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(54) Title: METHOD AND APPARATUS FOR RESTORING NETWORK TOPOLOGY

(54) 发明名称: 网络拓扑的还原方法及装置

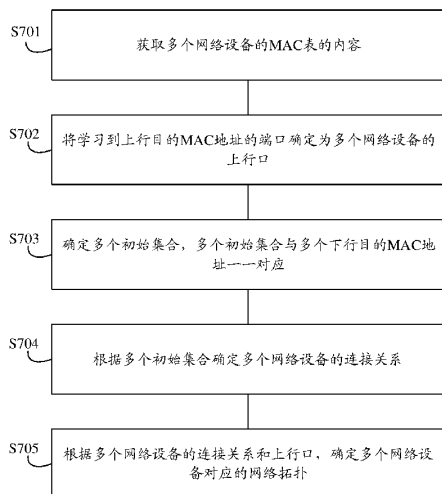


图 7

S701 Acquire content of a MAC table of a plurality of network devices
S702 Determine a port, on which an uplink destination MAC address is learned, to be an uplink port of the plurality of network devices
S703 Determine a plurality of initial sets, wherein the plurality of initial sets correspond to a plurality of downlink destination MAC addresses on a one-to-one basis
S704 Determine the connection relationship between the plurality of network devices according to the plurality of initial sets
S705 Determine, according to the connection relationship between the plurality of network devices and the uplink port, a network topology corresponding to the plurality of network devices

(57) Abstract: Disclosed are a method and apparatus for restoring a network topology, which method and apparatus belong to the field of communications. The method comprises: a topology computation apparatus acquiring MAC entries of a plurality of network devices; determining a port, on which an uplink destination MAC address is learned, to be an uplink port of the plurality of network devices, wherein the uplink destination MAC address is a MAC address which appears the most frequently among the MAC entries of the plurality of network devices; then determining a plurality of initial sets, and determining the connection relationship between the plurality of network devices according to the plurality of initial sets; and finally, determining, in view of the connection relationship

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between the plurality of network devices and the uplink port, a network topology corresponding to the plurality of network devices, wherein the plurality of initial sets correspond to a plurality of downlink destination MAC addresses on a one-to-one basis, and the plurality of downlink destination MAC addresses comprise MAC addresses that are learned on ports other than the uplink port; and the initial sets comprise data of the network devices, and the data of the network devices comprises identifiers of the network devices, and the ports on which the downlink destination MAC addresses are learned.

(57) 摘要: 公开了一种网络拓扑的还原方法及装置, 属于通信领域。该方法包括: 拓扑计算装置获取多个网络设备的MAC表项; 将学习到上行目的MAC地址的端口确定为多个网络设备的上行口, 上行目的MAC地址为多个网络设备的MAC表项中出现次数最多的MAC地址; 之后确定多个初始集合, 并根据多个初始集合确定多个网络设备的连接关系; 最终结合多个网络设备的连接关系和上行口, 确定多个网络设备对应的网络拓扑。其中, 多个初始集合与多个下行目的MAC地址一一对应, 多个下行目的MAC地址包括上行口之外的端口上学习到的MAC地址。初始集合包括网络设备的数据, 网络设备的数据包括网络设备的标识和学习到下行目的MAC地址的端口。