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(54) **METHODS AND SYSTEMS FOR LINE RATE PACKET CLASSIFIERS FOR PRESORTING NETWORK PACKETS ONTO INGRESS QUEUES**

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(57) **ABSTRACT**

A network appliance can have an input port that can receive network packets at line rate, two or more ingress queues, a line rate classification circuit that can place the network packets on the ingress queues at the line rate, a packet buffer that can store the network packets, and a sub line rate packet processing circuit that can process the network packets that are stored in the packet buffer. The line rate classification circuit can place a network packet on one of the ingress queues based on the network packet's packet contents. A buffer scheduler can select network packets for processing by a sub line rate packet processing circuit based on the priority levels of the ingress to queues.