

UNIFIED USER AUTHENTICATION CLIENT

Client is developing a Unified Thread Management (UTM) internet security device. The device provides various protection features (including VPN) on the same box. In order to meet the target dates for product release, Client wants to outsource development of some features.

CHALLENGE

User based policies on the appliance require users to be configured in groups and policies be defined on group basis. There was also a requirement to support various user authentication mechanisms. Supported authentication mechanisms were Local, RADIUS, LDAP and NT domain authentication. If configuration so, a user needs to authenticate to the firewall before he can make a connection through it. Configuration also required information of required authentication servers. Database of users, their policies and list of auth servers is uploaded to the appliance as part of configuration. Client wanted develop a unified authentication client which can authenticate a user per configured policies.

SOLUTION

Newgen developed multi-threaded unified authentication client. This client served as layer between the firewall module and authentication servers. Upon receiving username and passphrase from the firewall module, client used firewall policies to find authentication mechanism to be used for this particular user. For local authentication, local database of username and passphrase was used. For other mechanisms (RADIUS, LDAP, NT Domain), a new thread was created for every user request. New thread shall authenticate to configured authentication server exchanging required protocol messages; and notify the firewall modules about the authentication status. For NT domain authentication, a proxy authentication server running in required NT domain was implemented; and authentication was done using the proxy authentication server. Integration testing of this client was also done by Newgen.

BENEFITS

- ☒ Uniform authentication module hides all the different authentication mechanisms from rest of the firewall modules.
- ☒ Multi-threaded design was able to take care of concurrent authentication requests.
- ☒ Common design and code utilization.

TECHNOLOGIES

- ☒ C++, Sockets, POSIX threads
- ☒ RADIUS, LDAP, NTLM authentication

PROJECT TEAM

- ☒ 12 person months
- ☒ Duration - 4 months

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