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(54) Title: SYSTEM, DEVICE, AND METHOD FOR INITIAL RANGING IN A COMMUNICATION NETWORK

(57) Abstract

An apparatus and method for an adaptive initial ranging scheme. The scheme (Fig. 4) takes a first and second system performance measurement using a first (404) and a second (406) backoff window size. The scheme then determines a third (408) backoff window size based on the above measurements (408). The scheme (Fig. 5) first provides ranging opportunities and specifies a first backoff window size for collision resolution (504), counts a first number of success outcomes in a first sample of ranging opportunity slots, and determines a first probability of success outcomes (506). The scheme then provides additional ranging opportunities and specifies a second backoff window size for collision resolution (508),

skips a number of ranging opportunity slots at least equal to the first backoff window size (510), counts a second number of success outcomes in a second sample of ranging opportunity slots, determines a second probability of success outcomes (512), determines a ratio R having a numerator equal to the second probability of success outcomes minus the first probability of success outcomes and a denominator equal to the second backoff window size minus the first backoff window size (514), and selects a third backoff window size based on at least the ratio R (516, 518).

