1a. User \rightarrow PM : SSL web site connection request

2a.PM : Check whether user is authenticated $3a.PM \leftrightarrow User$: set up SSL connection with the User

4a.PM↔Server : validate Target Certificate and set up SSL connection with the Target Server

5a.PM : is update page?

6a.PM↔DB : does user have enrolled credentials?

 $7a. PM \hspace{1.5cm} : \hspace{.1cm} If \hspace{.1cm} yes, \hspace{.1cm} create \hspace{.1cm} dummy \hspace{.1cm} credentials \hspace{.1cm} (DumCred)$

8a.PM→User : insert DumCred in old credentials field and send update page

9a.User : enter new credentials (NewCred)

 $10a. Browser \\ \hspace*{0.2in} : encNewCredwithPal = Enc(NewCred)PALpub$

 $11a. Browser {\rightarrow} PM \quad : \ enc New Credwith Pal$

12a.PM : Execute Credential Decryption Protocol and get NewCred 13a.PM \leftrightarrow DB : Retrieve user's encCredwithPAL, nonce and sealedPALpriv

14a.PM : Execute Credential Decryption Protocol and get Old Credentials (OldCred)

14b.PM : Insert OldCred and NewCred

 $15a.PM \rightarrow Server$: Submit Update Page

16a. Server \rightarrow PM : User credentials are updated

17a.PM→DB : Update user's record with the new encNewCredwithPal, sealedPALpriv and nonce

 $18a.PM{\rightarrow}User \qquad : User \ credentials \ are \ updated$