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(54) **WIRELESS RELAY BACKHAUL SELECTION IN A DATA COMMUNICATION NETWORK**

(71) Applicant: **Sprint Communications Company L.P.**, Overland Park, KS (US)

(72) Inventor: **Zheng Fang**, McLean, VA (US)

(73) Assignee: **Sprint Communications Company L.P.**, Overland Park, KS (US)

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(Continued)

(58) **Field of Classification Search**
CPC H04W 40/22; H04W 52/46; H04W 88/04
See application file for complete search history.

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Primary Examiner — Ashley Shivers

(57) **ABSTRACT**

A wireless base station establishes a wireless backhaul link for a wireless relay to a data network core. A network gateway establishes a wireline backhaul link for the wireless relay to the data network core. The data network core transfers backhaul status data for the backhaul links to the wireless relay. The wireless relay uses the backhaul status data to select the wireless backhaul link or the wireline backhaul link for user data. The wireless base station exchanges wireless user data with the wireless relay when the wireless relay selects the wireless backhaul link. The network gateway exchanges wireline user data with the wireless relay when the wireless relay selects the wireline backhaul link. The data network core exchanges the wireless user data with the wireless base station and exchanges the wireline user data with the network gateway.

20 Claims, 28 Drawing Sheets

DATA COMMUNICATION NETWORK 100
WIRELESS RELAY 110
RELAY UE 113
WIRELESS BASE STATION 121
BH1
DATA NETWORK CORE 130
SERVED UE 101
RELAY BASE STATION 111
ETHERNET SWITCH 112
NETWORK GATEWAY 122
BH2