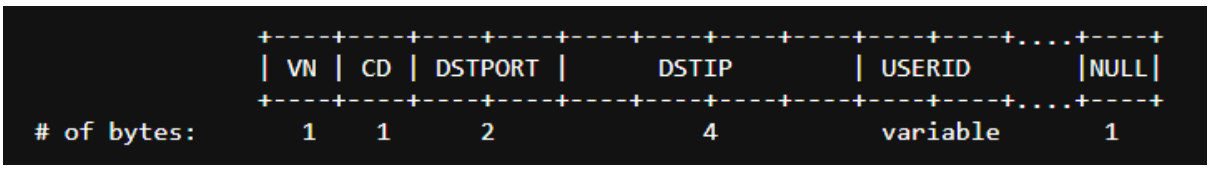
PROJECT ABSTRACT - RFC IMPLEMENTATION

SOCKS4 PROTOCOL

SOCKS is an Internet protocol that exchanges network packets between a client and server through a proxy server. SOCKS4 is a protocol that relays TCP sessions at a firewall host to allow application users transparent access across the firewall. Because the protocol is independent of application protocols, it is being used for many different services, such as HTTP, telnet, FTP, etc. A socks server handles requests from clients inside an organization's firewall and either allows or rejects connection requests, based on the requested Internet destination or user identification. Once a connection and a subsequent "bind" request have been set up, the flow of information exchange follows the usual protocol.

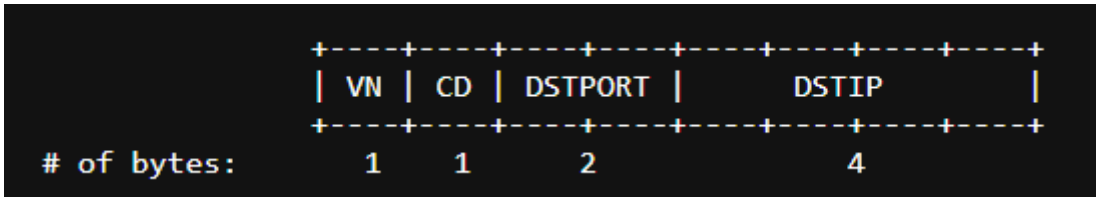
Access control can be applied at the beginning of each TCP session; thereafter the server simply relays the data between the client and the application server, incurring minimum processing overhead. Since SOCKS never has to know anything about the application protocol, it should also be easy for it to accommodate applications that use encryption to protect their traffic from snoopers.

The client connects to the SOCKS server and sends a request when it wants to establish a connection to an application server. The client includes in the request packet the IP address and the port number of the destination host, and userid, in the following format.



VN is the SOCKS protocol version number and should be 4. CD is the SOCKS command code and should be 1. NULL is a byte of all zero bits.

The SOCKS server checks to see whether such a request should be granted based on any combination of source IP address, destination IP address, destination port number, and the userid. A reply packet is sent to the client when this connection is established, or when the request is rejected or the operation fails.



VN is the version of the reply code and should be 0. CD is the result code with one of the following values:

90: request granted

91: request rejected or failed

92: request rejected because SOCKS server cannot connect to identd on the client

93: request rejected because client program and identd report different user-ids.

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