

EXHIBIT A



US008274902B2

(12) **United States Patent**
Bu et al.

(10) **Patent No.:** **US 8,274,902 B2**
(45) **Date of Patent:** **Sep. 25, 2012**

(54) **ESTIMATION METHOD FOR LOSS RATES IN A PACKETIZED NETWORK**

(56) **References Cited**

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(73) Assignee: **Alcatel Lucent**, Paris (FR)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 90 days.

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(21) Appl. No.: **12/462,965**

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(22) Filed: **Aug. 12, 2009**

WO WO02/39673 A1 5/2002
WO PCT/US2010/044095 11/2010

(65) **Prior Publication Data**
US 2011/0038269 A1 Feb. 17, 2011

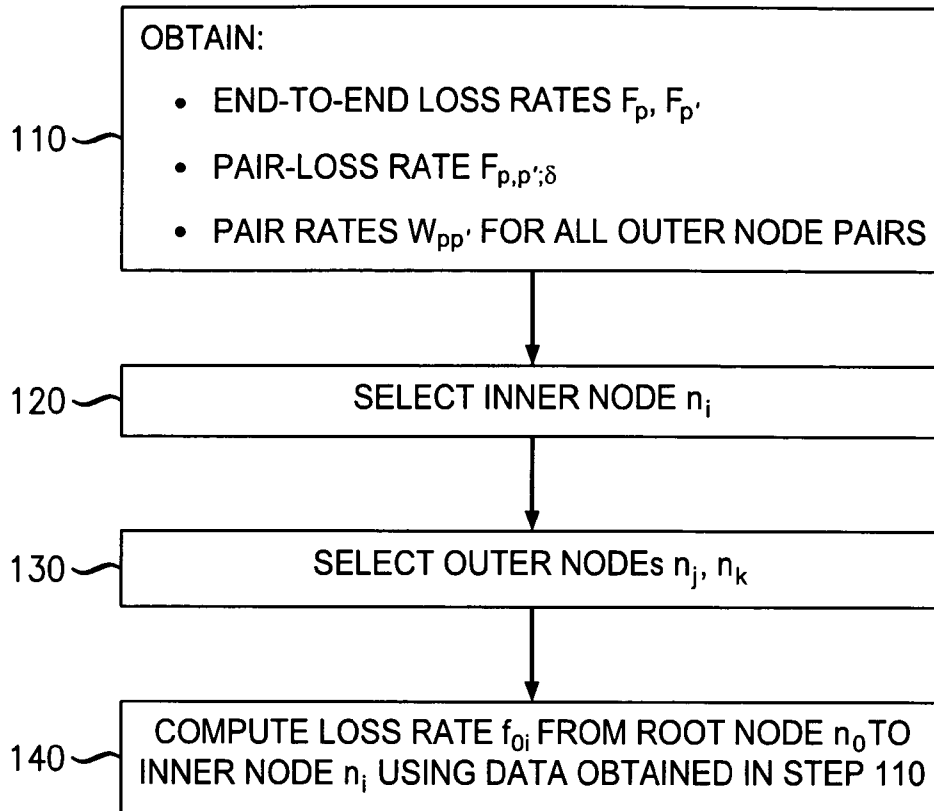
* cited by examiner

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(51) **Int. Cl.**
H04J 1/16 (2006.01)
(52) **U.S. Cl.** **370/248; 370/252; 709/224**
(58) **Field of Classification Search** **370/252, 370/328, 248, 242; 709/223, 224**
See application file for complete search history.

(57) **ABSTRACT**
A method is provided, according to which data are collected on downstream packet losses at a single point in a network. From the collected data, packet loss rates are estimated on at least two subnetworks downstream of the collection point. The respective subnetworks may differ by one or more links.

6 Claims, 7 Drawing Sheets



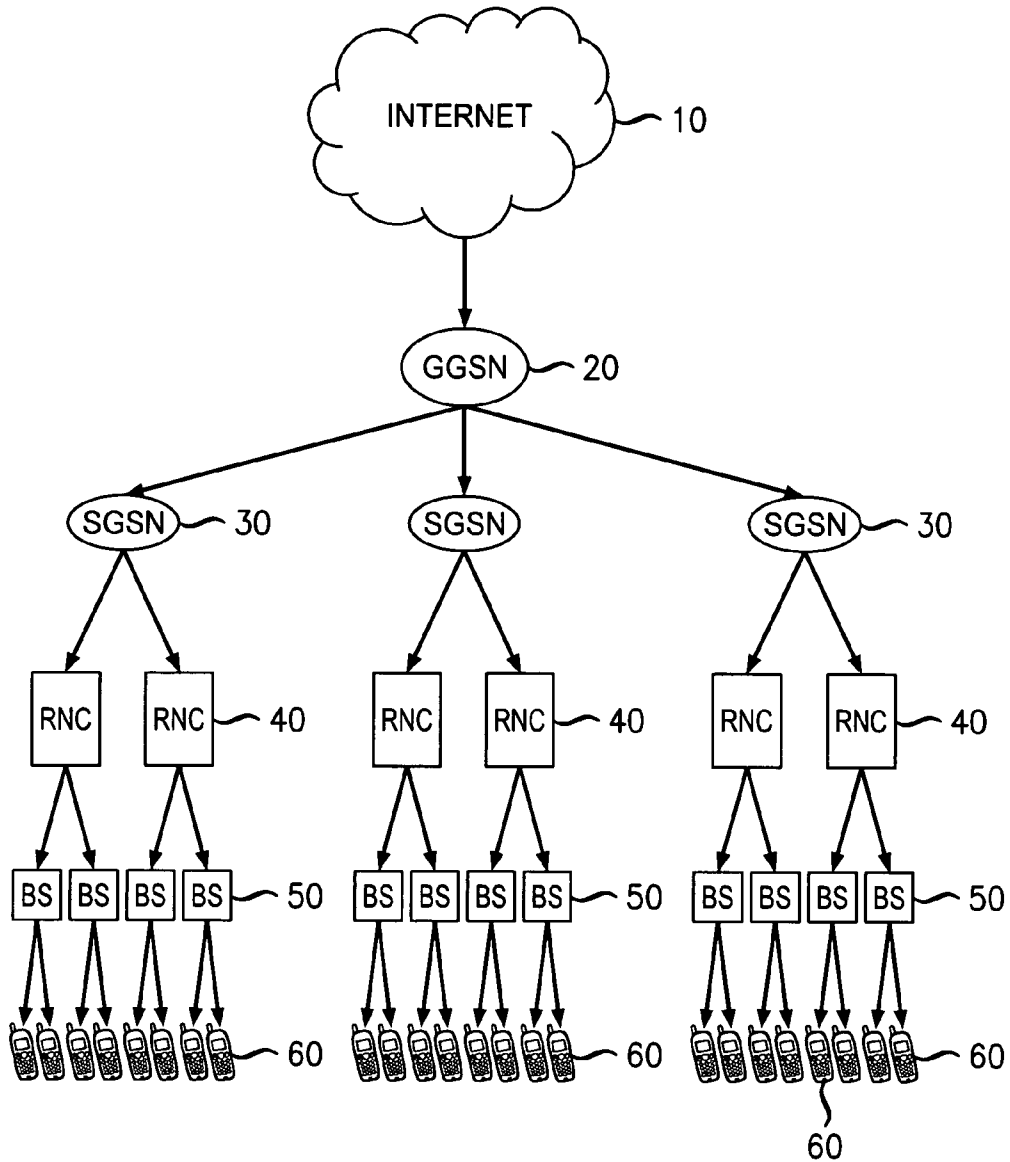


FIG. 1
PRIOR ART

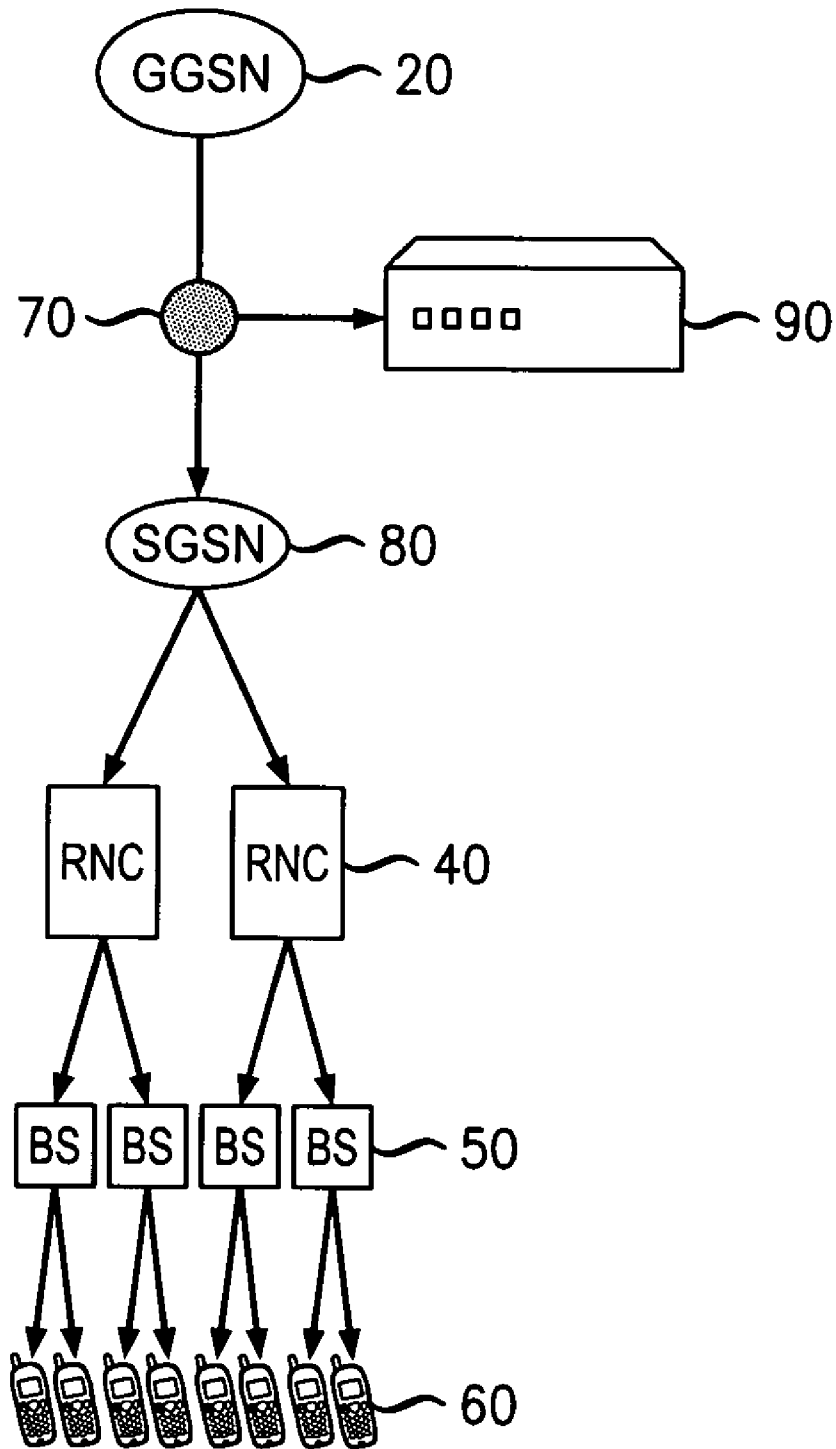


FIG. 2

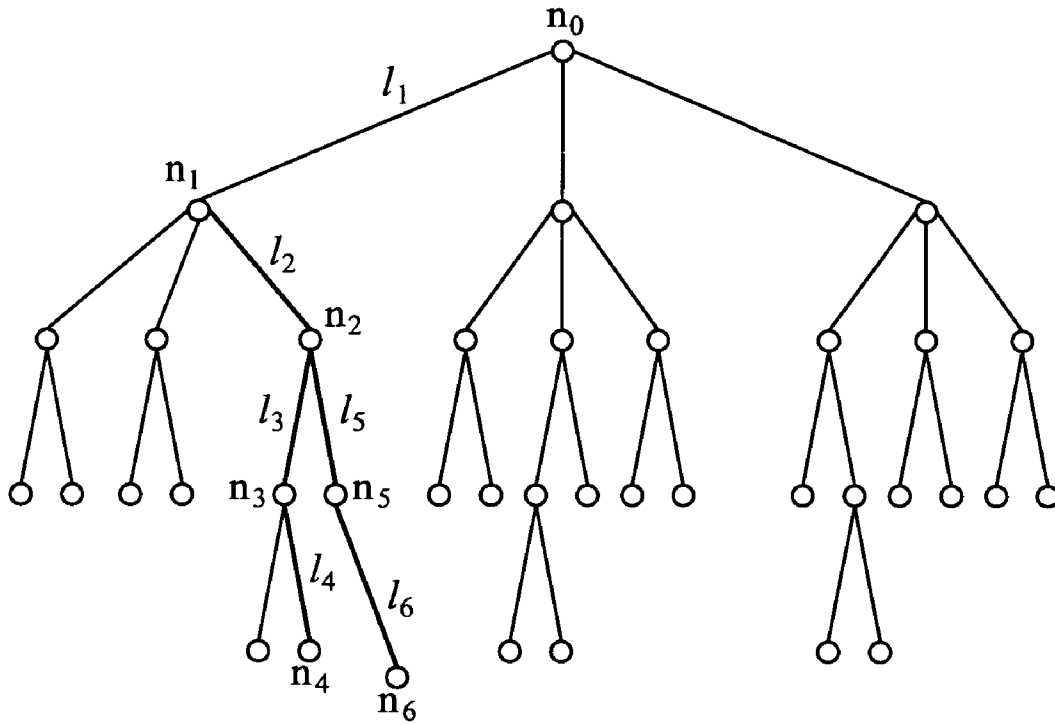


FIG. 3

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