

CLAIMS

What is claimed is:

1. A method, comprising:
testing a characteristic associated with a user; and
5 generating a signature file indicative of completion of the test of the characteristic associated with the user, wherein the signature file includes results of the test of the characteristic associated with the user and a certificate indicative that the results of the test of the characteristic associated with the user is certified.
- 10 2. The method of claim 1, further comprising monitoring operations for the test of the characteristic associated with the user to verify the test of the characteristic associated with the user is performed correctly.
3. The method of claim 1, the signature file comprising a proof of execution that establishes
15 that correct executable code was executed for the test of the characteristic associated with the user.
4. The method of claim 1, wherein the characteristic associated with the user is obtained using a testing device associated with the user.
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5. The method of claim 4, the signature file comprising a public key associated with the testing device, wherein the public key is indicative of the identity of the testing device.
6. The method of claim 4, the signature file comprising a certificate generated by a
25 manufacturer of the testing device to establish authenticity of the testing device.
7. The method of claim 4, the signature file comprising an identifier which links the results of the test of the characteristic and the user.

8. The method of claim 4, the signature file comprising an indication of the time at which the testing device was used to obtain the results of the test of the characteristic associated with the user.

5 9. The method of claim 4, wherein a cryptographic asymmetric keypair is used to generate the signature file, and the signature file is cryptographically signed by the testing device.

10. The method of claim 1, wherein testing the characteristic associated with the user comprises obtaining a biological sample from the user.

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11. The method of claim 1, wherein testing the characteristic associated with the user further comprises performing operations to test the sample.

12. The method of claim 1, wherein testing the characteristic associated with the user is
15 initiated by the user.

13. A testing device comprising:

a testing chip configured to test a characteristic associated with a user; and

a secure element configured to generate a signature file indicative of completion of the

20 test of the characteristic associated with the user, wherein the signature file includes results of the test of the characteristic associated with the user and a certificate indicative that the results of the test of the characteristic associated with the user is certified.

14. The testing device of claim 13, the secure element comprising a secure cryptoprocessor to
25 carry out cryptographic operations to certify the results of the test of the characteristic associated with the user.

15. The testing device of claim 13, the secure element comprising a hardware security module.

30 16. The testing device of claim 13, the secure element comprising a tamper-evident containment.

17. The testing device of claim 13, the testing device comprising at least one physical security measures to protect the secure element or the testing chip from tampering.

5 18. The testing device of claim 13, the secure element configured to monitor operations of the testing chip to verify the test of the characteristic associated with the user is performed correctly.

19. The testing device of claim 13, wherein the secure element uses a cryptographic
10 asymmetric keypair to generate the signature file, and the signature file is cryptographically signed.

20. The testing device of claim 13, the signature file comprising one or more of:
a proof of execution that establishes that the testing chip executed correct executable
15 code for the test of the characteristic associated with the user;
a public key associated with the testing device, wherein the public key is indicative of identity of the testing device;
a certificate generated by a manufacturer of the testing device to establish authenticity of the testing device;
20 an identifier which links the results of the test of the characteristic and the user; and
an indication of the time at which the testing device was used to obtain the results of the test of the characteristic associated with the user.