IA Application
USER

Fig. 35

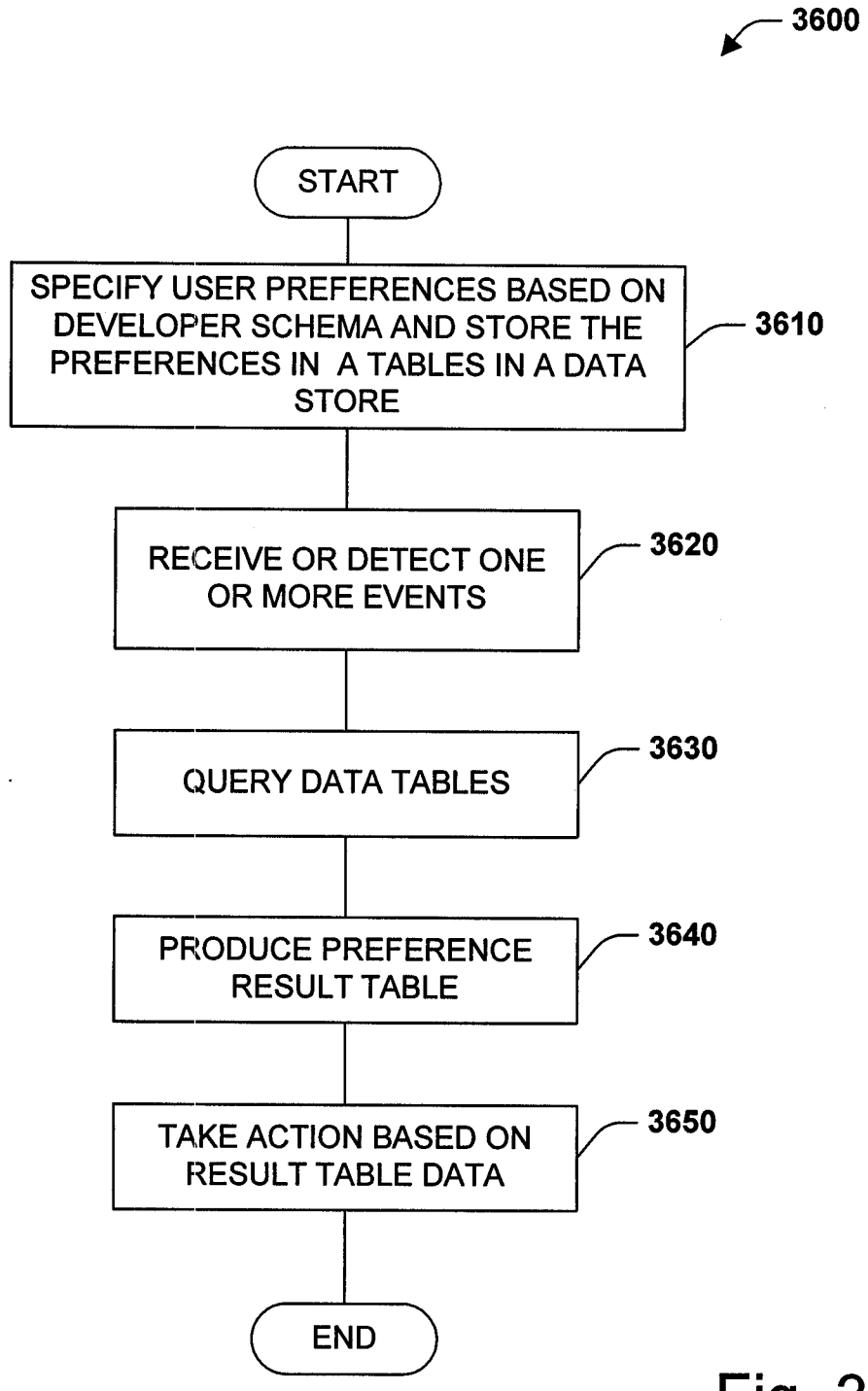

3600
START
SPECIFY USER PREFERENCES BASED ON DEVELOPER SCHEMA AND STORE THE PREFERENCES IN A TABLES IN A DATA STORE
3610
RECEIVE OR DETECT ONE OR MORE EVENTS
3620
QUERY DATA TABLES
3630
PRODUCE PREFERENCE RESULT TABLE
3640
TAKE ACTION BASED ON RESULT TABLE DATA
3650
END

Fig. 36

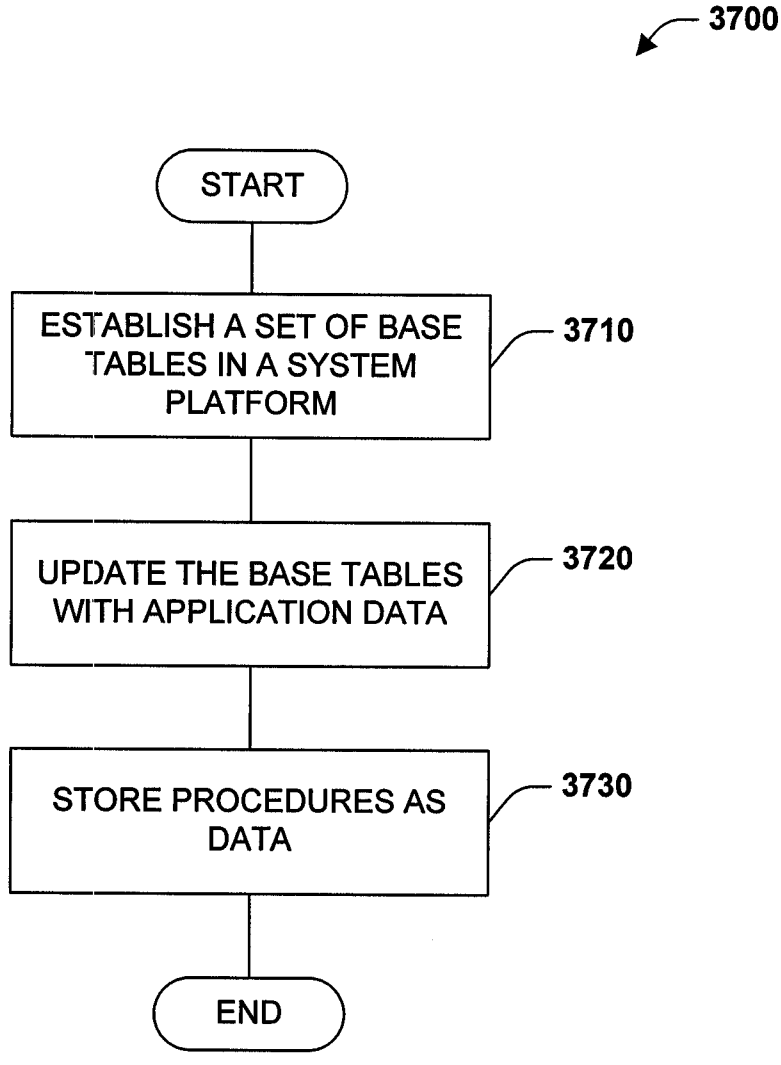

3700
START
ESTABLISH A SET OF BASE TABLES IN A SYSTEM PLATFORM
3710
UPDATE THE BASE TABLES WITH APPLICATION DATA
3720
STORE PROCEDURES AS DATA
3730
END

Fig. 37

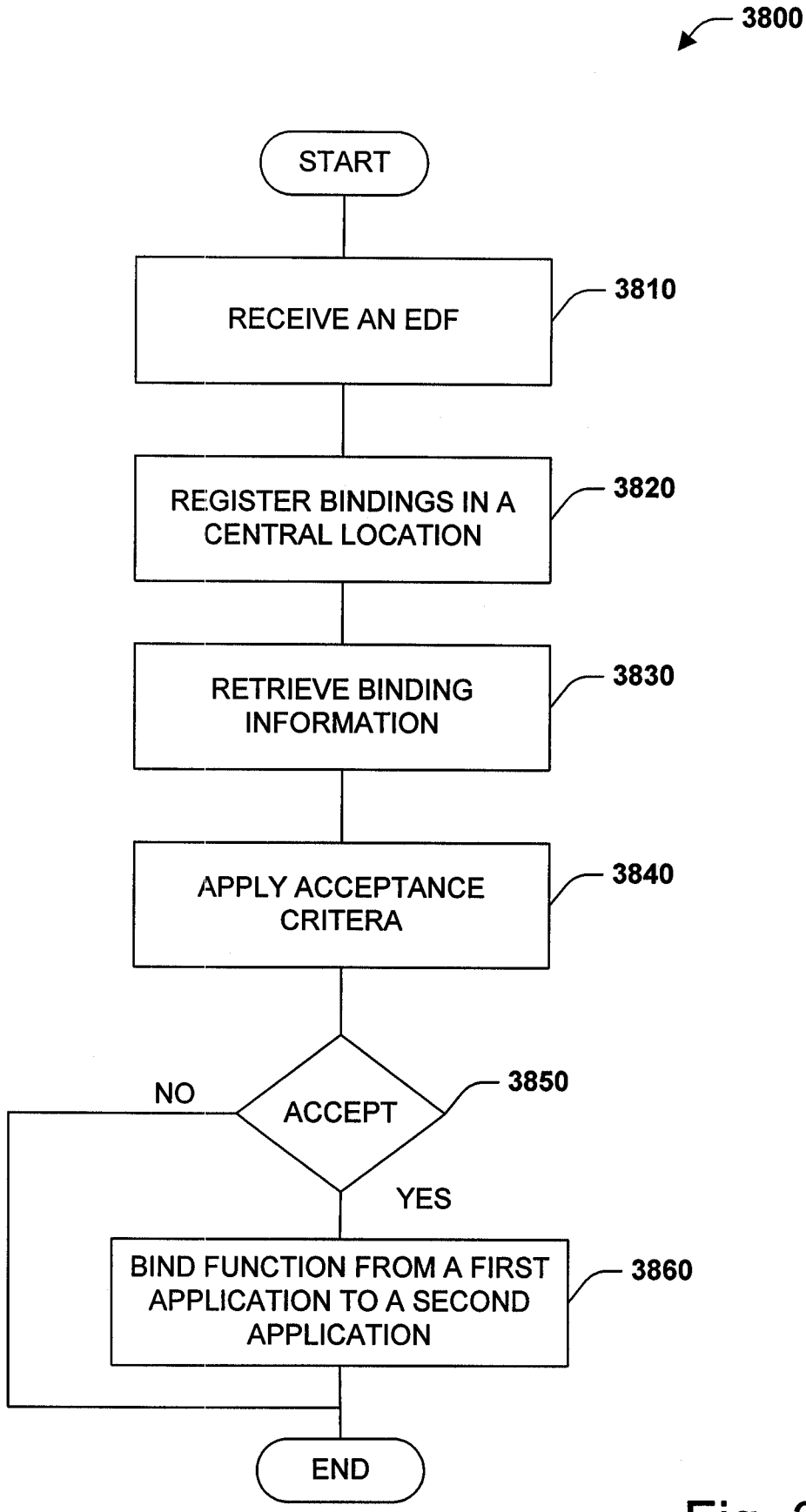

3800
START
RECEIVE AN EDF
3810
REGISTER BINDINGS IN A CENTRAL LOCATION
3820
RETRIEVE BINDING INFORMATION
3830
APPLY ACCEPTANCE CRITERA
3840
ACCEPT
3850
NO
YES
BIND FUNCTION FROM A FIRST APPLICATION TO A SECOND APPLICATION
3860
END

Fig. 38

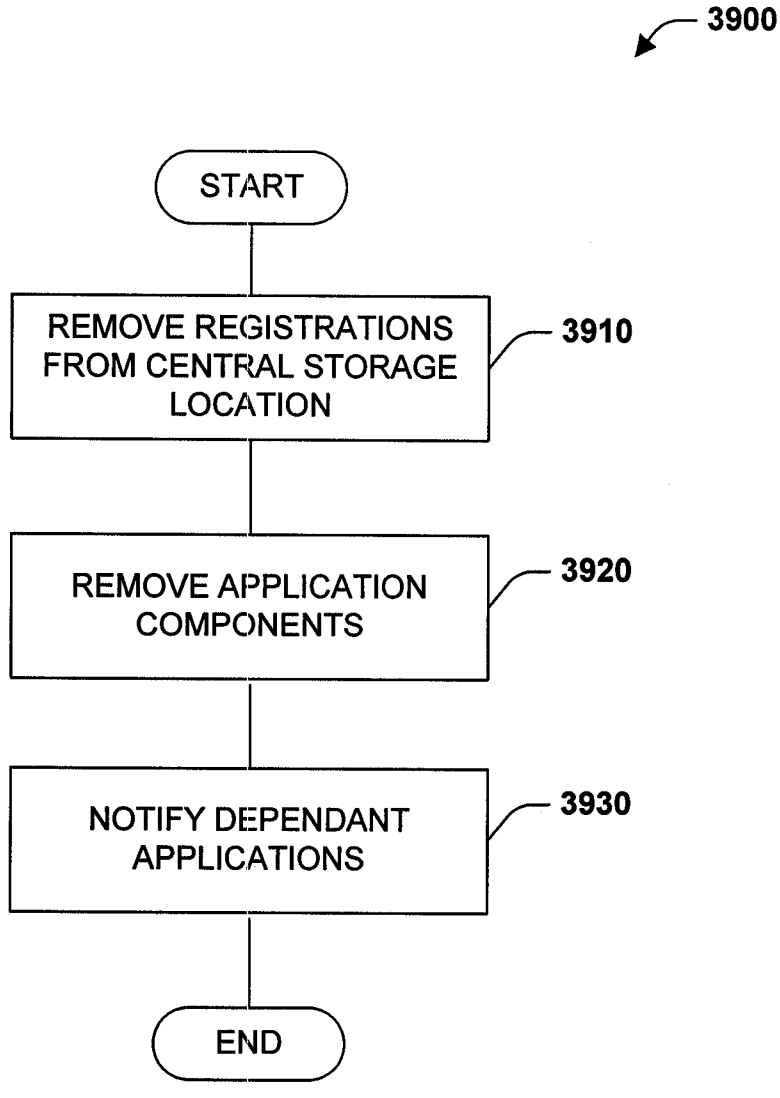

3900
START
REMOVE REGISTRATIONS FROM CENTRAL STORAGE LOCATION
3910
REMOVE APPLICATION COMPONENTS
3920
NOTIFY DEPENDANT APPLICATIONS
3930
END

Fig. 39

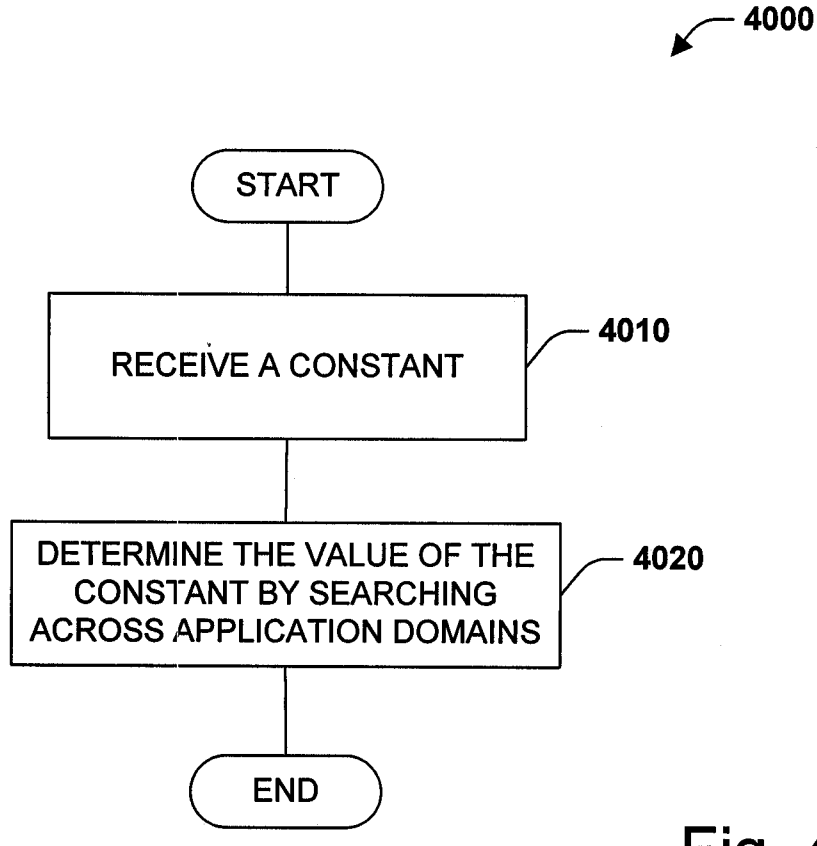

4000
START
RECEIVE A CONSTANT
4010
DETERMINE THE VALUE OF THE CONSTANT BY SEARCHING ACROSS APPLICATION DOMAINS
4020
END

Fig. 40

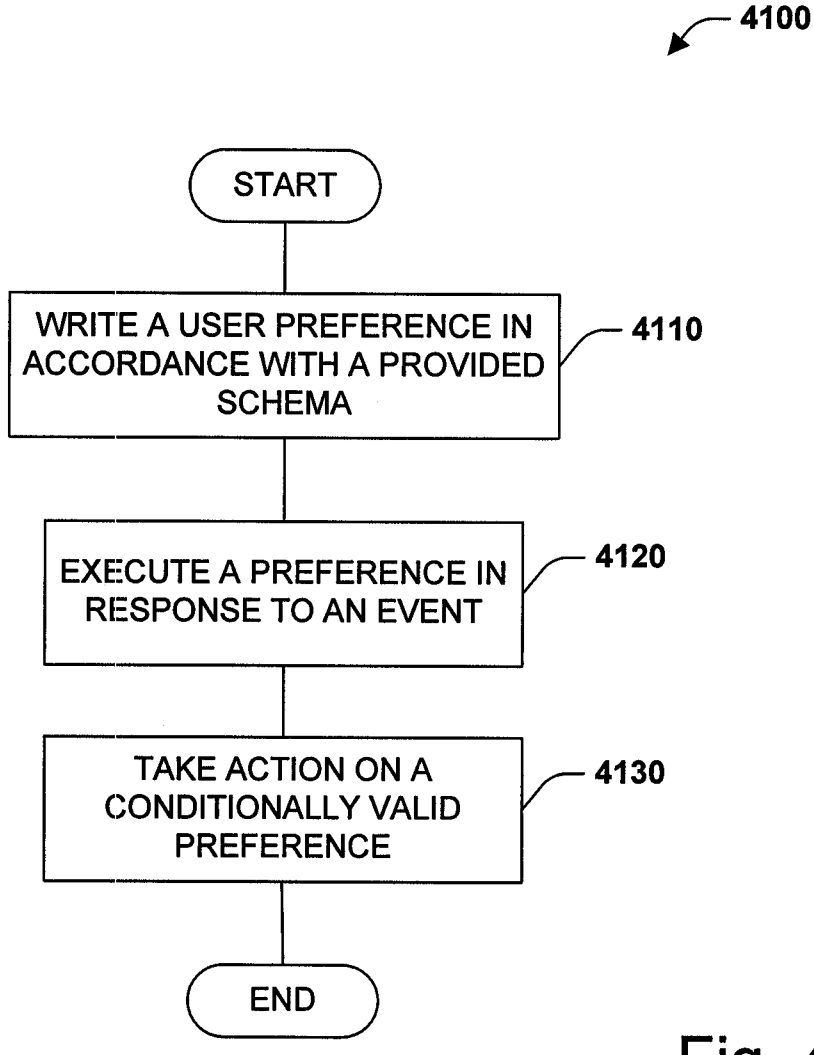

4100
START
WRITE A USER PREFERENCE IN ACCORDANCE WITH A PROVIDED SCHEMA
4110
EXECUTE A PREFERENCE IN RESPONSE TO AN EVENT
4120
TAKE ACTION ON A CONDITIONALLY VALID PREFERENCE
4130
END

Fig. 41

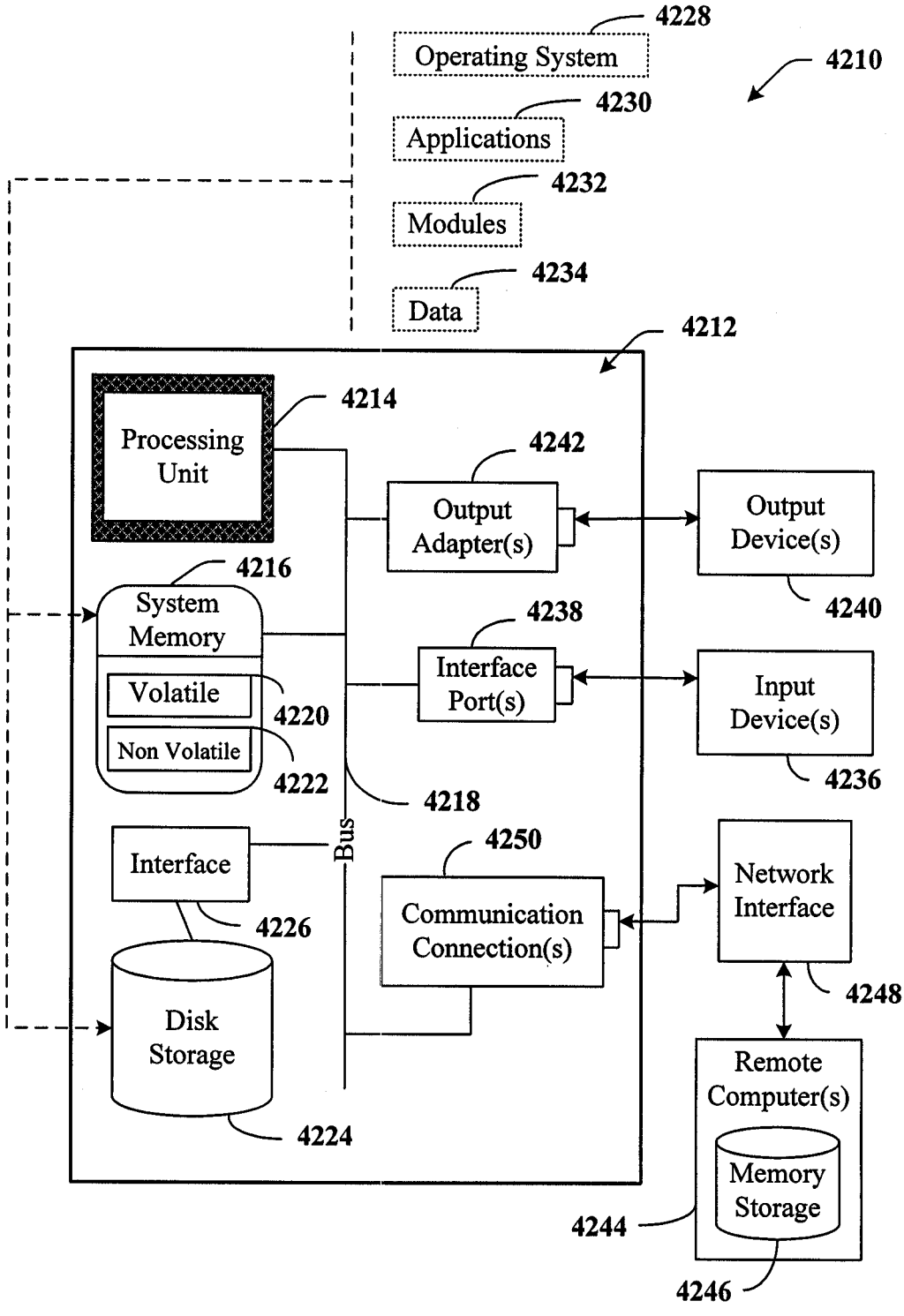

4228
Operating System
4210
4230
Applications
4232
Modules
4234
Data
4212
4214
Processing Unit
4242
Output Adapter(s)
Output Device(s)
4240
4216
System Memory
Volatile
4220
Non Volatile
4222
4238
Interface Port(s)
Input Device(s)
4236
4218
Bus
Interface
4226
4250
Communication Connection(s)
Network Interface
4248
Disk Storage
4224
Remote Computer(s)
Memory Storage
4244
4246

FIG. 42

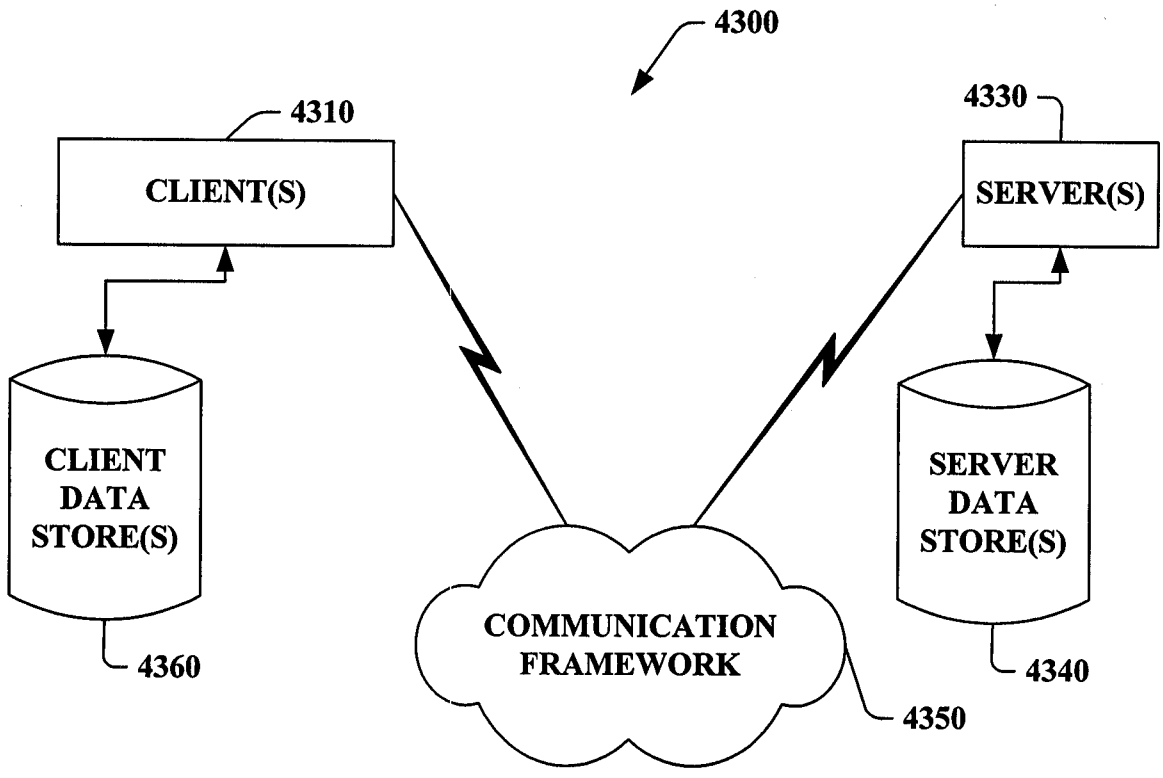

4300
4310
CLIENT(S)
4330
SERVER(S)
CLIENT DATA STORE(S)
4360
COMMUNICATION FRAMEWORK
4350
SERVER DATA STORE(S)
4340

FIG. 43