

Licensing Opportunity

IntegriKey: ensuring integrity of critical input data



IntegriKey provides data input protection in a highly adversarial environment.

Summary

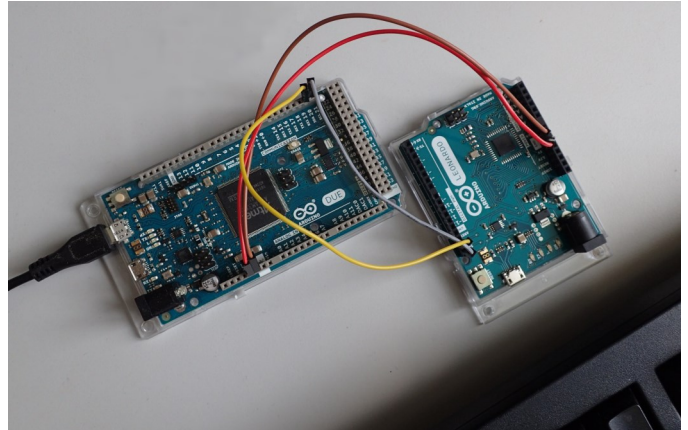
IntegriKey is an embedded device that protects sensitive input data such as PLC commands in safety-critical production environments.

Background

Malicious modifications of input parameters can cause severe damage in critical infrastructures. In the production industry a turbine may spin out of control or a reactor could overheat. In medicine a pace-maker could malfunction and harm a patient. The points of attack are virus-infected host computers or untrusted networks. The user is typically unaware that his/her input parameters are being altered until the damage has been dealt.

Invention

IntegriKey is an embedded device that works with 2-factor authentication. As the input is given it simultaneously verifies that the original input data and the original input field are being correctly transferred to the target computer. IntegriKey is a new product for the enforcement of security properties in a highly adversarial environment.



IntegriKey is an embedded device, which is plugged in between a keyboard and an untrusted host computer.

Features & Benefits

- 2-factor authentication of input data
- Portable, plug-and-play device
- Customizable to various applications

Fields of Application

- Enforcement of security properties in a highly adversarial environment
- Security for remote maintenance of factory equipment
- Input protection for e-banking and other sensitive data transfer

Patent Status

- Patent pending

Publication

- Dhar A., Yu D.-Y., Kostianen K., Capkun S., "IntegriKey: End-to-End Integrity Protection of User Input", Cryptology ePrint Archive, <https://eprint.iacr.org/2017/1245>

Technology Readiness Level



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