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(54) **WIDE-AREA CONTENT-BASED ROUTING ARCHITECTURE**

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(52) **U.S. Cl.** **370/395.53; 370/395; 370/255**

(58) **Field of Classification Search** **370/395.53, 370/395.6, 397**

See application file for complete search history.

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(57) **ABSTRACT**

Content networking provides a content-based routing architecture, in which a virtual overlay network called the “virtual content network” is superimposed over the physical network. The content network contains content routers as the nodes and “pathways” as links. The content-based routers at the edge of the content network may be either a gateway to the client domain or a gateway to the server domain whereas the interior ones correspond to the content switches dedicated for steering content requests and replies. The pathways are virtual paths along the physical network that connect the corresponding content routers. The tags for tagging content requests at the ingress points are designed to incorporate several different attributes of the content in the routing process. The path chosen for routing the request is the optimal path and is chosen from multiple paths leading to the replicas of the content.

14 Claims, 13 Drawing Sheets

