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(54) **FLOW STATE AWARE MANAGEMENT OF QOS THROUGH DYNAMIC AGGREGATE BANDWIDTH ADJUSTMENTS**

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H04L 12/26 (2006.01)

(52) **U.S. Cl.**
USPC **370/235**; 370/468

(58) **Field of Classification Search**
None
See application file for complete search history.

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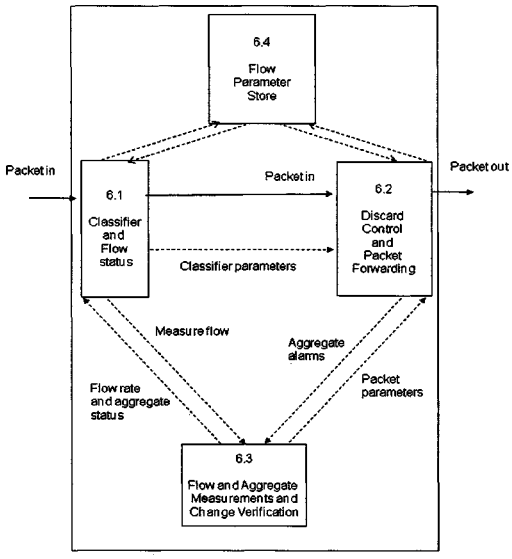
(57) **ABSTRACT**

A packet network node and method of operating a packet network node are disclosed. Conventional packet network nodes react to congestion in the packet network by dropping packets in a manner which is perceived by users to be indiscriminate. In embodiments of the present invention, indiscriminate packet discards are prevented by causing packets to be discarded on lower priority flows and flow aggregates. A further action is taken to reduce the likelihood of packet discards. When an aggregate set of flows raises a congestion alarm action is taken to try to increase the capacity of the aggregate through taking capacity from pre-assigned donor aggregates. A donor aggregate may be carrying flows, for example flows classified as best effort. Another type of donor capacity is donor re-assignable unused capacity. Aggregates may have capacity added either up to a defined limit or, temporarily, exceeding any limit provided there is free capacity available, but removable back to the defined limit when other aggregates need increased capacity and are below their defined limits.

18 Claims, 10 Drawing Sheets



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