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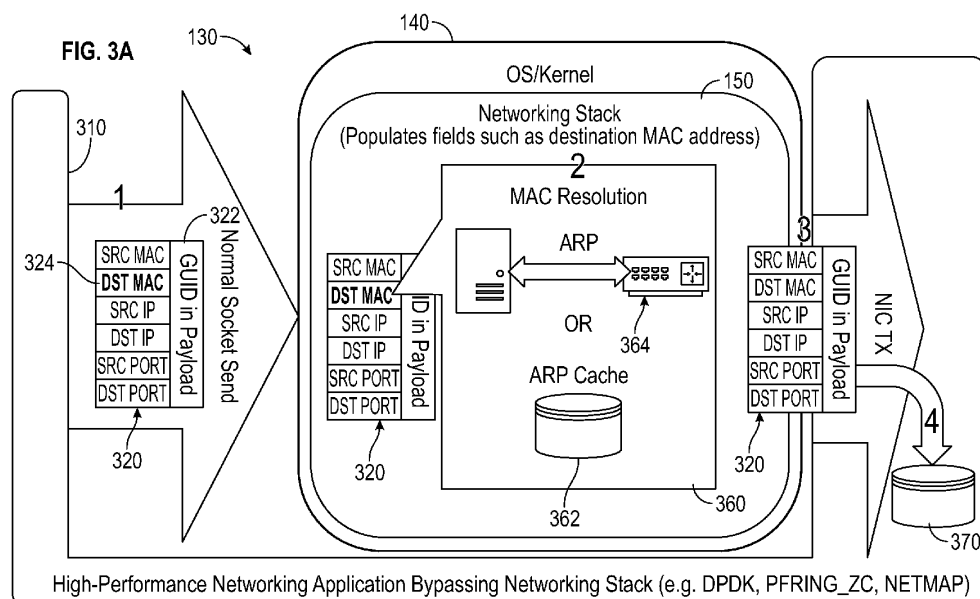
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(54) Title: PROGRAMMATICALLY DETERMINING NEXT-HOP MAC ADDRESS



(57) Abstract: Systems, media, and methods are capable of determining a layer 2 destination address that can then be used by a network acceleration application to populate data packets to be transmitted using accelerated networking techniques. The systems and methods provide for a software application executed on a computing device that controls a NIC interface to provide for an accelerated network. The software application resides in the application layer of a networking stack and is interfaced via a virtual NIC or TUN/TAP device with the kernel and the networking stack and operating system (OS) facilities to determine a layer 2 destination address for use in accelerated network applications. Embodiments herein, through the combination above, are able to account for firewall rules, static ARP entries, or any other system-administrator rules put in place for network operations.

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