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Young et al.

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(54) **METHOD AND SYSTEM FOR IMPROVING THROUGHPUT OVER WIRELESS LOCAL AREA NETWORKS WITH A DYNAMIC CONTENTION WINDOW**

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(73) Assignee: **3Com Corporation**, Santa Clara, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 645 days.

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(21) Appl. No.: **09/759,389**

Primary Examiner—Ario Etienne
Assistant Examiner—Ramy Osman

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(51) **Int. Cl.**⁷ **G06F 15/16; H04L 12/43**

(57) **ABSTRACT**

(52) **U.S. Cl.** **709/232; 709/224; 709/230; 370/447; 370/458; 370/461**

A method and system for increasing the overall network throughput over a wireless local area network (WLAN). Specifically, in one embodiment of the present invention, the dynamic selection of an initial value for a contention window in the Distributed Coordinated Function (DCF) mode is determined according to the load conditions over the WLAN in a method and system. Stations and access points within a WLAN monitor conditions within the network to establish an initial value for the contention window, also called a minimum contention window value, which is lower than that set by the IEEE 802.11 communication standard. Some factors to consider in determining the load conditions include but are not limited to the following: number of transmissions; number of receptions; and number of collisions.

(58) **Field of Search** 709/105, 224, 709/228, 230, 232-235; 370/280, 347, 445, 370/447, 458, 461

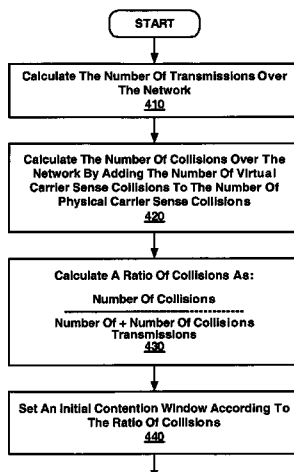
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24 Claims, 5 Drawing Sheets

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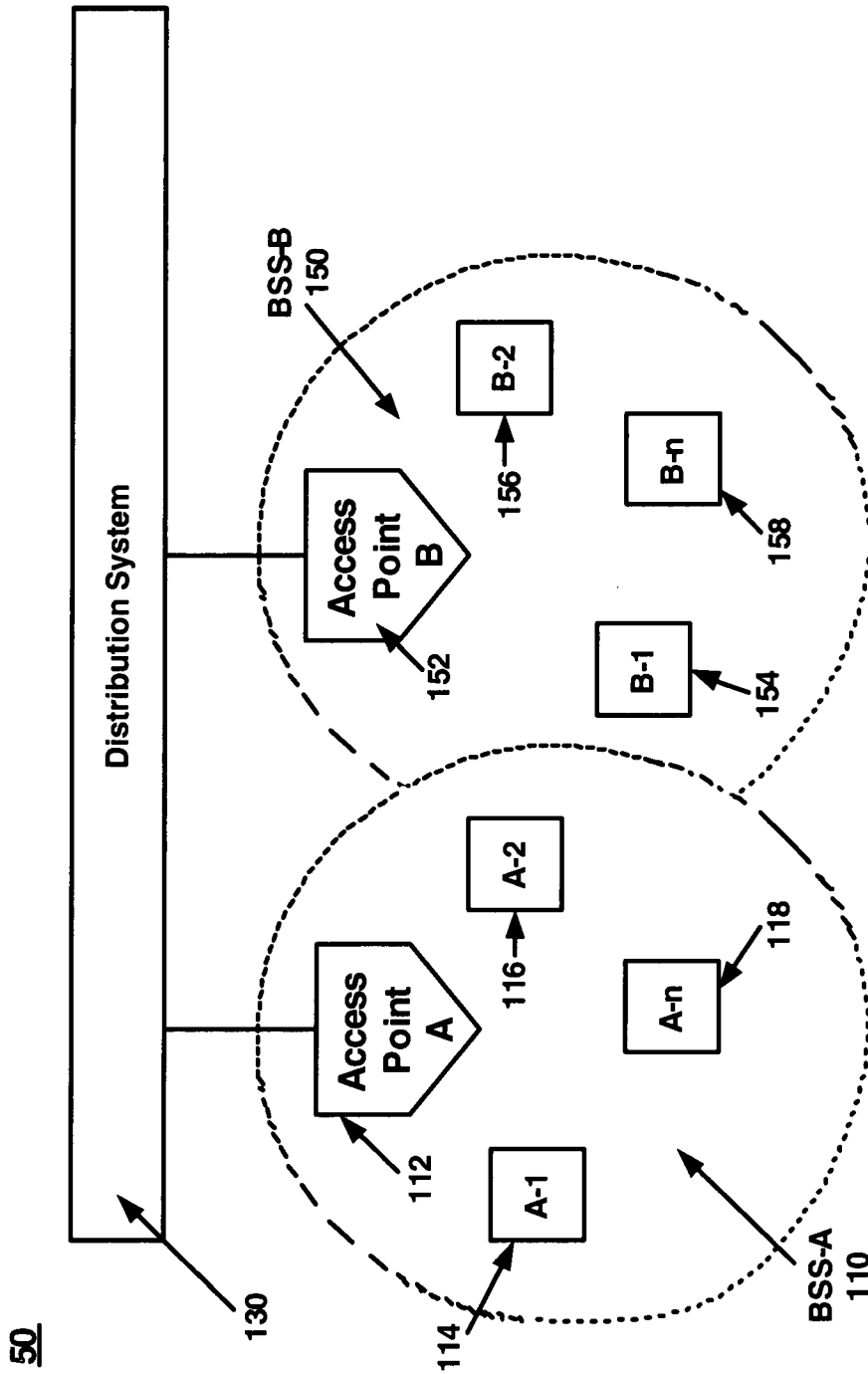


FIG. 1

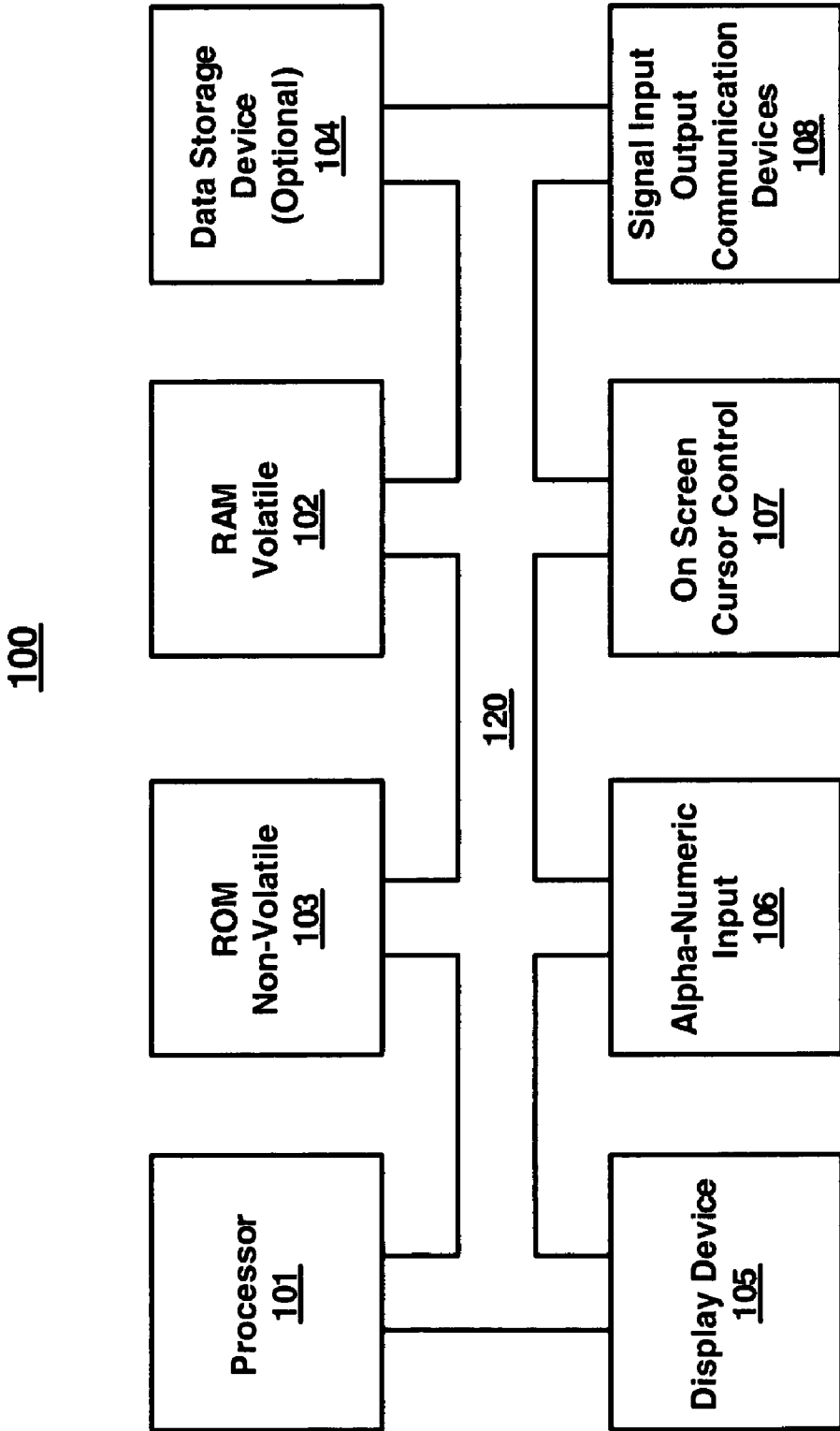


FIG. 2

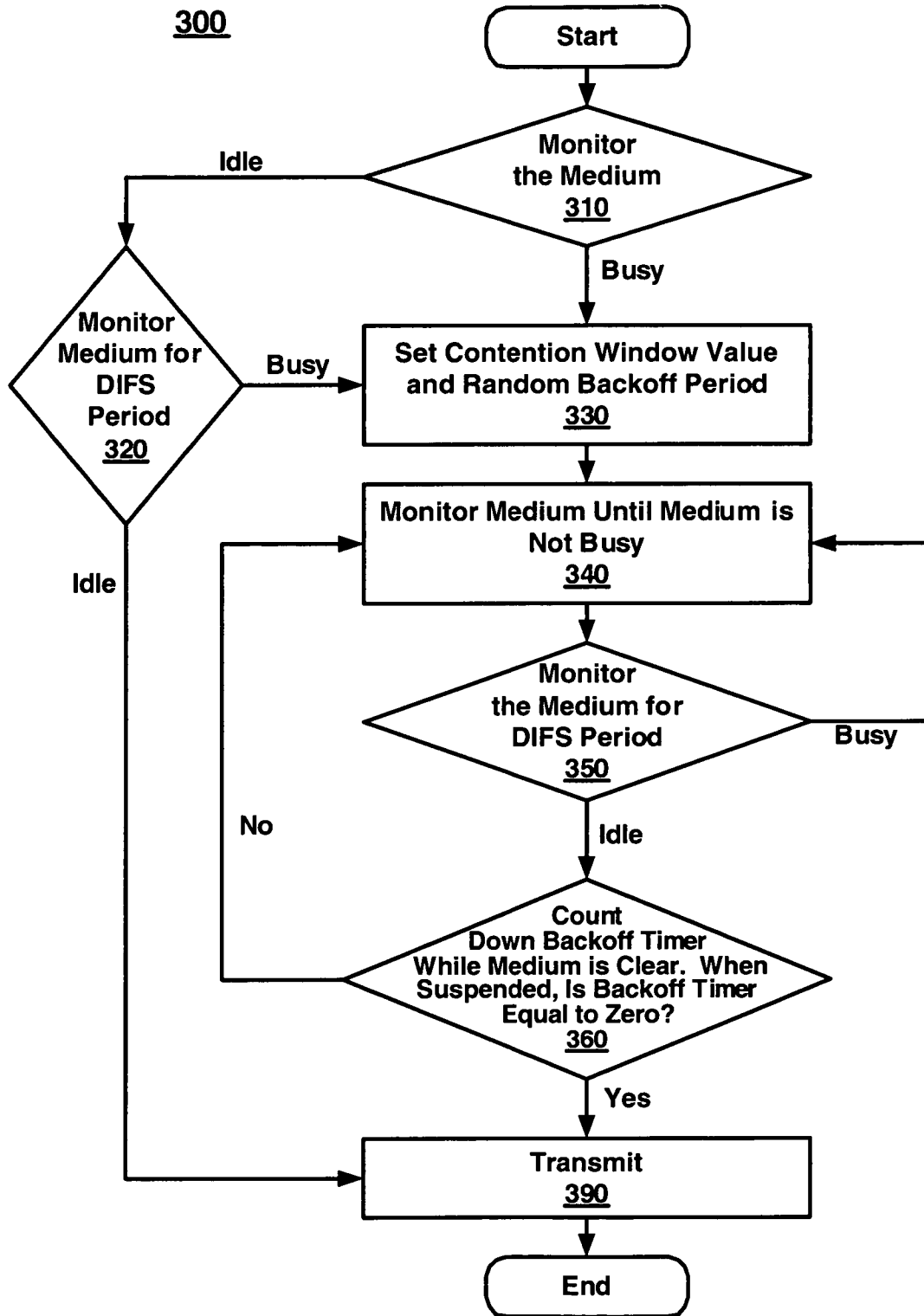


FIG. 3

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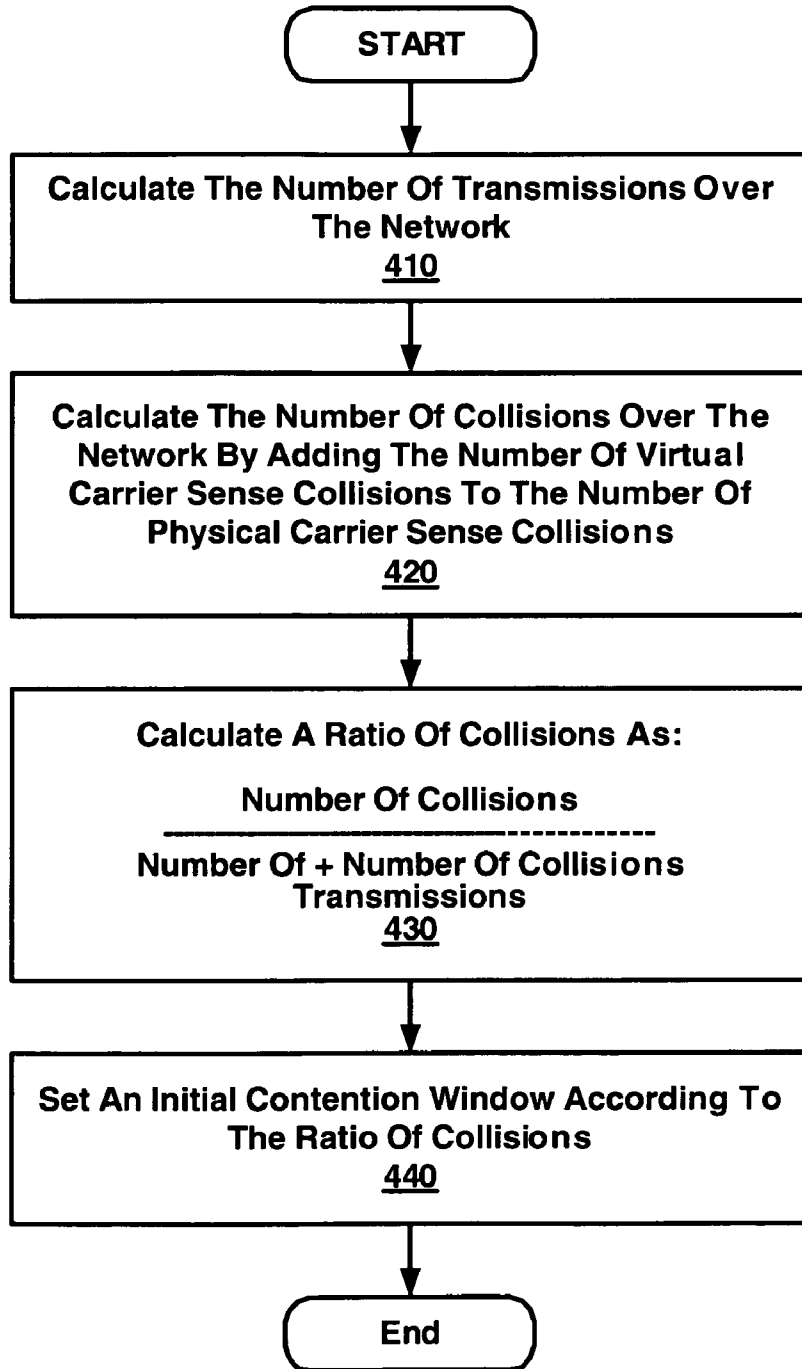


FIG 4

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