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(12) **United States Patent**  
**Mithyantha**

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(54) **SYSTEMS AND METHODS FOR USING ECMP ROUTES FOR TRAFFIC DISTRIBUTION**

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,568,047 B1 *	7/2009	Aysan et al.	709/238
2013/0286846 A1 *	10/2013	Atlas et al.	370/236
2013/0336329 A1 *	12/2013	Gopinath et al.	370/401

\* cited by examiner

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(57) **ABSTRACT**

The present application is directed towards systems and methods for using equal cost multi-path routing for traffic distribution in a cluster environment. Each intermediary device of a cluster may advertise, via a routing protocol to a router, a corresponding internet protocol (IP) address of a virtual server and one or more connection metrics having predetermined values. Upon determining that another intermediary device of the cluster is unavailable, each active device may re-advertise the IP address of the virtual server executing on the intermediary device and the one or more connection metrics with the previously advertised value reduced by a predetermined amount. In some embodiments, each active device may wait a predetermined time period, such as a time period for expiration of routing protocol tables, and then re-advertise the IP address of the virtual server executing on the intermediary device and the one or more connection metrics with the predetermined values.

**18 Claims, 20 Drawing Sheets**

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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 312 days.

(21) Appl. No.: **13/524,799**

(22) Filed: **Jun. 15, 2012**

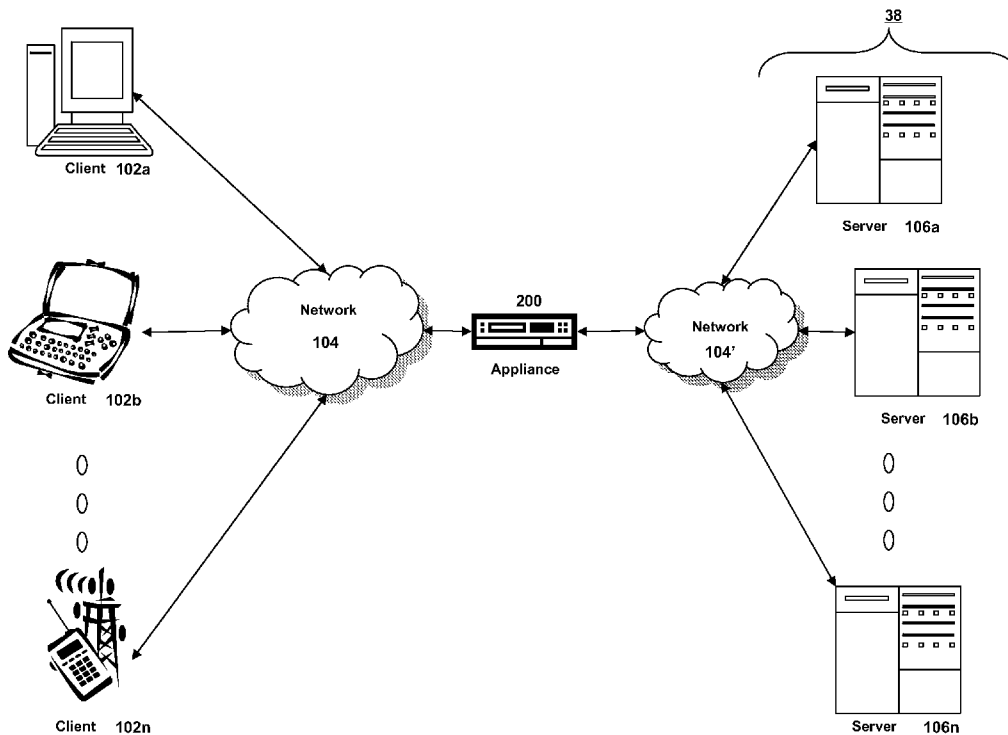
(65) **Prior Publication Data**

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(51) **Int. Cl.**  
**G06F 15/173** (2006.01)

(52) **U.S. Cl.**  
USPC ..... **709/238**; 709/249; 370/235; 370/352; 370/392

(58) **Field of Classification Search**  
CPC ..... H04L 45/24; H04L 45/138; H04L 47/125  
USPC ..... 709/238, 249; 370/235, 352, 392  
See application file for complete search history.



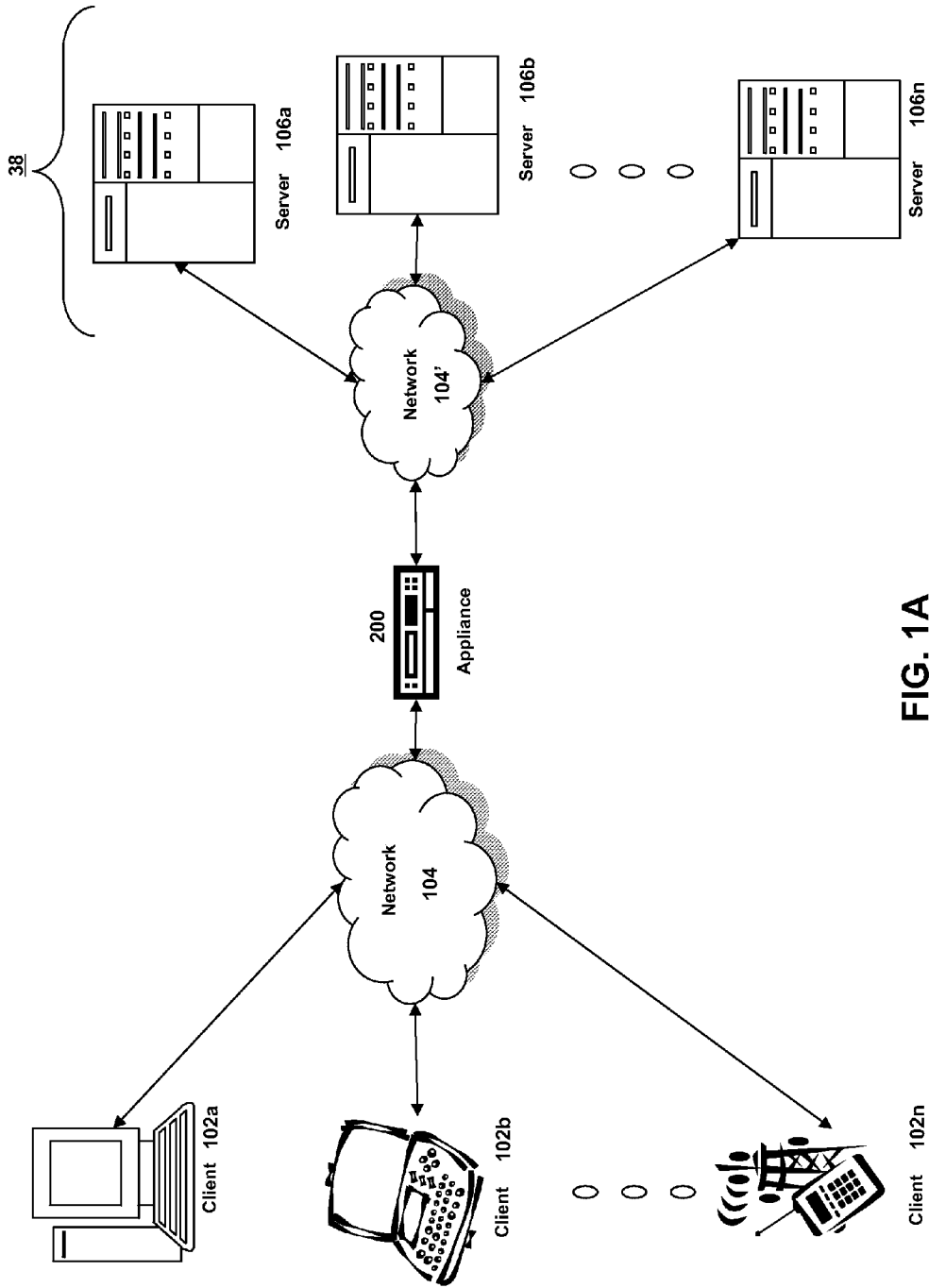


FIG. 1A

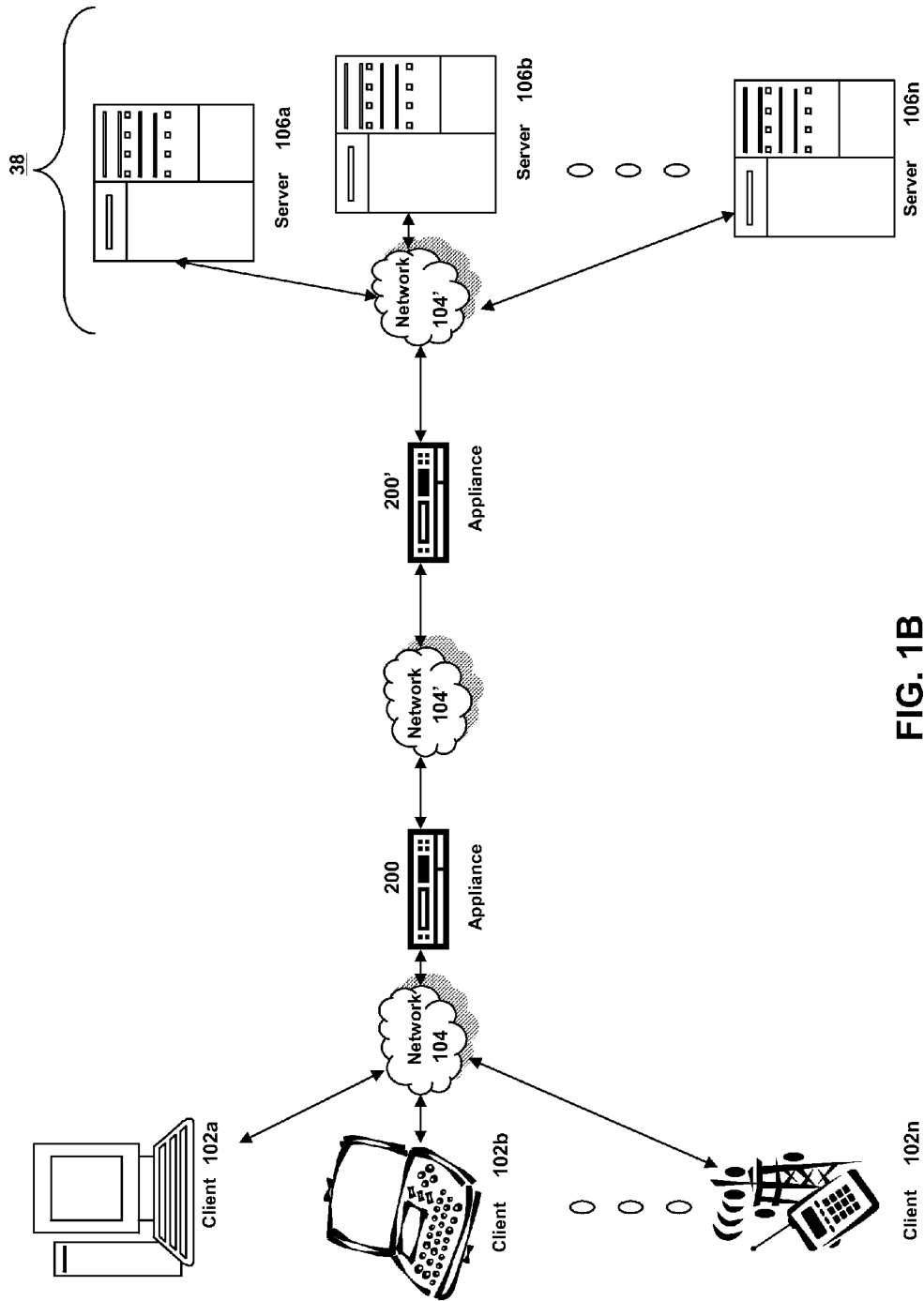


FIG. 1B

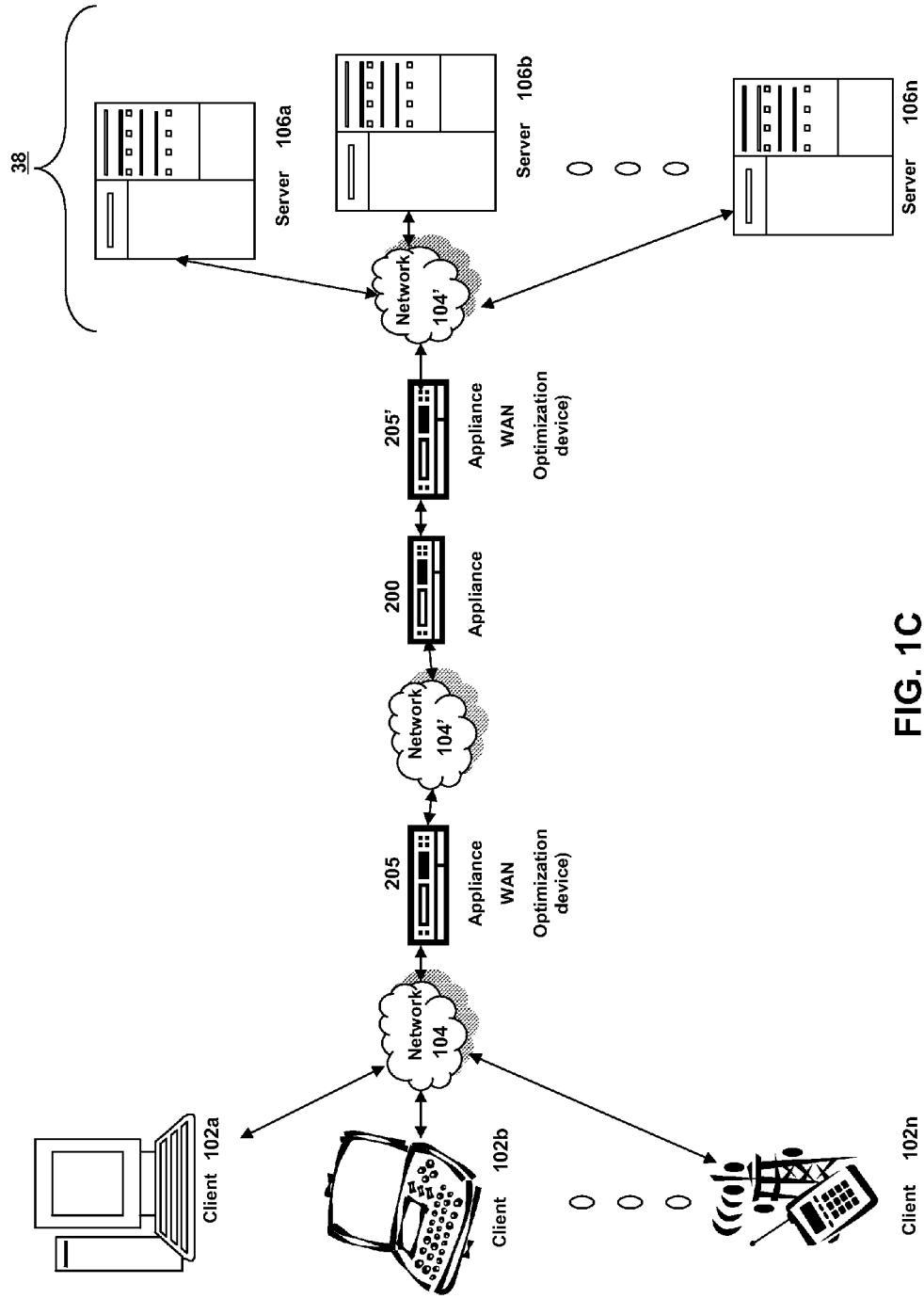


FIG. 1C

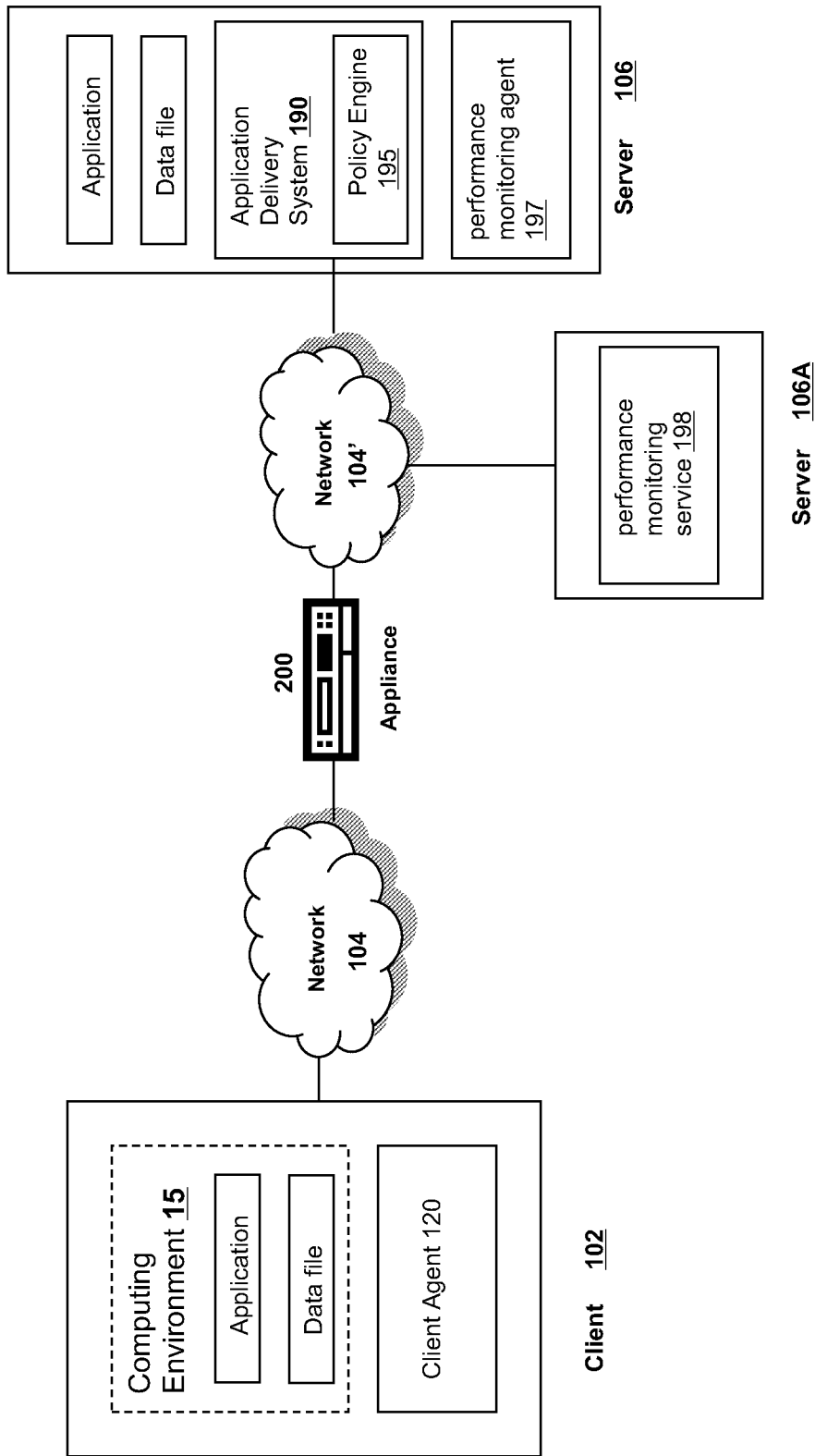


FIG. 1D

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