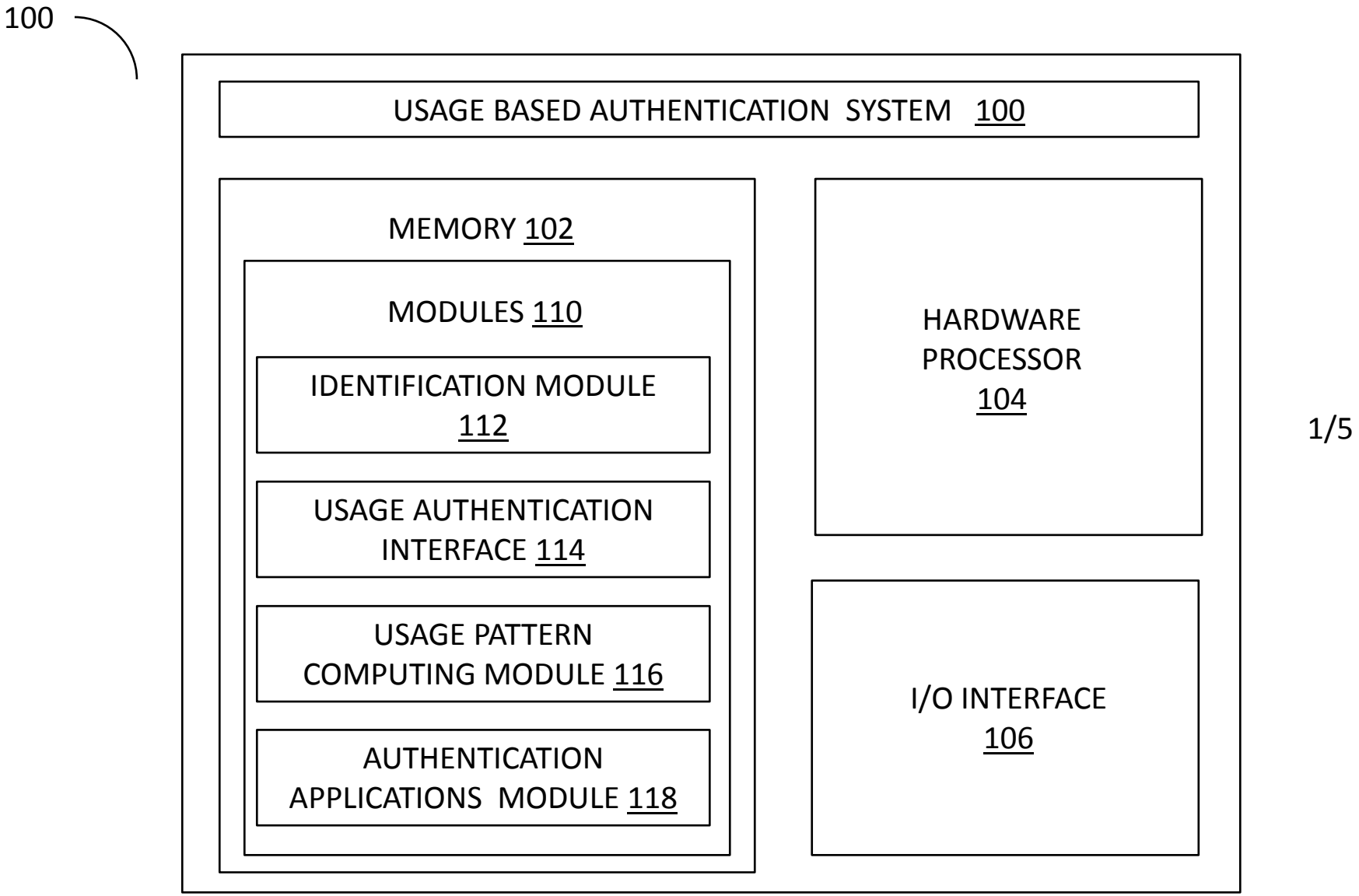
100
USAGE BASED AUTHENTICATION SYSTEM 100
MEMORY 102
MODULES 110
IDENTIFICATION MODULE 112
USAGE AUTHENTICATION INTERFACE 114
USAGE PATTERN COMPUTING MODULE 116
AUTHENTICATION APPLICATIONS MODULE 118
HARDWARE PROCESSOR 104
I/O INTERFACE 106

FIG. 1

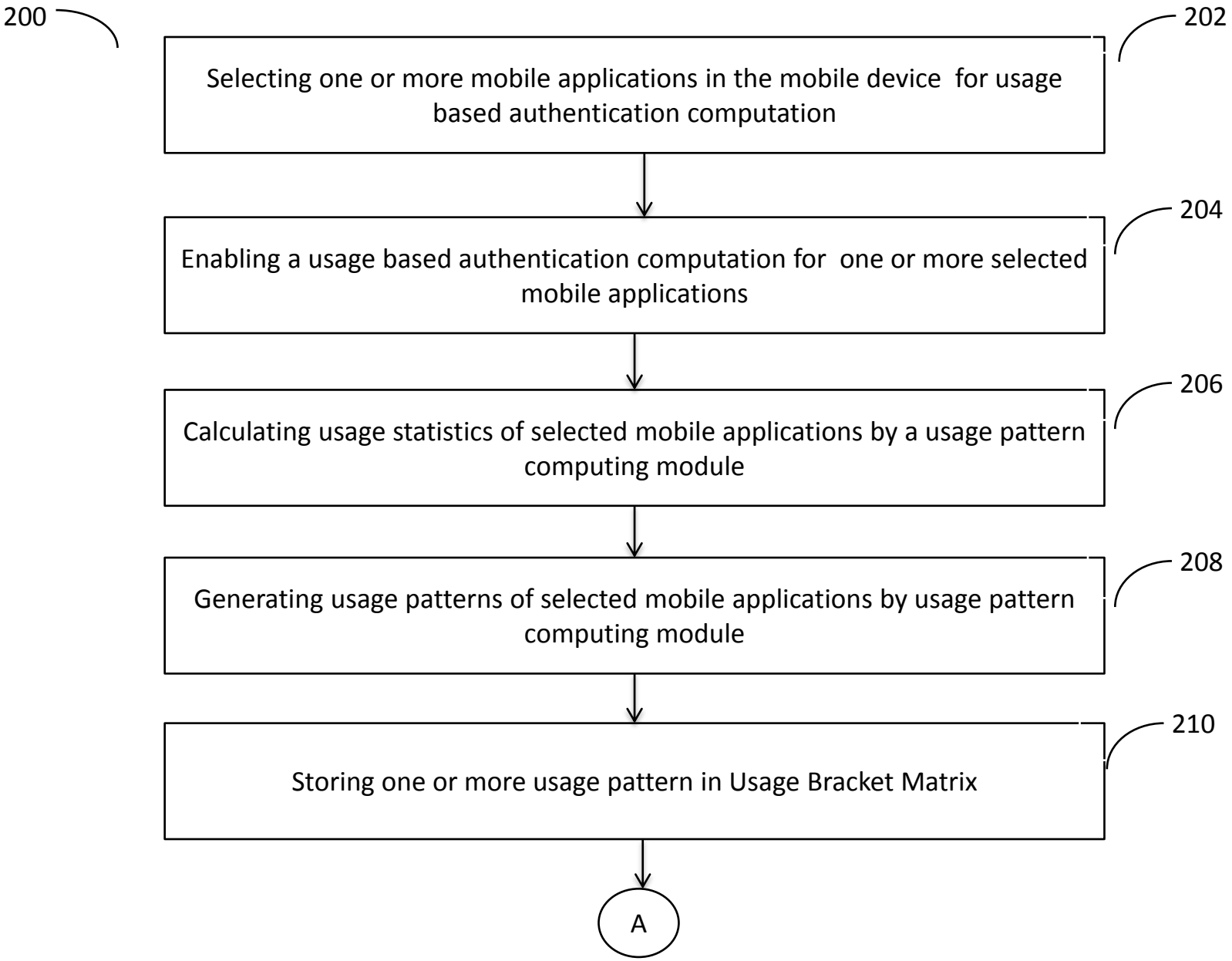
200
202
Selecting one or more mobile applications in the mobile device for usage based authentication computation
204
Enabling a usage based authentication computation for one or more selected mobile applications
206
Calculating usage statistics of selected mobile applications by a usage pattern computing module
208
Generating usage patterns of selected mobile applications by usage pattern computing module
210
Storing one or more usage pattern in Usage Bracket Matrix
A

FIG. 2

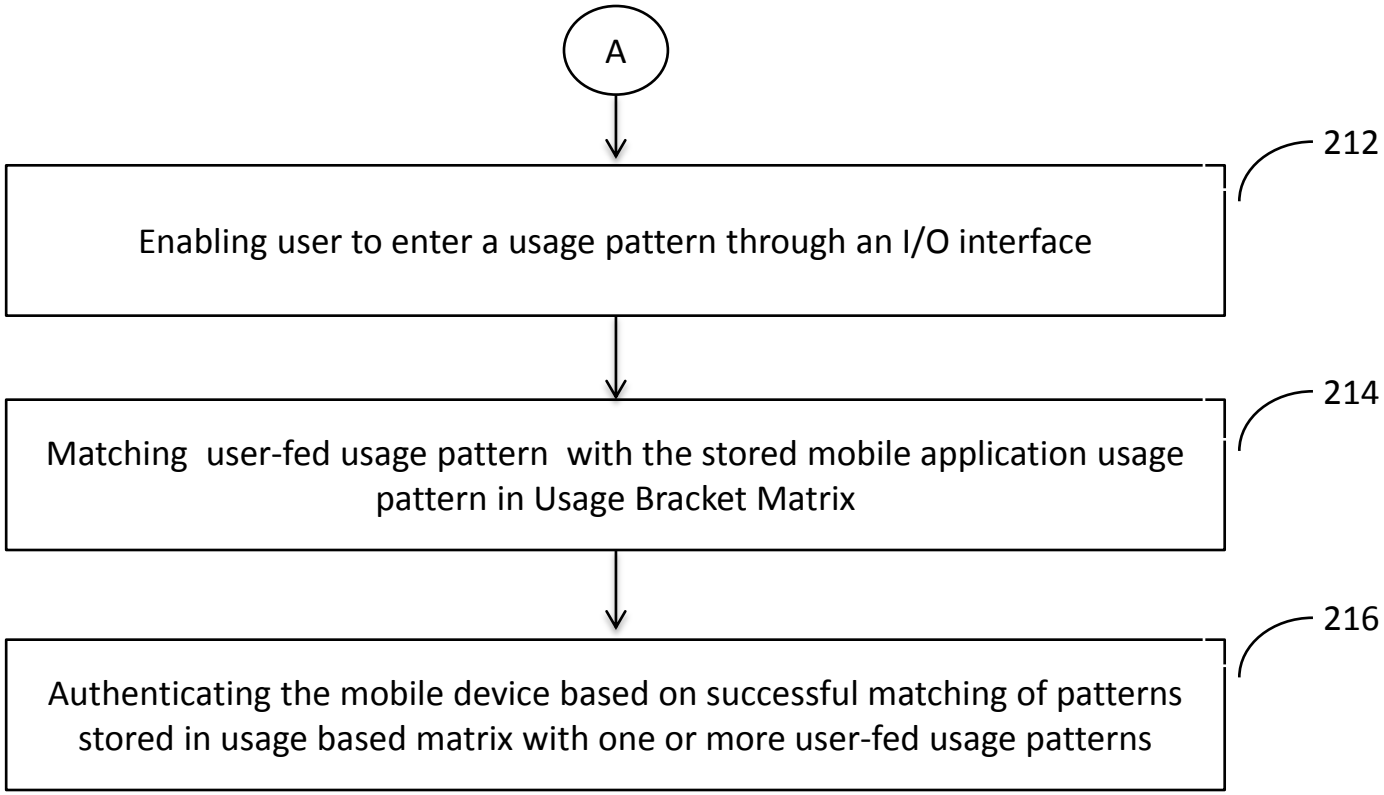
A
212
Enabling user to enter a usage pattern through an I/O interface
214
Matching user-fed usage pattern with the stored mobile application usage pattern in Usage Bracket Matrix
216
Authenticating the mobile device based on successful matching of patterns stored in usage based matrix with one or more user-fed usage patterns



FIG. 2

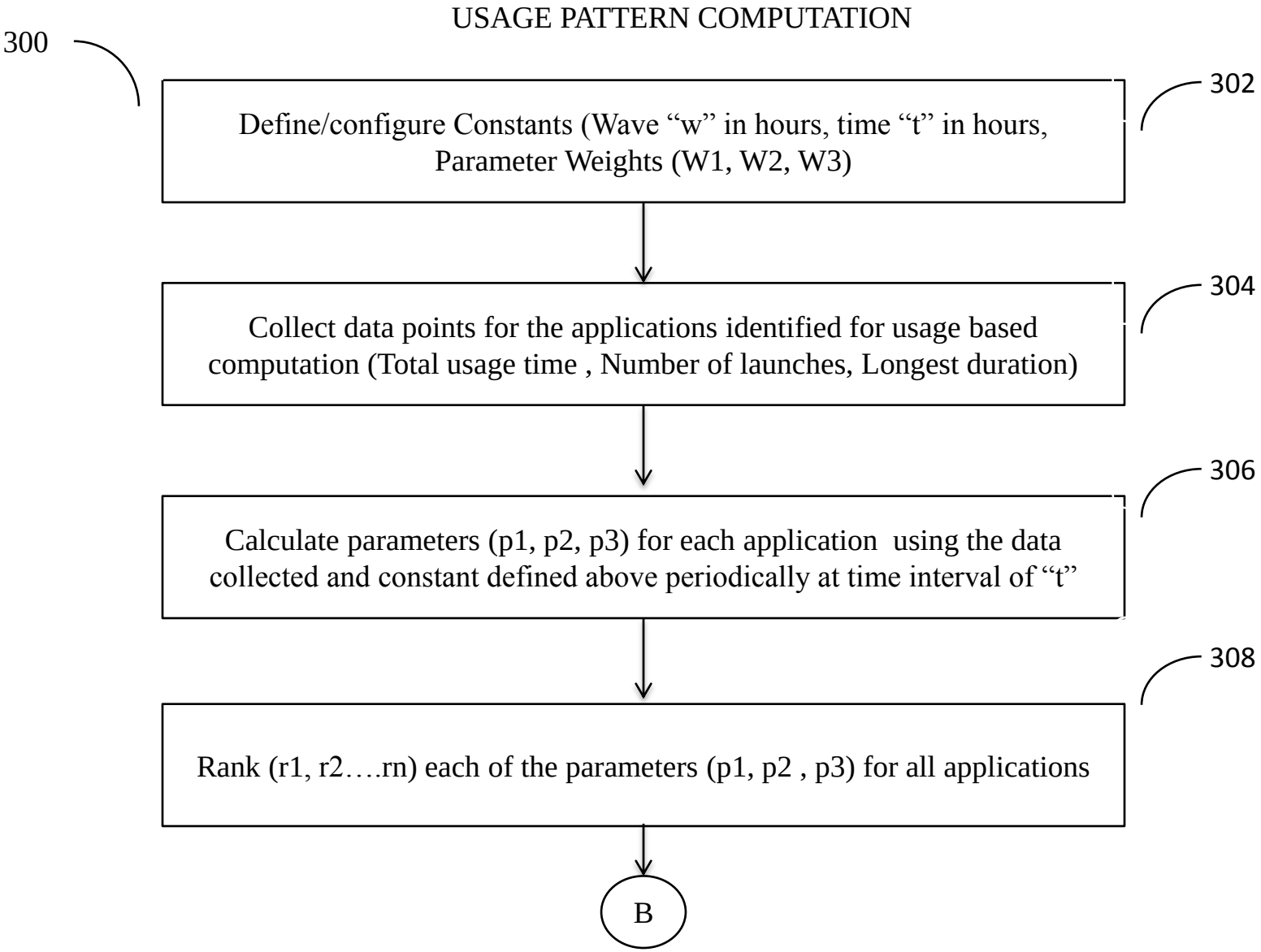
USAGE PATTERN COMPUTATION
300
Define/configure Constants (Wave “w” in hours, time “t” in hours, Parameter Weights (W1, W2, W3)
302
Collect data points for the applications identified for usage based computation (Total usage time , Number of launches, Longest duration)
304
Calculate parameters (p1, p2, p3) for each application using the data collected and constant defined above periodically at time interval of “t”
306
Rank (r1, r2….rn) each of the parameters (p1, p2 , p3) for all applications
308
B

FIG. 3

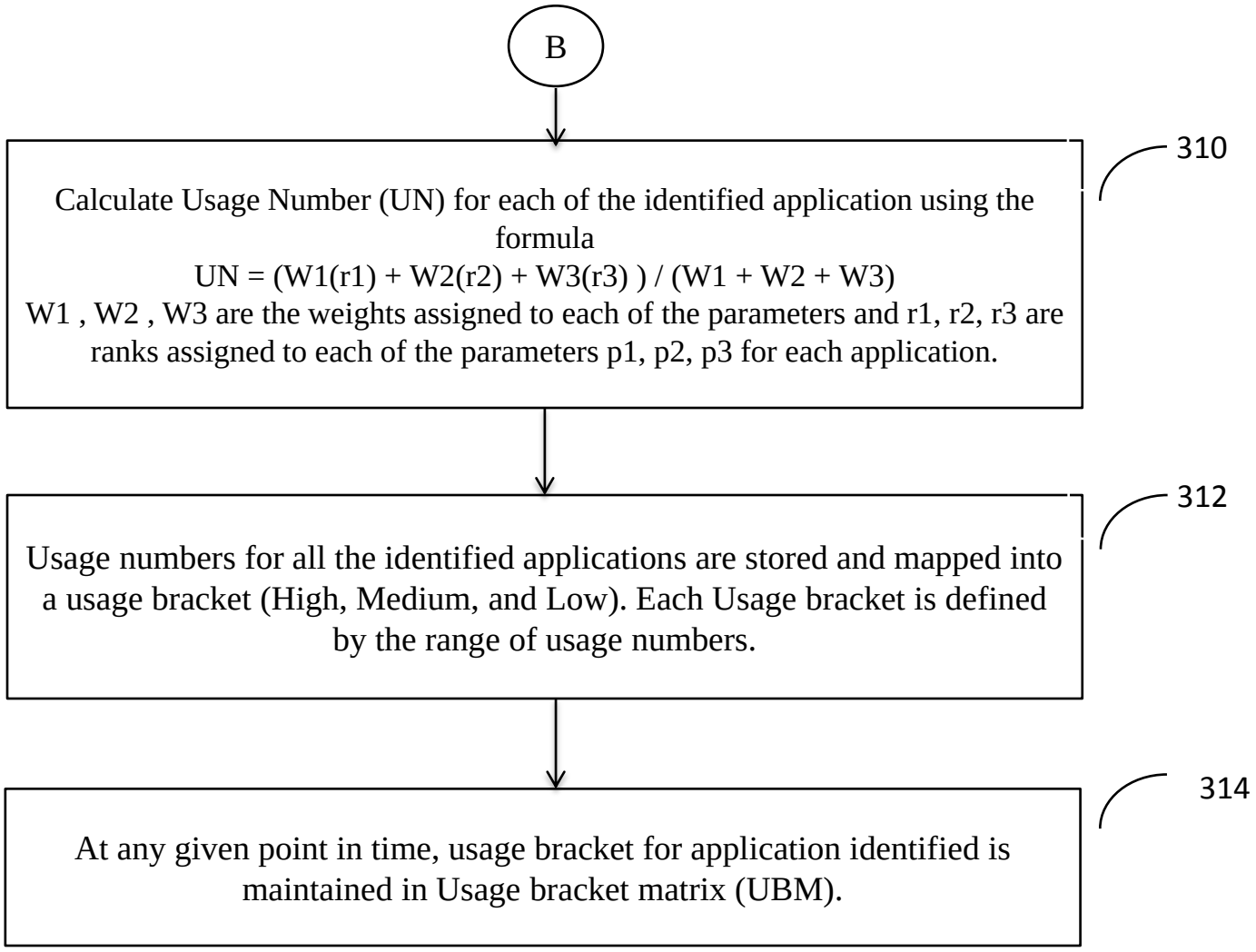
B
Calculate Usage Number (UN) for each of the identified application using the formula
UN = (W1(r1) + W2(r2) + W3(r3) ) / (W1 + W2 + W3)
W1 , W2 , W3 are the weights assigned to each of the parameters and r1, r2, r3 are ranks assigned to each of the parameters p1, p2, p3 for each application.
310
Usage numbers for all the identified applications are stored and mapped into a usage bracket (High, Medium, and Low). Each Usage bracket is defined by the range of usage numbers.
312
At any given point in time, usage bracket for application identified is maintained in Usage bracket matrix (UBM).
314

FIG. 3