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(54) **METHOD AND APPARATUS FOR OPERATING A WIRELESS PAN NETWORK USING AN OVERLAY PROTOCOL THAT ENHANCES CO-EXISTENCE WITH A WIRELESS LAN NETWORK**

(52) **U.S. Cl. 370/338**

(57) **ABSTRACT**

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A computing device is interfaced with other devices in a wireless personal area network (PAN) to enhance co-existence with a wireless local area network (WLAN), wherein the WLAN is characterized by a plurality of nodes intercommunicating for various network devices and the wireless PAN is characterized by lower power transmissions relative to transmissions over the WLAN. The computing device coordinates activity of the wireless PAN as a coordinator for the wireless PAN, including communicating with the wireless PAN devices using a protocol that is an overlay protocol only partially compliant with the protocol used over the WLAN but that enables co-existence. The WLAN can be an 802.11 wireless LAN. WLAN devices preferably can, upon hearing an overlay protocol frame, understand at least enough of the overlay protocol frame to defer use of a common wireless networking medium. If the PAN coordinator is capable of associating with the WLAN, it can be a dual-network device capable of associating with the WLAN and PAN simultaneously. The dual-network device can use a common network module to handle both WLAN and PAN traffic.

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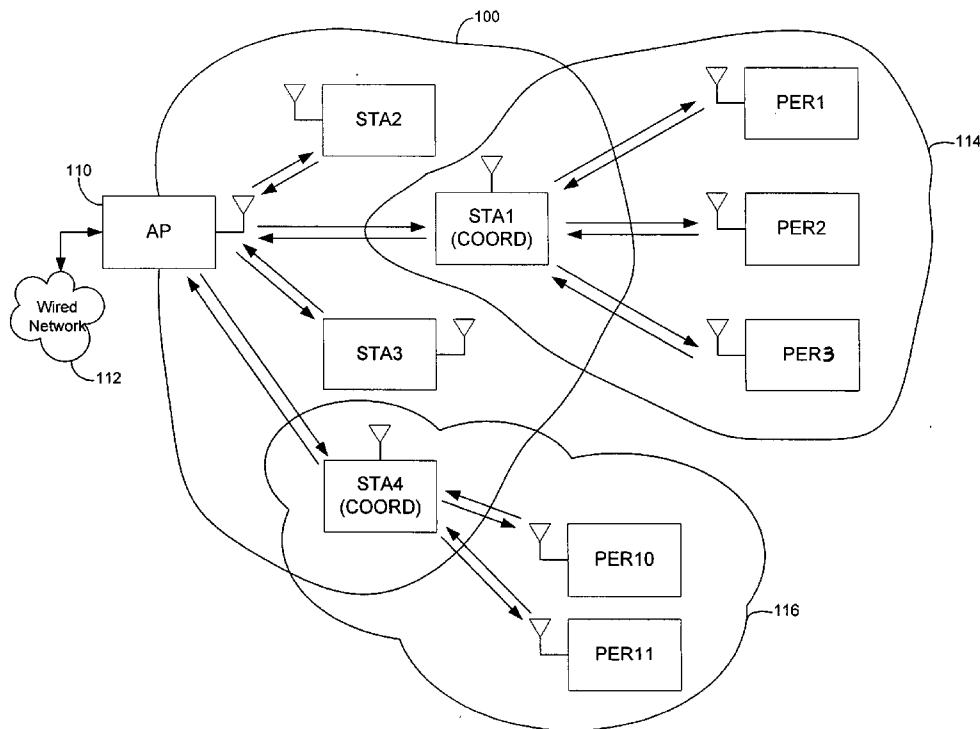
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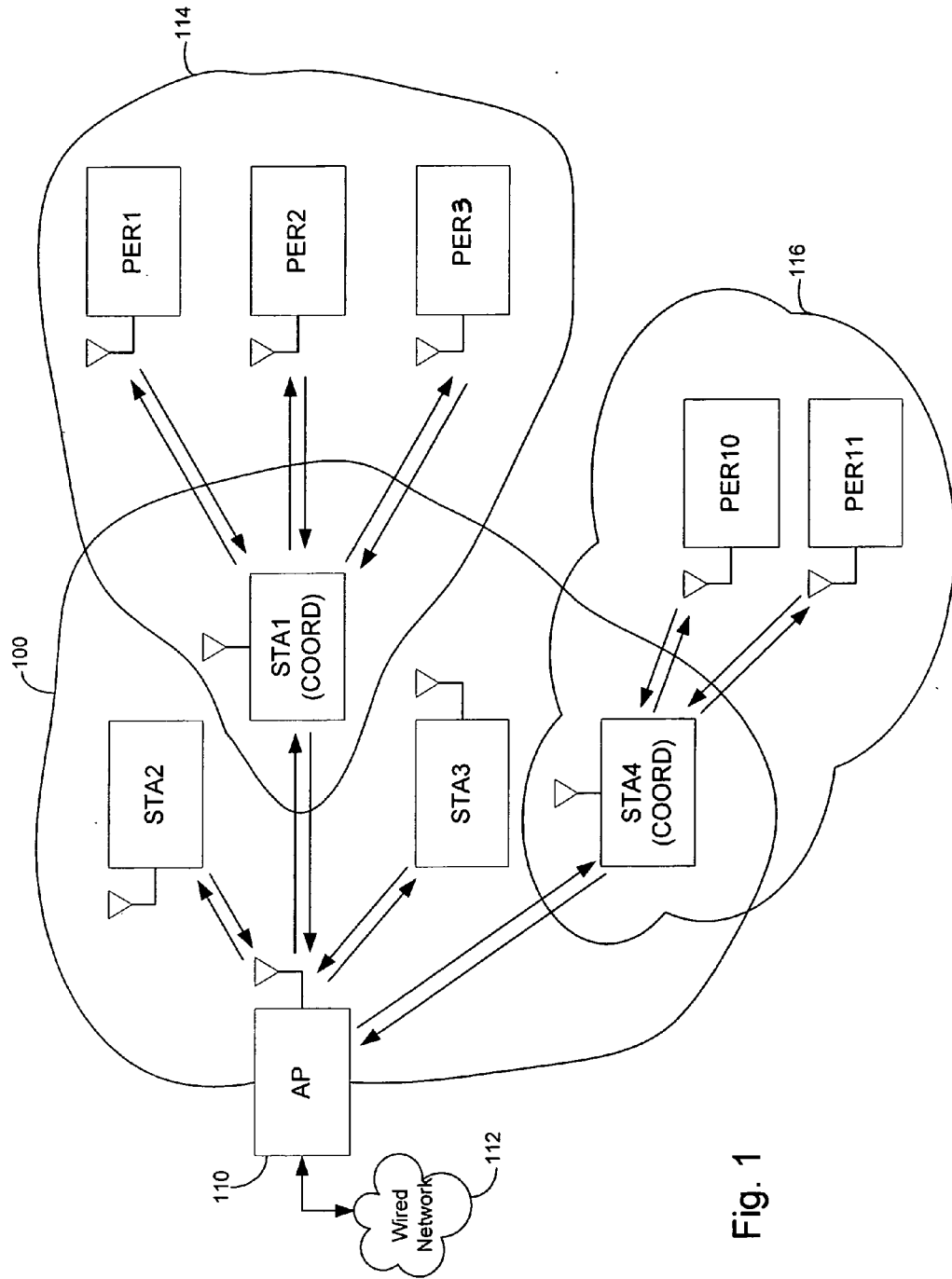


Fig. 1

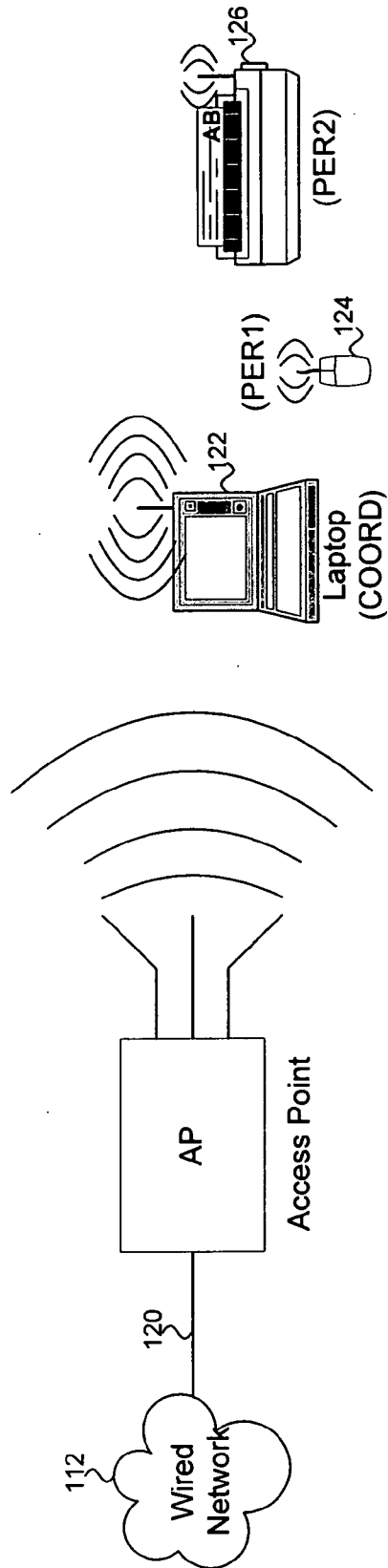


Fig. 2

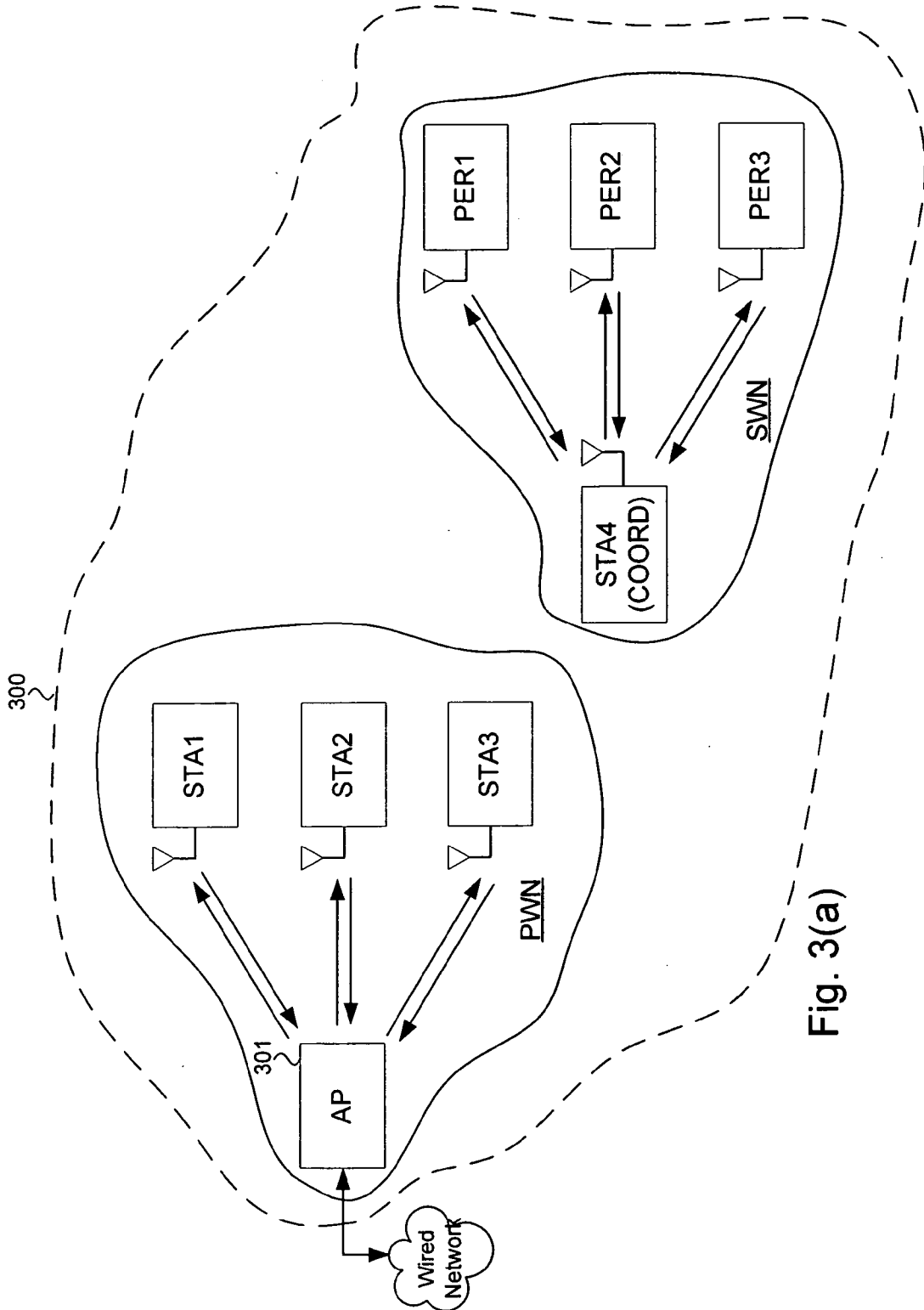
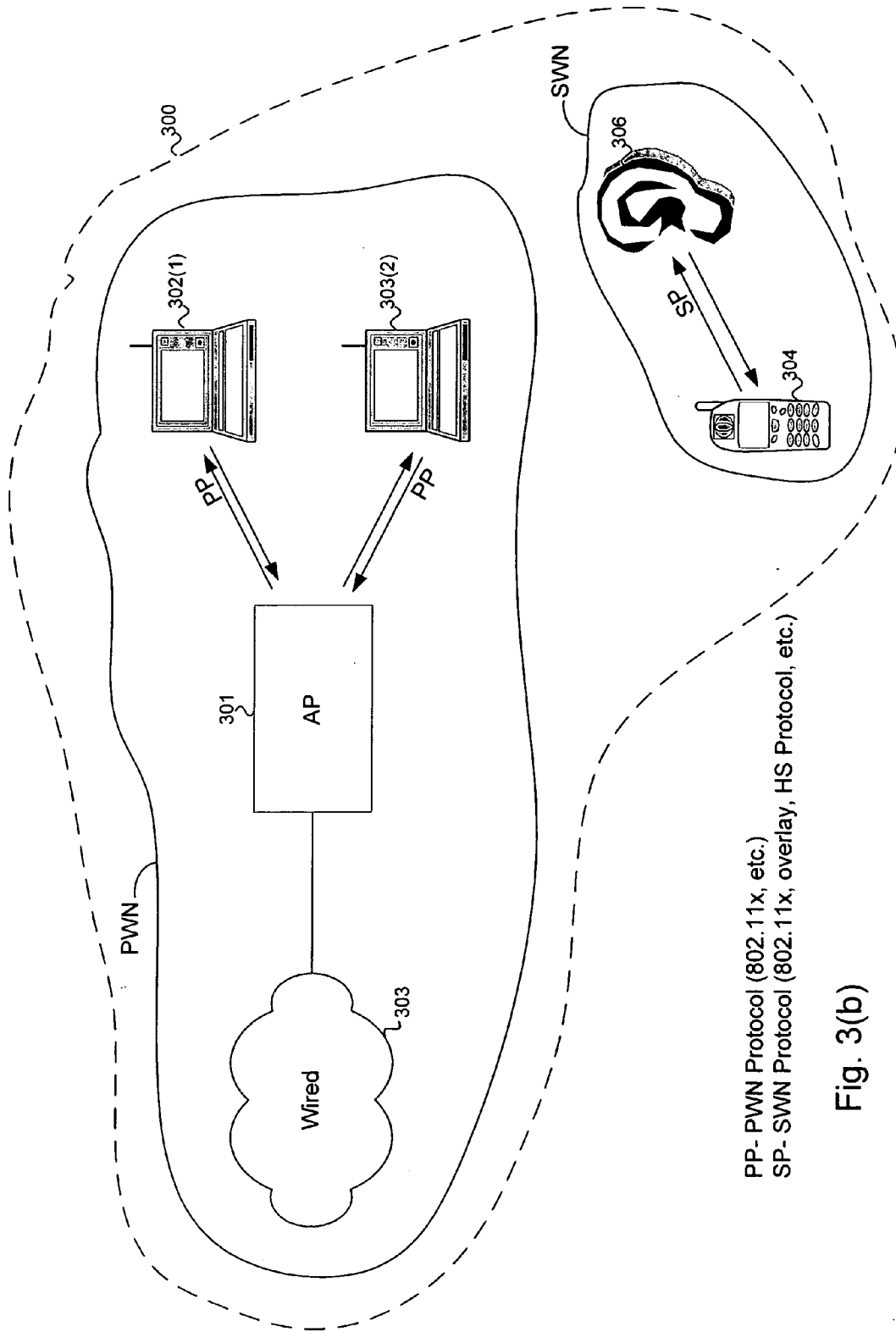


Fig. 3(a)



PP- PWN Protocol (802.11x, etc.)
SP- SWN Protocol (802.11x, overlay, HS Protocol, etc.)

Fig. 3(b)

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