



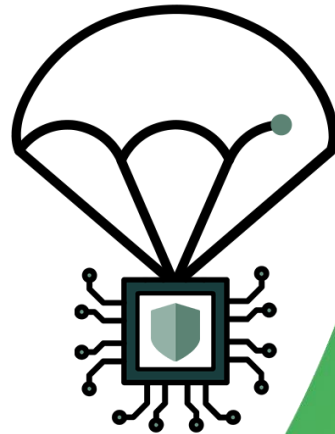
SecOTA: Universal Secure FOTA Framework for Embedded and IoT Systems

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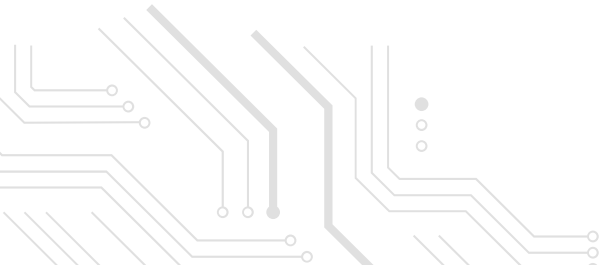


Their users **got hacked by a
software updater!**



Key Issues with Solutions!

- Single point of **compromise/failure**.
- **Scalability Issues** with Many Devices
- Complex deployment process
- Lack of physical security
- Inadequate Role-Based User Experience





Framework Criteria

Ready for deployment in a production environment

Deployable

Secure

Defend against malicious attacks

Resilient

Minimize the damage of a compromise

Robust

Fail-safe full system updates with A/B partition design

Adaptable

Modular approach to support diff use cases

Universal

Support a wide range of boards and platforms

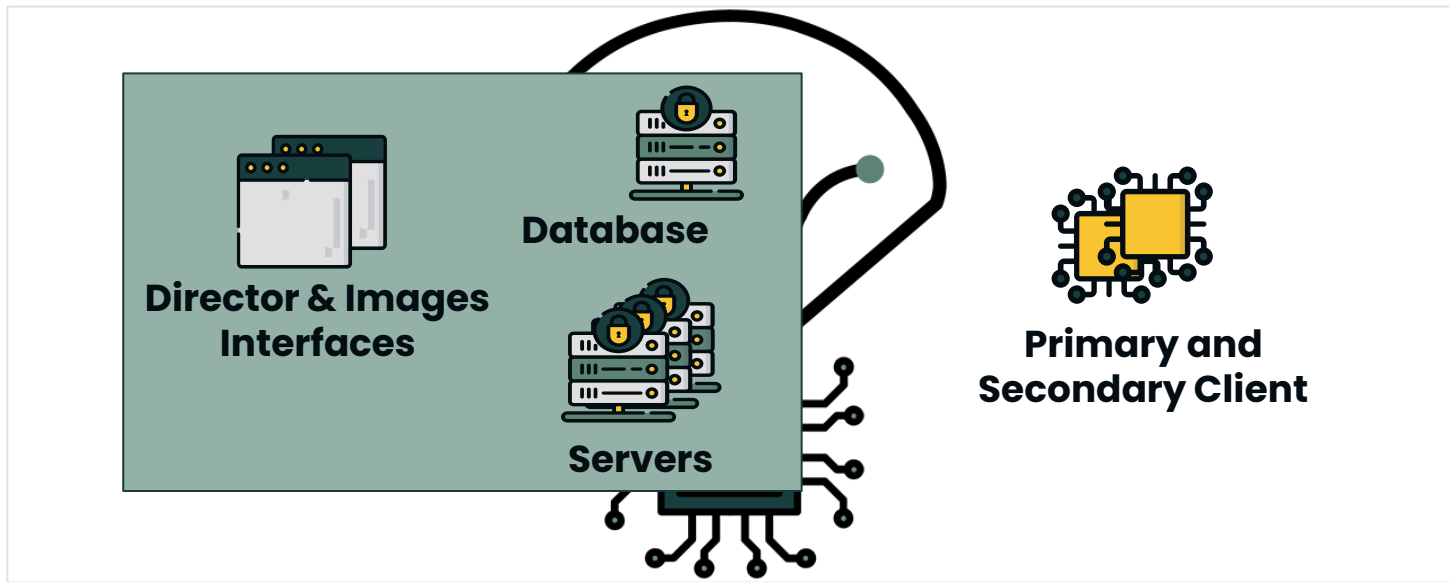
AUTOSAR

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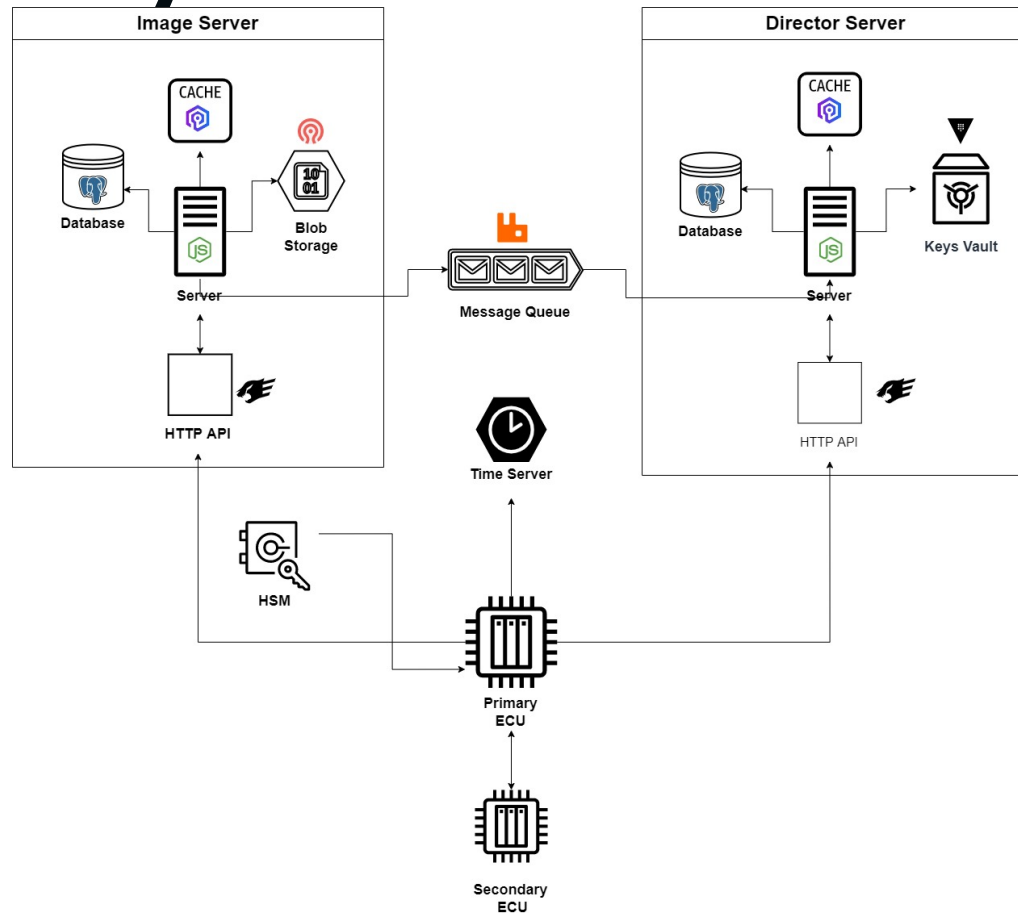
ISO 24089:2023



Framework components



System Architecture





Methodology

4. Integration and Testing:

- Connect backend APIs with client
- Perform system and integration testing

5. Deployment and Documentation:

- Use Docker and Kubernetes
- Create client package for embedded Linux
- Develop comprehensive documentation





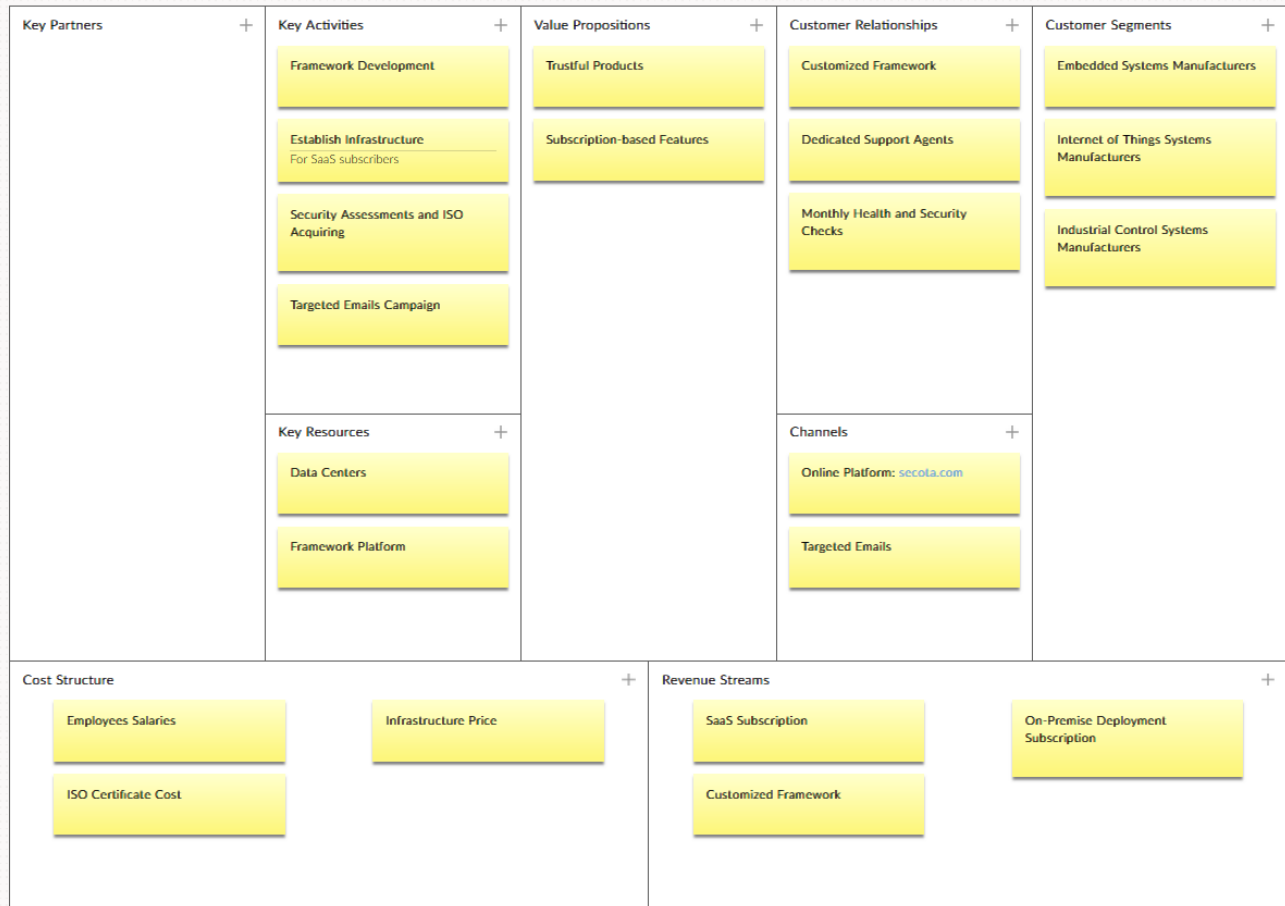
UX Research

Addressed:

- Usage of latest OpenSSL 3.0 cryptographic operations.
- Developed **countermeasures to detect and prevent:**
 - Slow Retrieval Attack - **Critical**
 - Time Machine Attack - **High**
 - Open ports and insecure connections - **Critical**
 - Process Manipulation - **Critical**

Start page

Business Model Canvas



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