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(54) **Title: NETWORK SECURITY SYSTEMS AND METHODS USING RECURRENT DEVICE ATTESTATION**

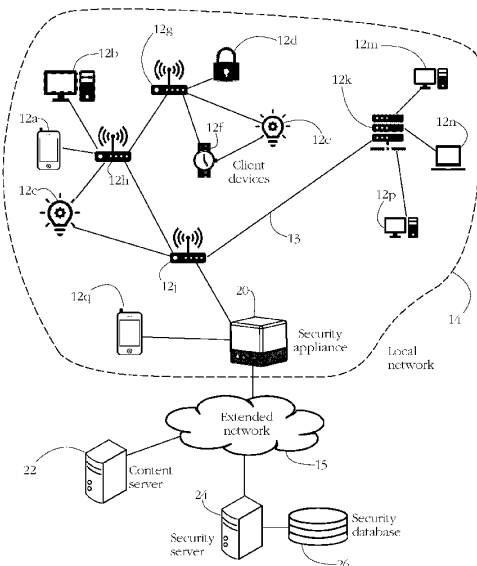


FIG. 1

(57) **Abstract:** Some embodiments improve the security of a network of IoT devices via a recurrent re-attestation of network nodes. The frequency of re-attestation may depend on a network role of the respective device (e.g., router vs. end node) and/or on a measure of connectivity of the respective node (e.g., node degree), with highly connected nodes re-attested more often than end nodes. Some embodiments employ a pebble-ripple attestation procedure wherein an administration device transmits an attestation probe to a device via one-to-one messaging (e.g., unicast), and the respective device replies via one-to-many messaging (e.g., multicast). The administration device then attests the identity and/or functionality of the respective device according to the timing of multiple replies from the attested device, each reply traversing the network via a distinct route.

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