



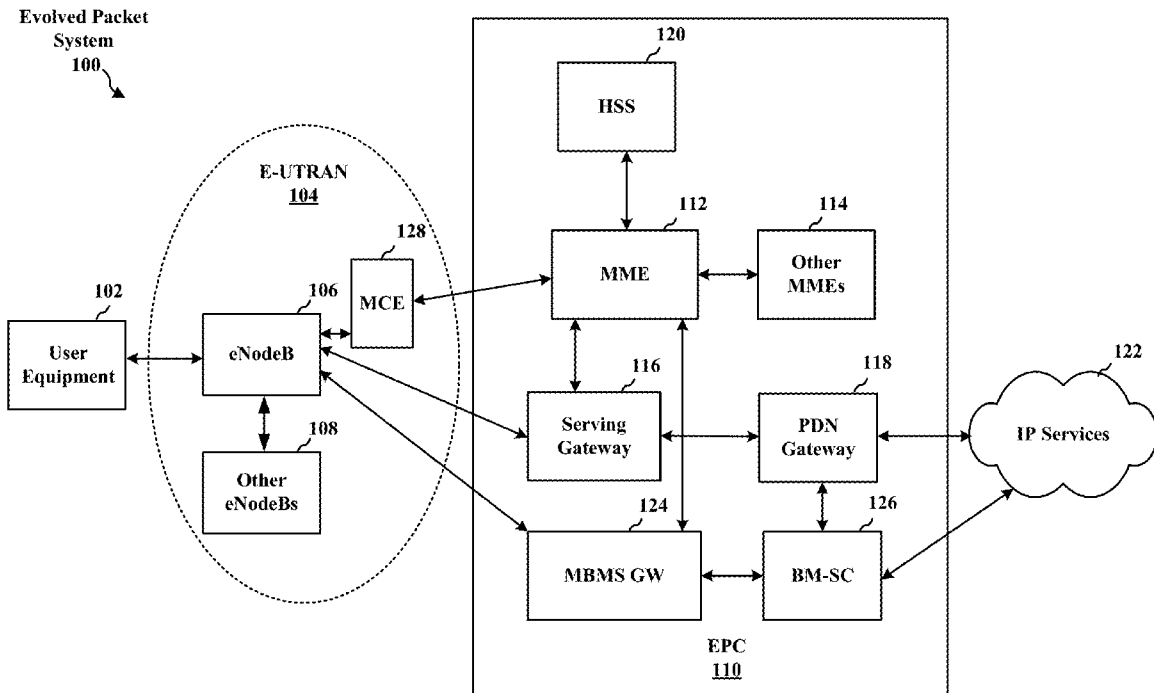
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(19) **United States**(12) **Patent Application Publication**  
**GUPTA et al.**(10) **Pub. No.: US 2016/0192403 A1**(43) **Pub. Date: Jun. 30, 2016**(54) **MECHANISM TO PROVIDE LTE VOICE,  
INTERNET AND EMBMS SERVICES OVER  
ETHERNET FOR CONNECTED HOME  
ARCHITECTURE****H04W 12/06** (2006.01)**H04L 12/18** (2006.01)(52) **U.S. CL.**CPC ..... **H04W 76/002** (2013.01); **H04L 12/18**  
(2013.01); **H04L 63/166** (2013.01); **H04L**  
**63/0876** (2013.01); **H04W 12/06** (2013.01);  
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(57)

**ABSTRACT**

A method, an apparatus, and a computer program product for communication in a network. The apparatus sends a multicast message to a network device. The multicast message facilitates discovery of an unknown IP address of the network device. The apparatus determines whether a first response message is received from the network device in response to the multicast message and determines the IP address of the network device from the first response message when the first response message is received from the network device. The apparatus establishes a secure connection with the network device using the determined IP address. The apparatus sends a link status check message to the network device to detect a failed end-to-end link between the apparatus and the network device.

(21) Appl. No.: **14/586,878**(22) Filed: **Dec. 30, 2014****Publication Classification**(51) **Int. Cl.****H04W 76/00** (2006.01)**H04L 29/06** (2006.01)

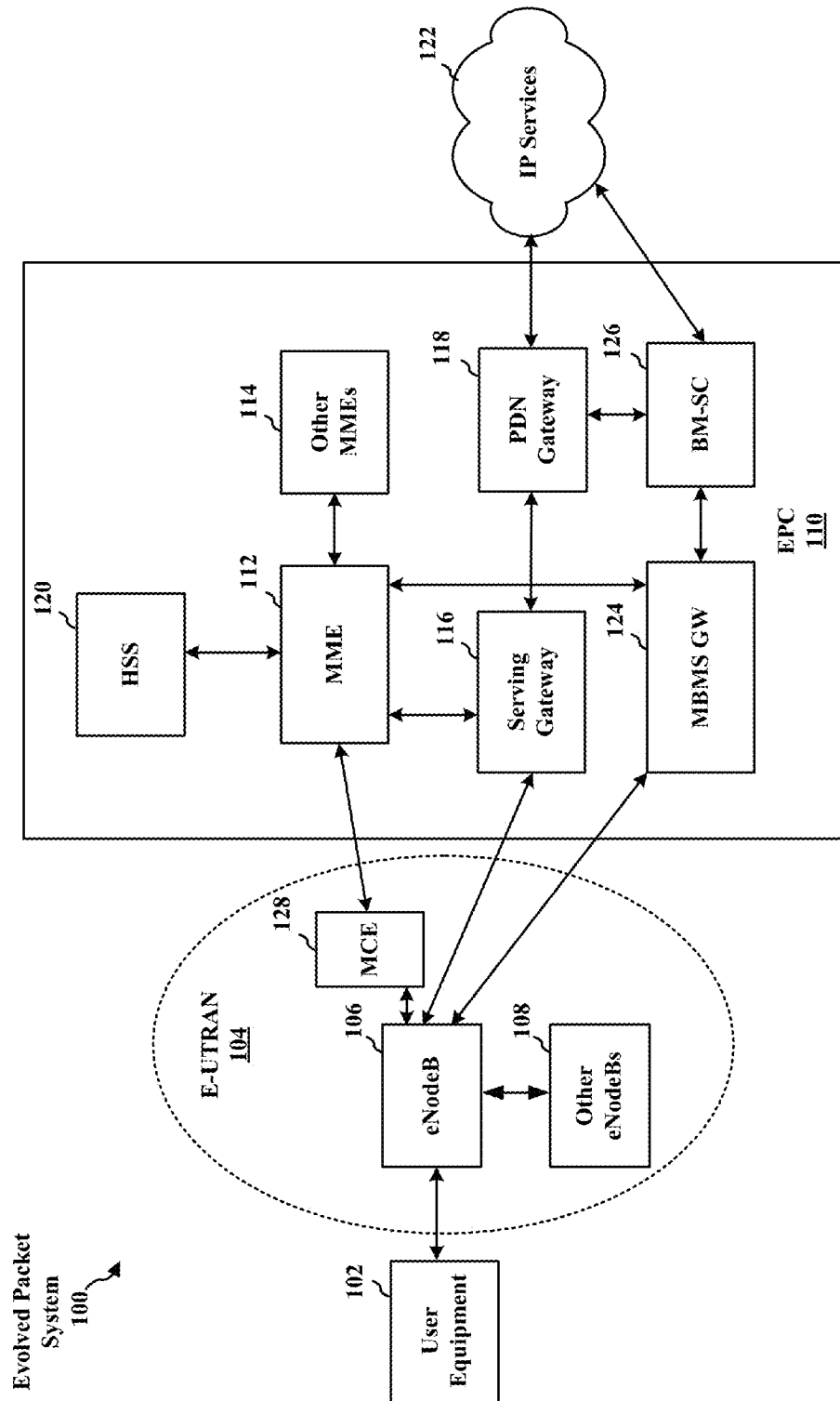
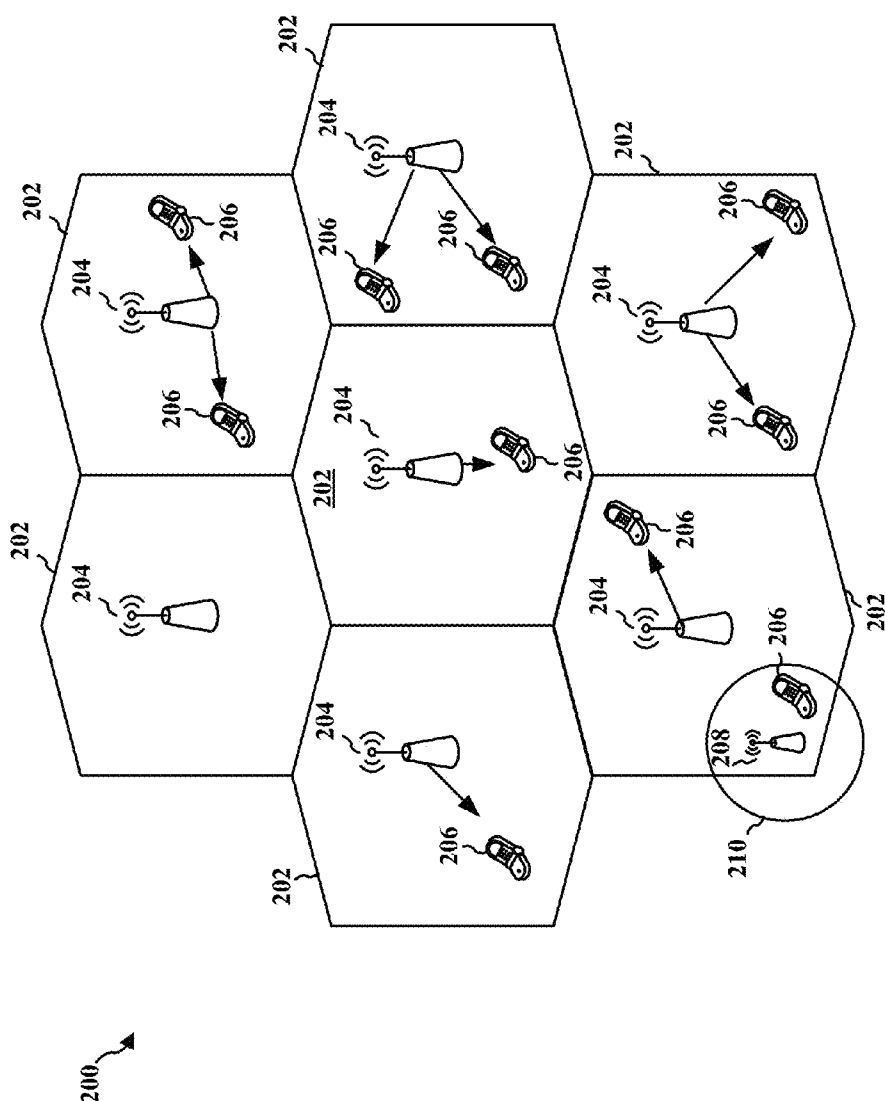
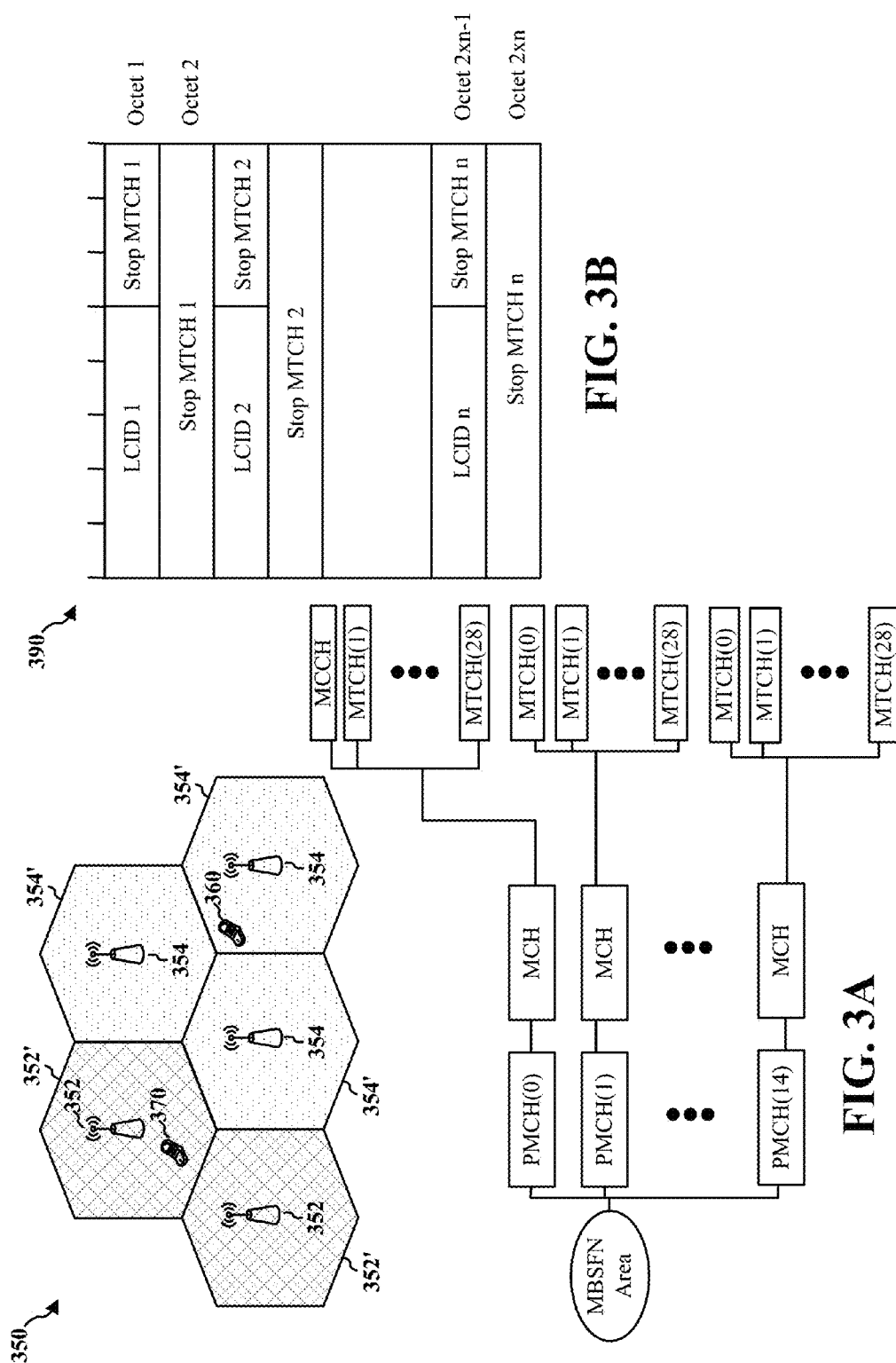


FIG. 1



**FIG. 2**



**FIG. 3B**

**FIG. 3A**

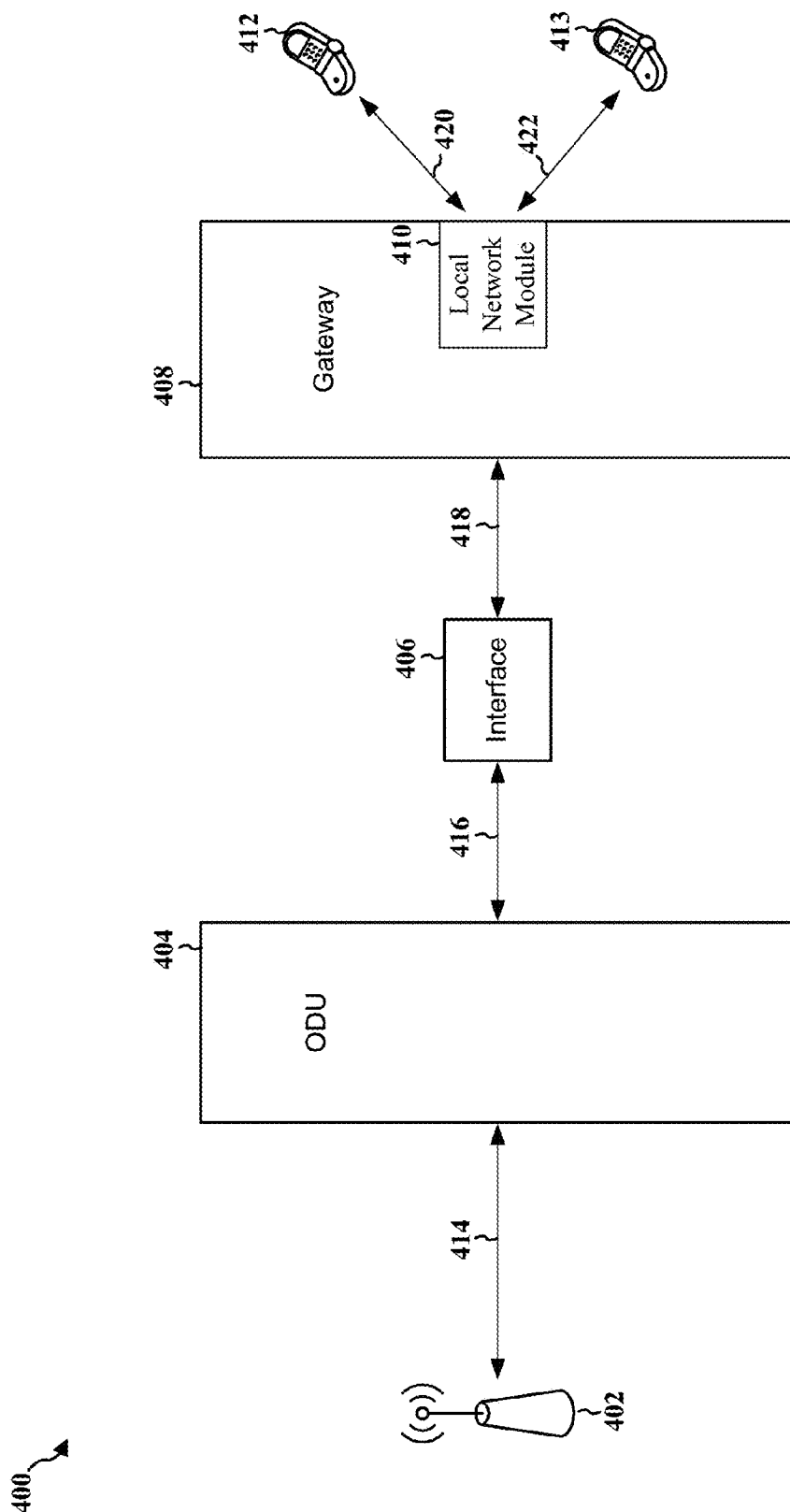


FIG. 4

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