
Appendix F

Appendix F.1

This appendix includes the algorithm for the encryption process.

Algorithm 2: Encryption process for single- and multi-user files within ECMSDK executed upon user login.

```
1 Input: User ID of DBFS user who has terminated a session
2 Output: Encrypted single- and multi-user files of user
3
4 if DBFS user session terminated then
5   | Check for any existing sessions of the user
6   | Exit if any sessions exist                                // do not proceed
7 end
8   /* Check for files with .enc extension for single-user files */
9 for singleUserFiles of user do
10  | if file has .enc file extension then
11  |   | Retrieve file decryptionkey from a DB table // protected using Oracle Wallet
12  |   | Add file to encryptionList
13  | end
14 end
15   /* Ensure no user has active sessions for multi-user files */
16 for multiUserFiles of user do
17  | if no other user with privilege has active sessions then
18  |   | Retrieve encryptionkey from a DB table // protected using Oracle Wallet
19  |   | Add file to encryptionList
20  | end
21 end
22   /* Encrypt all files in the encryption list */
23 for files in encryptionList do
24  | Read the temporary file (LOB).
25  | Encrypt the temporary file into the permanent LOB // encrypt temporary file
26  | Point original file reference to the permanent LOB
27 end
```
