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United States Patent [19]

Martin

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[54] **QUALITY OF SERVICE ALLOCATION ON A NETWORK**

[75] Inventor: **Jean-Christophe Martin**, Varces, France

[73] Assignee: **Sun Microsystems, Inc.**, Mountain View, Calif.

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[51] **Int. Cl.**^{7} **G06F 13/38**; G06F 15/17

[52] **U.S. Cl.** **709/226**; 709/223; 709/224; 709/235; 709/240; 370/390; 370/396

[58] **Field of Search** 709/233, 234, 709/235, 240

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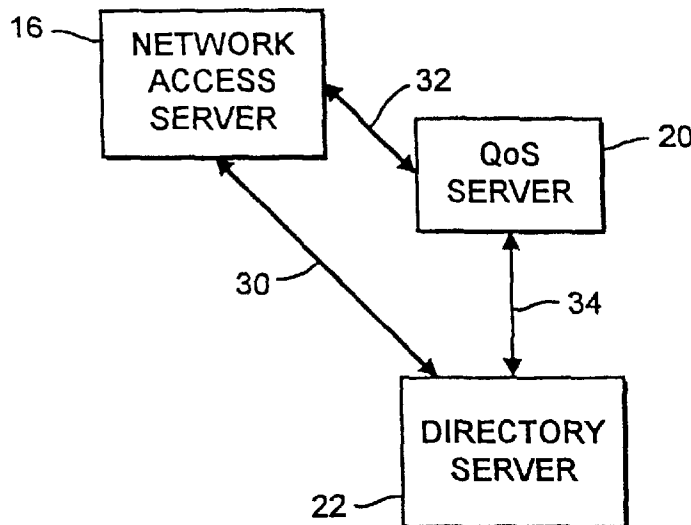
Primary Examiner—Zarni Maung
Assistant Examiner—Mahmanzar Moezzi
Attorney, Agent, or Firm—Beyer Weaver & Thomas, LLP

[57] **ABSTRACT**

A Quality of Service (QoS) method and mechanism enable allocation of a QoS to a flow on a network in a dynamic environment in response to detection of a new instance of an entity associated with a flow on the network. A binding is determined between the flow and the entity which is based on at least one parameter of the flow. A QoS definition is maintained in a directory service of the network. The QoS definition includes at least one configuration rule for the flow. A QoS definition for the entity is accessed, which QoS definition binds the flow with a QoS. Configuration rules of the QoS definition are applied to the flow to configure the flow. The detection of a new instance of an entity could be in response to a flow event or in response to a directory event resulting, for example, from a login event.
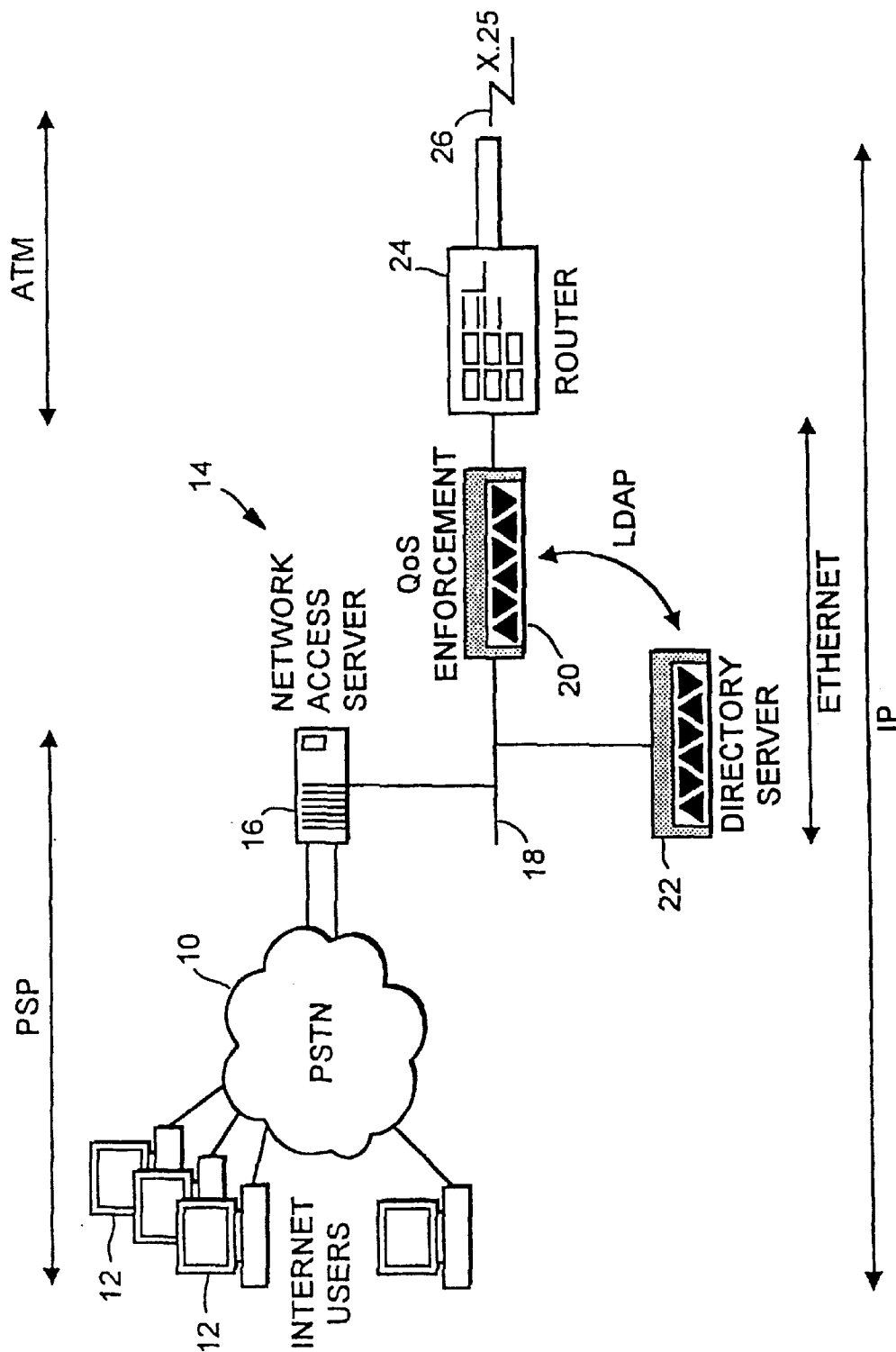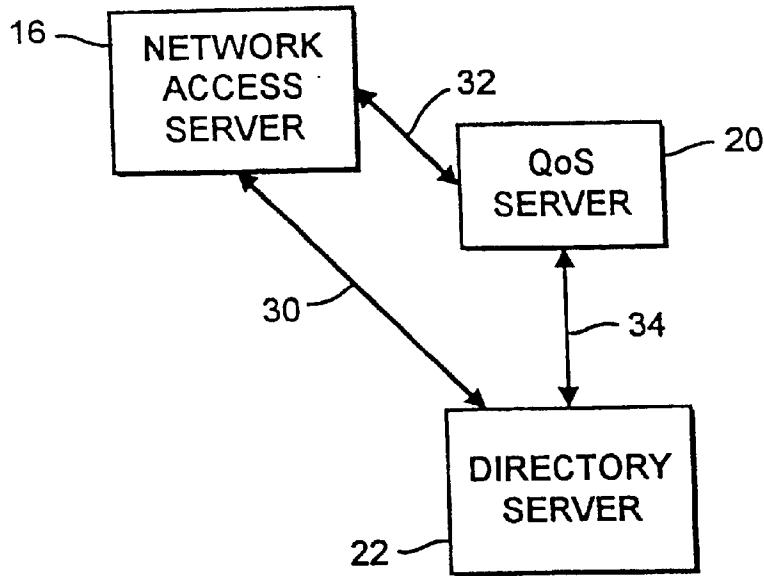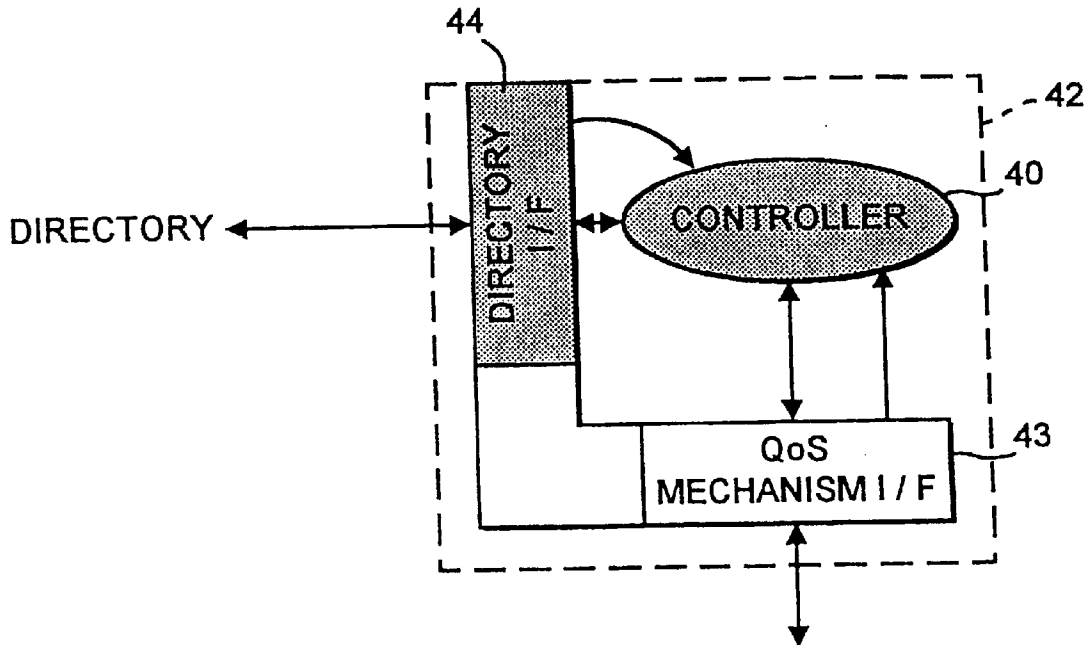
35 Claims, 6 Drawing Sheets

FIG. 1

FIG. 2

FIG. 3

FIG. 4

QoS MECHANISM I / F

CONTROLLER

S1 NEW FLOW EVENT

S2 EXTRACT FLOW ELEMENTS TO CONSTRUCT THE REQUEST

S3 LOOKUP INTERNAL CACHE
SUCCESS
FAIL

S4 LOOKUP THE DIRECTORY
SUCCESS
FAIL

S7 QoS = DEFAULT

S5 RETURN SELECTED ATTRIBUTES VALUE

S6 UPDATE THE CACHE

S8 GET THE QoS VALUE DEFINITION

S9 LOOKUP INTERNAL CACHE
SUCCESS
FAIL

S10 LOOKUP THE DIRECTORY
SUCCESS
FAIL

S11 RETURN SELECTED ATTRIBUTES VALUE

S12 UPDATE THE CACHE

S13 CONSTRUCT A DEFAULT RULE

S14 CONSTRUCT THE RULES

S15 UPDATE THE CONFIGURATION TO REFLECT THE RULE

FIG. 5

DOCKET ALARM
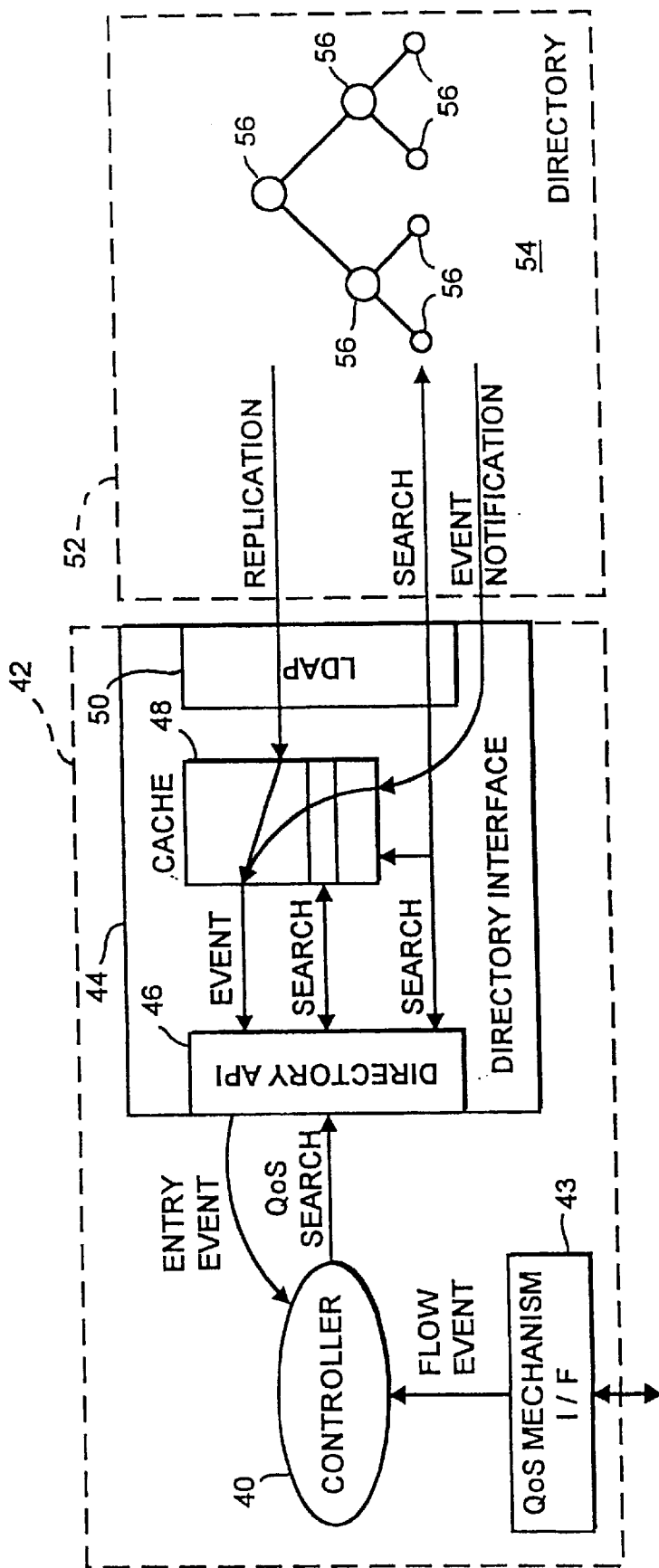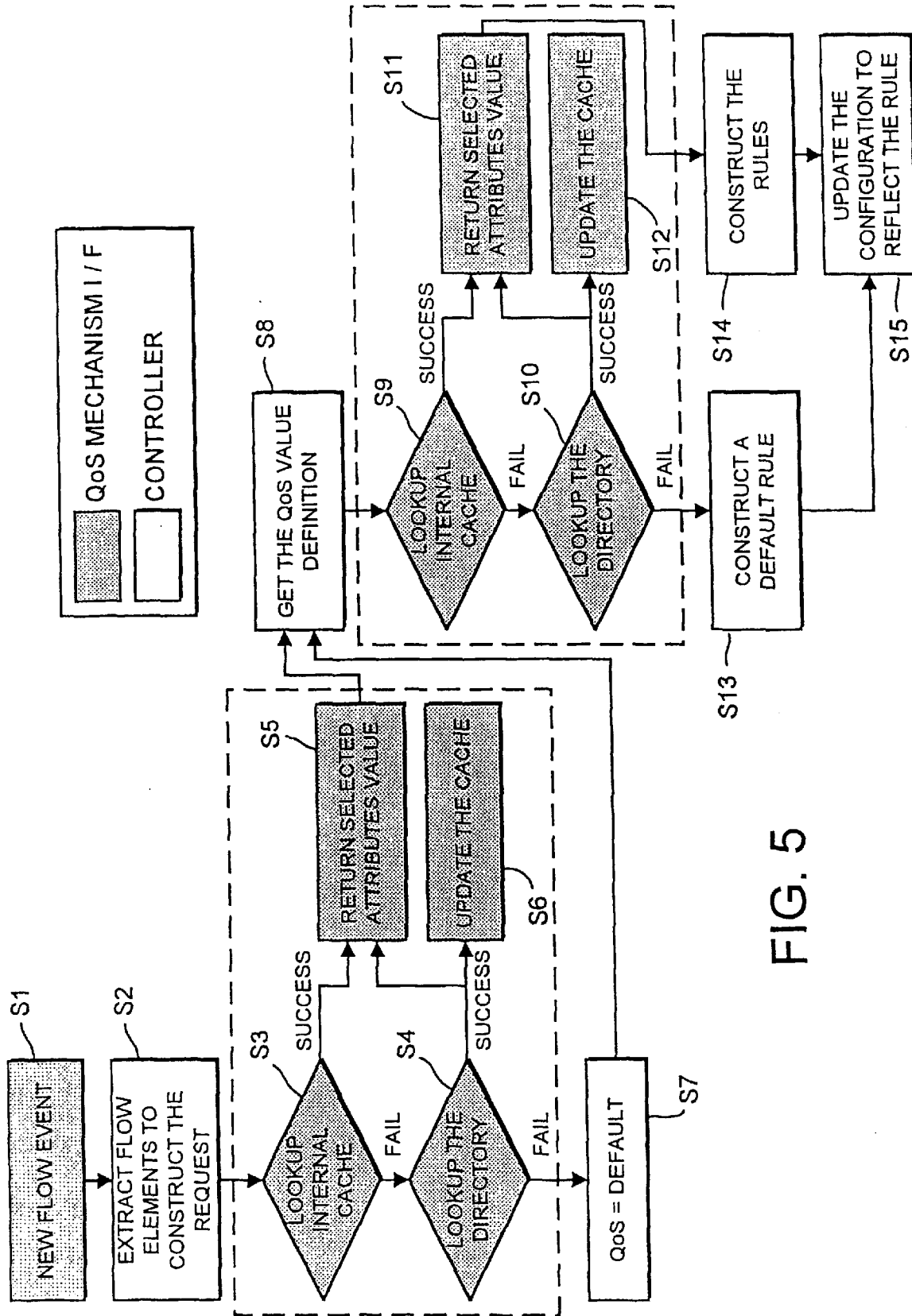
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