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(54) **CLOUD-BASED TUNNEL PROTOCOL  
SYSTEMS AND METHODS FOR MULTIPLE  
PORTS AND PROTOCOLS**

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(71) Applicant: **Zscaler, Inc.**, San Jose, CA (US)

(72) Inventors: **Srikanth Devarajan**, San Jose, CA  
(US); **Vijay Bulusu**, Fremont, CA (US);  
**Roy Rajan**, Bangalore (IN); **Ajit  
Singh**, Fremont, CA (US); **Abhinav  
Bansal**, San Jose, CA (US); **Vikas  
Mahajan**, Ludhiana (IN)

(73) Assignee: **Zscaler, Inc.**, San Jose, CA (US)

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(57) **ABSTRACT**

Systems and methods include responsive to receiving a request at a remote node, determining whether the request is to be sent directly or via a cloud-based system; establishing a control channel of a tunnel utilizing a first encryption technique, wherein the tunnel is between the remote node and a local node, and wherein the control channel includes a session identifier; establishing a data channel of the tunnel utilizing a second encryption technique, wherein the data tunnel is bound to the control channel based on the session identifier; performing, over the control channel, device authentication and user authentication of one or more users associated with the remote node, wherein each of the one or more users includes a user identifier; and, subsequent to the device authentication and the user authentication, exchanging data packets over the data channel with each data packet including a corresponding user identifier.

