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Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

[Continued on next page]

(54) **Title:** LEARNING-BASED SEMI-PERSISTENT SCHEDULING IN WIRELESS COMMUNICATIONS

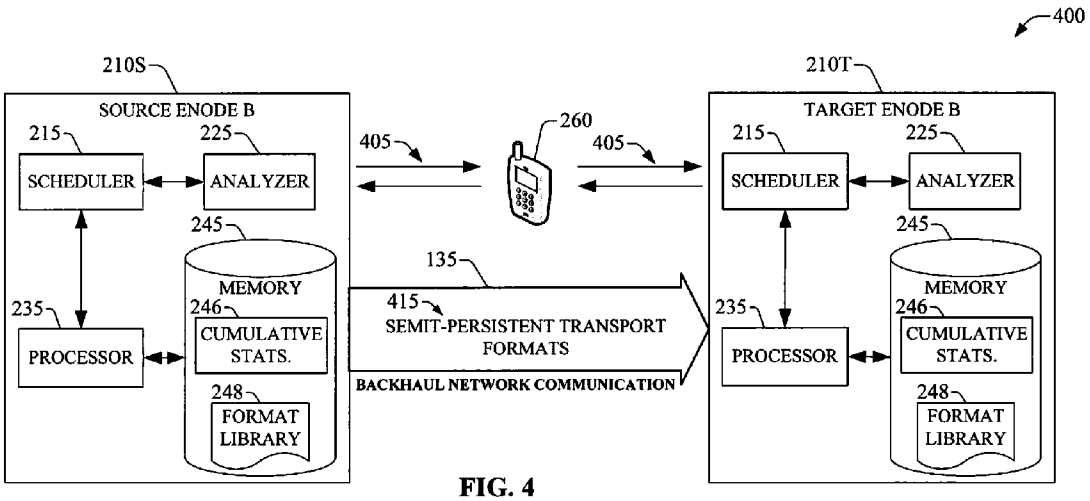

FIG. 4

(57) **Abstract:** Systems and methods are provided for a learning-based determination of semi-persistent scheduling of data-packet flow wireless communication. A packetized data flow served to a wireless terminal is fully scheduled for an initial period of time in order to collect statistics associated with scheduled packet sizes (Ss) and inter-packet times (Ts). Analysis of a cumulative distribution of {S, T} pairs indicate whether a characteristic packet size (S0) and size dispersion (D0) are associated with the cumulative distribution. Inter-time intervals associated with the characteristic size and dispersion complete a transport format. Semi-persistent scheduling is utilized for a packetized flow when a characteristic transport format can be extracted, or learned, from the accumulated statistics. Extracted transport formats can be employed to optimize scheduling efficiency upon handover.

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