Crypto_Formal 16-05-2012

```
static_diagram DIGITALVOTERLIST
2
    component
      cluster CRYPTO
3
      component
4
        deferred class ICRYPTO
5
6
          feature
7
          VoterDataEncryptionKey: ASYMMETRICKEY
8
             ensure result /= void
9
10
          end
11
12
          SetVoterDataEncryptionKey: void
13
             -> key : ASYMMETRICKEY
14
15
          Keys : SET[ASYMMETRICKEY]
             ensure result /= void
16
17
          end
18
          AsymmetricDecrypt : BYTEARRAY
19
             -> c : CIPHERTEXT
20
             -> k : ASYMMETRICKEY
21
             require
22
               c /= void and
23
               k /= void
24
             ensure result /= void
25
26
          end
27
          AsymmetricEncrypt : CIPHERTEXT
28
             -> b : BYTEARRAY
29
             -> k : ASYMMETRICKEY
30
             require
31
               b /= void and
32
               k /= void
33
             ensure result /= void
34
          end
35
36
37
          SymmetricDecrypt : BYTEARRAY
             -> c : CIPHERTEXT
38
             -> k : SYMMETRICKEY
39
             require
40
               c \neq void and
41
               k /= void
42
             ensure result /= void
43
          end
44
45
          SymmetricEncrypt : CIPHERTEXT
46
             -> b : BYTEARRAY
47
             -> k : SYMMETRICKEY
48
49
             require
               b /= void and
50
               k /= void
51
             ensure result /= void
52
53
          end
54
          Hash: BYTEARRAY
55
             -> b : BYTEARRAY
56
             require b /= void
57
58
          end
59
          SetIv : void
60
             -> b : BYTEARRAY
61
             require b /= void
62
```

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```
63
             ensure GetIv = b
64
           end
65
          GetIv : BYTEARRAY
66
             ensure result /= void
67
68
           end
69
          NewIv : void
70
             ensure GetIv /= void and GetIv /= old getIv
71
72
73
74
          GenerateSymmetricKey : BYTEARRAY
75
             ensure result /= void
76
77
        end
78
      end
79
    end
```