```
/hile (X>3,14) {
                 System.out.print(i + "Progra
    rotem.out.println("Replace");
                 return getNumber();
                                                  um
                         return sc.nextDouble();
             } else {
                                                  IIII
          wble getNumber() {10 10
            c = new Scanner(System.in)
        println("Start:");
    void main (String [args]) {
    I Rampil III
     (13) (10) (10) 010 0 10 0100 101
       Bystem.out.print(i + "Program");
                         010 01 01 010
out.println("Replace");
       return getNumber();
                return sc.nextDouble()
   } else {
            public static double getNumber()
                     Scanner sc = new Scanner
                     System.out.println("Star
            class Test {
                public static void man
                     int 2y=AX;
                     while (X>3.14)
```



# **IoT Device Identification**

Cost-efficient Solution for IoT Infrastructure



## y Solution for Itification and Authentication



come without any security mechanisms, or the very weak, which means the hackers can easily

control the device and retrieve data for unauthorized activities. To avoid this kind of threat, security mechanisms must be designed within every device as well as a holistic approach involving the whole system.

iBadge device identity management provides the total solution for IoT device security. The iBadge security solution consists of three function blocks as follows.

- The iBadge server is attached to the vendor's service cloud; the
- overall system may include device database, vendor credential modules and IKV identity management service.
  - Client-side IoT devices are embedded with Infineon OPTIGA™
- 2 Trust security chips, communicating with the iBadge server via the specialized iBadge application protocol.
  - The iBadge server authenticates against IoT devices with Elliptic
- 3 Curve Cryptography (ECC). Only those with vendor credentials stored in the security chip are authorized to access the cloud.

# Leverage IKV Expertise

iBadge offers a hardware-based security solution for authentication and management. Devices that are equipped with the iBadge solution are easy to implement, with the following capabilities:

#### Implementation

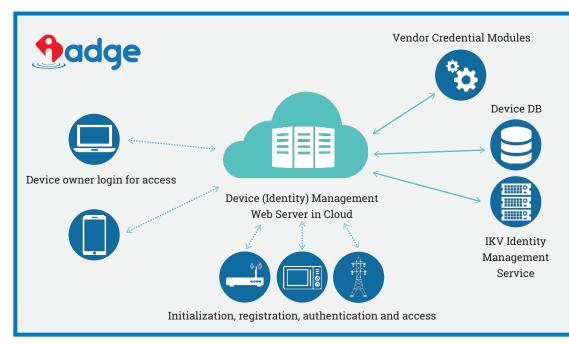
- No manual work is required during the production process
- A unique chip identifier and authentication key
- ✓ No need for complicated cryptographic algorithms in the firmware
- ✓ Device management via web-browser or smartphone application
- ✓ Easy management of device ID and data through the back-end module

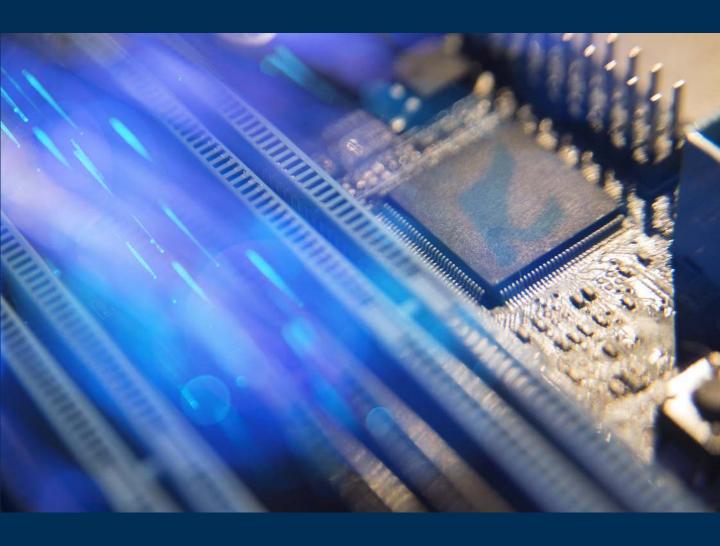
#### User benefits

- Ost effective hardware-based turnkey security solution for IoT devices
- ✓ Shorter time to market and faster deployment for device providers
- ✓ Successfully securing vendors' business model and profitability

Smart-home device manufacturers in China have adopted the iBadge solution and commented "...iBadge helped our engineers to quickly implement security mechanisms on our devices. And we didn't need to consider the complex cloud protocols for the protection of messages transferred back and forth between our server and the devices..."







## Secure Vault at your fingertips

With IKV-Tech expertise, the iBadge device management solution can streamline vendors' operation cost and create possibilities of high-performance device management. All in all, our mission is to secure customers' business operation seamlessly in space and time, especially in an era where attacks always keep abreast.

### About InfoKeyVault Technology

InfoKeyVault Technology (IKV-Tech) is a service company in embedded security, also an independent design house for security solutions from global security chip vendors, such as Infineon and Microsemi. IKV-Tech specializes in cryptographic implementation, software, firmware and hardware protection, cryptographic key management and countermeasures against hardware attacks so as to secure customers' digital assets and intellectual property.

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