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(12) **United States Patent**  
**DiBiasio et al.**

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(54) **SYSTEM AND METHOD FOR  
RECOGNIZING APPLICATION-SPECIFIC  
FLOWS AND ASSIGNING THEM TO  
QUEUES**

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(\*) Notice: Subject to any disclaimer, the term of this  
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U.S.C. 154(b) by 738 days.

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*Assistant Examiner*—Hussein El-chanti

(51) **Int. Cl.**

**G06F 15/173** (2006.01)  
**G06F 15/16** (2006.01)

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(52) **U.S. Cl.** ..... **709/240; 709/224; 709/231;**  
709/238; 709/241

(57) **ABSTRACT**

(58) **Field of Classification Search** ..... 709/223–225,  
709/231–233, 236, 238–240  
See application file for complete search history.

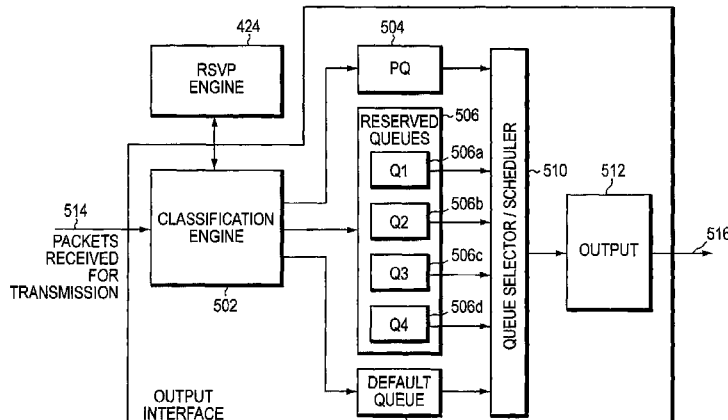
A system assigns network traffic flows to appropriate queues and/or queue servicing algorithms based upon one or more flow parameters contained in reservation requests associated with the traffic flows. The system may be disposed at an intermediate network device within a computer network. The intermediate network device includes a reservation engine, a packet classification engine, an admission control entity, a traffic scheduler, and a flow analyzer. The flow analyzer includes or has access to a memory that is pre-programmed with one or more heuristic sets for use in evaluating the flow parameters of reservation requests. When a reservation request that includes one or more flow parameters characterizing the bandwidth and/or forwarding requirements of the anticipated traffic flow is received, the flow analyzer applies the heuristic sets. Depending on which set of heuristics, if any, the parameters satisfy, the flow analyzer selects the appropriate queue and/or queue servicing algorithm for the flow.

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**28 Claims, 10 Drawing Sheets**



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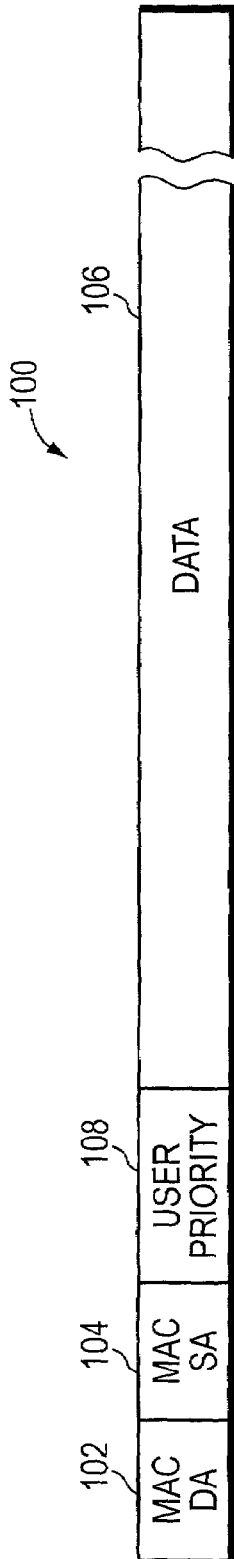


FIG. 1A (PRIOR ART)

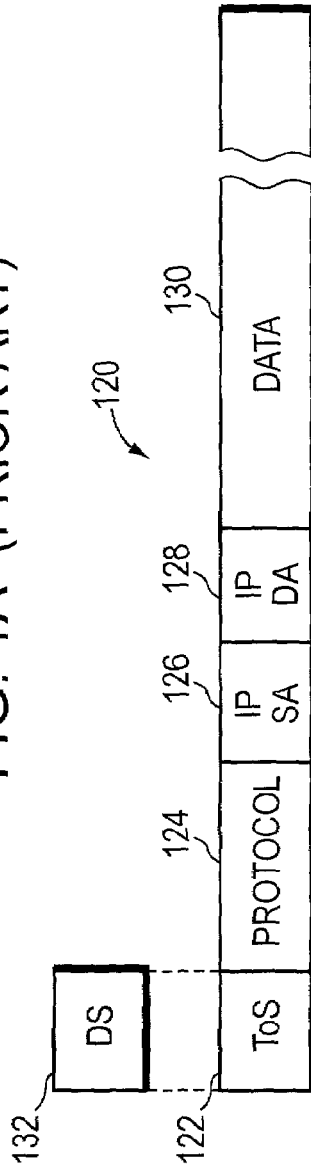


FIG. 1B (PRIOR ART)

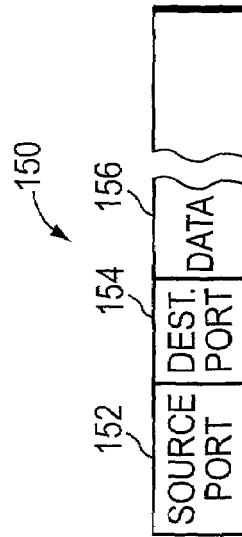


FIG. 1C (PRIOR ART)

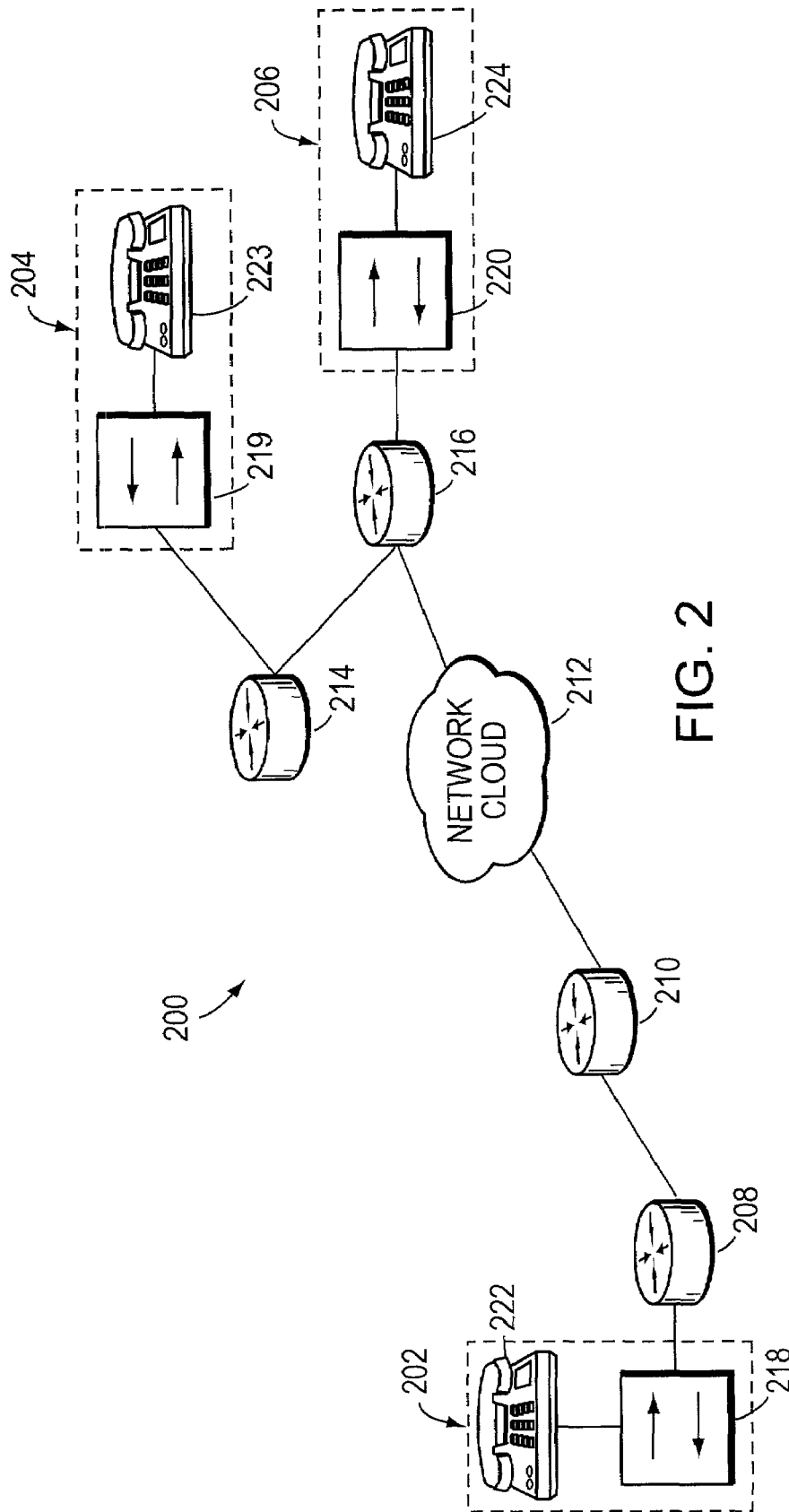


FIG. 2

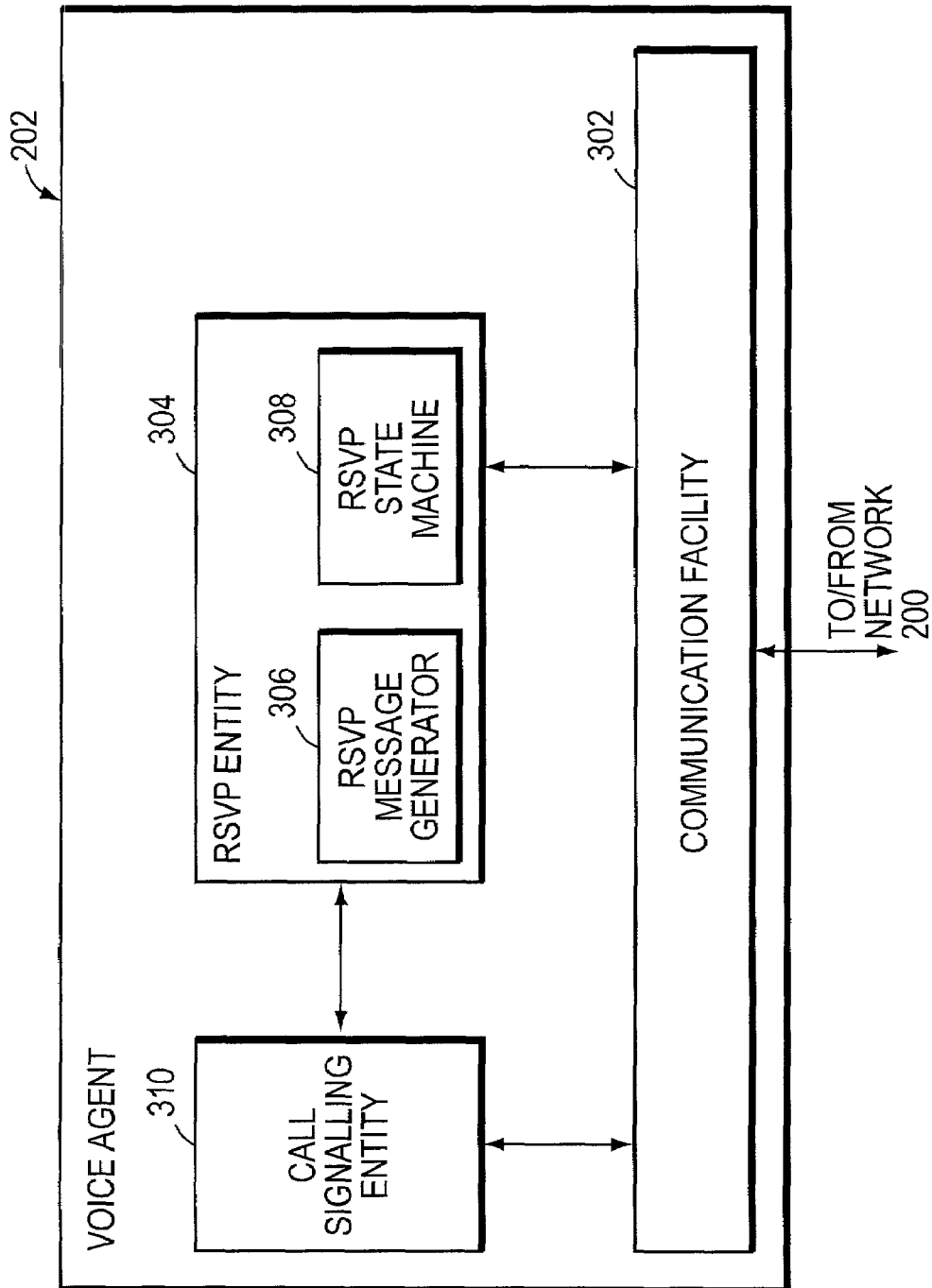


FIG. 3

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