www.microservicestore.com

Microservice Store

Connecting Embedded World to enable Innovation

A new Universe for CHERI

Monolithic Software Approaches for CHERI?

Microservice Store

→ Monolithic Approaches and RTOSes mask and hold back the CHERI's modular potential

Monolithic Software Approaches for CHERI?

Microservice Store

Containerisation/Microservices for CHERI IoT

→ Each MicroContainer/Microservice

- Maps a CHERI Compartment
- Is an Independent Executable; Programming Language, Toolchain
- Independently Deployable

★ Plug&Play

70% embedded Security by CHERI

70% embedded Security by CHERI

+ 30% embedded Security by Microservice Store

Embedded Security Manager

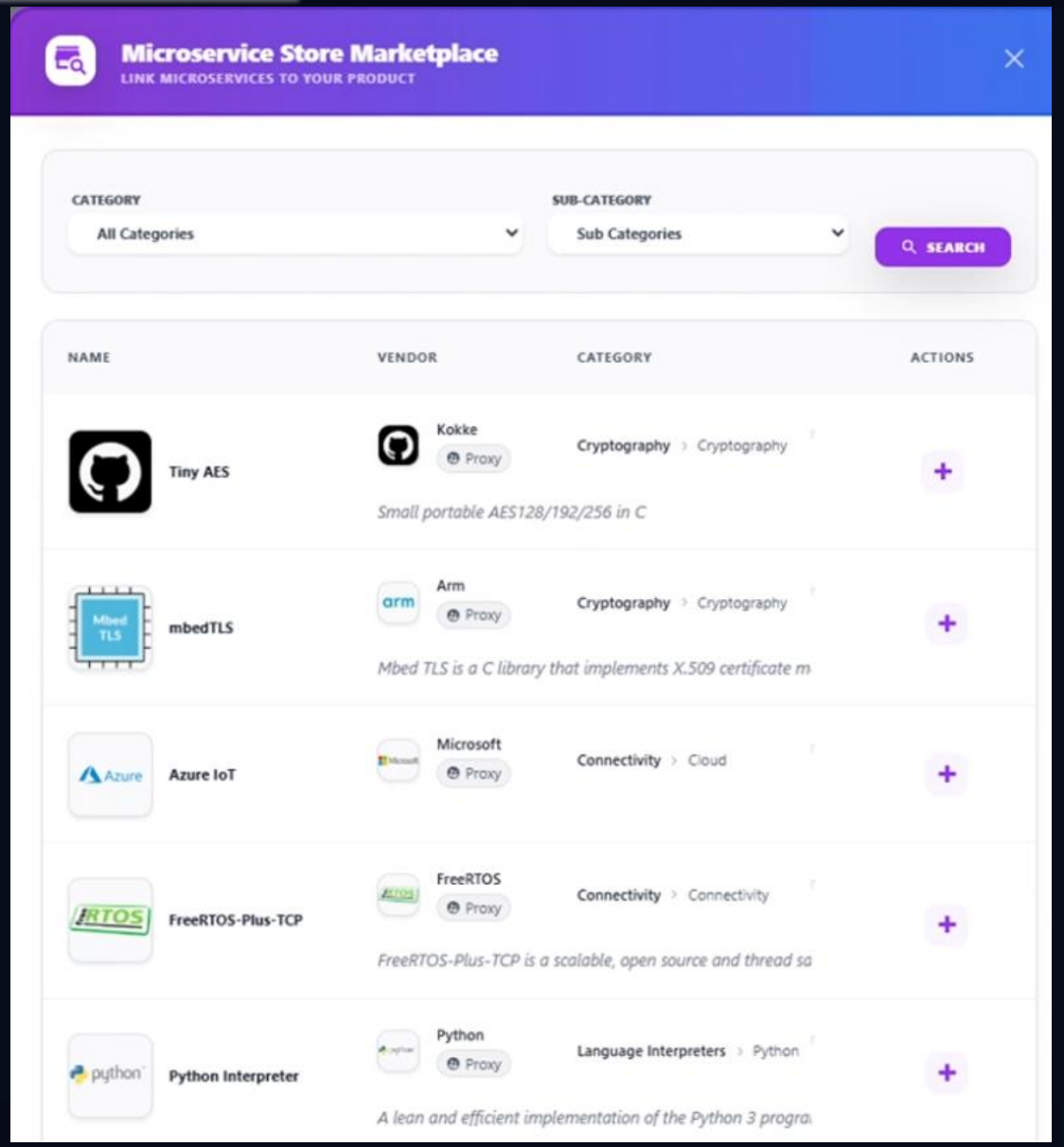
- Handles all device security requirements; PSA 10 Goals
- Treats each CHERI Compartment as a Virtual Machine (Independent Secure Update, Boot, Lifecycle, Attestation)

A Digital Marketplace for CHERI

Microservice Store

Plug&Play CHERI Microservices

- Bridging CHERI into existing SW Ecosystems
  - No waiting for native adoption; biggest barrier
- Go to market in weeks, reduce development costs.



CHERI Product Digital Twins

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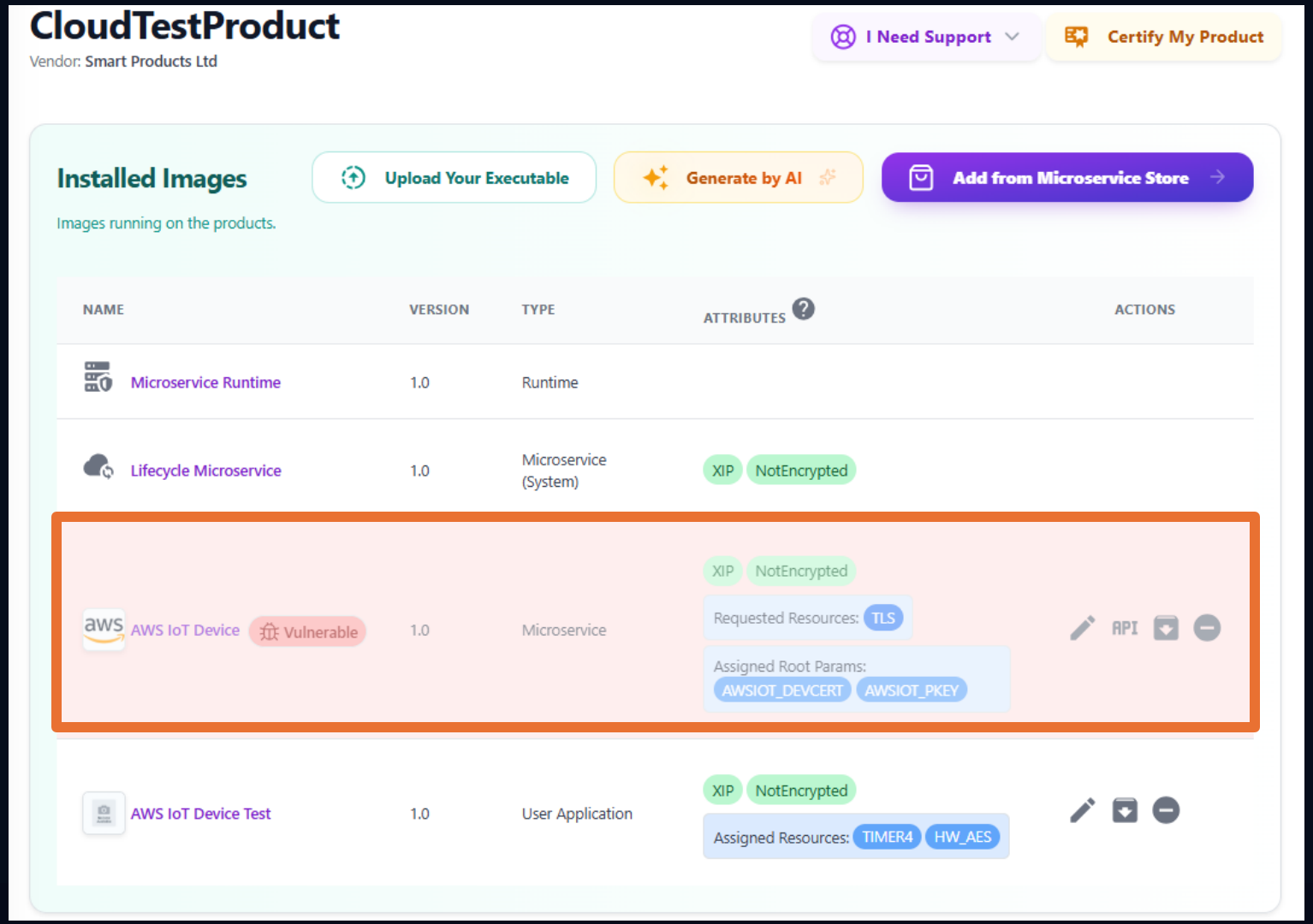
Single (Cloud) Dashboard to design CHERI Powered Devices and manage Field Devices



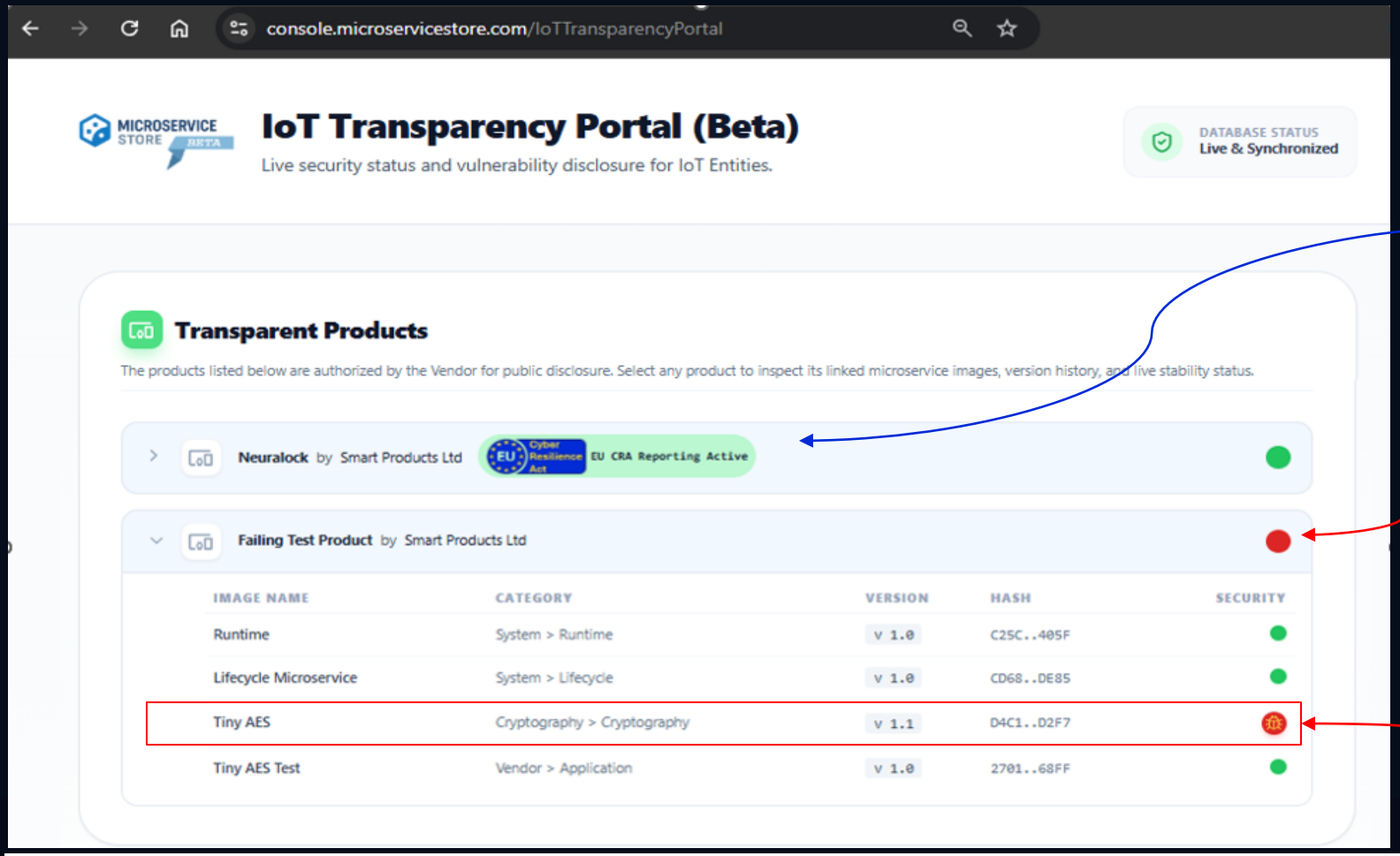
- IoT Product Design
- Vulnerability Monitoring
- In-Field Lifecycle Management
- Supply Chain Management

Compliance Automation for CHERI

Microservice Store

→ EU CRA, UK PSTI Compliance is Automated

👉 **Live and public now** : https://console.microservicestore.com/IoTTransparencyPortal



Automated Vulnerability Report to EU CRA.

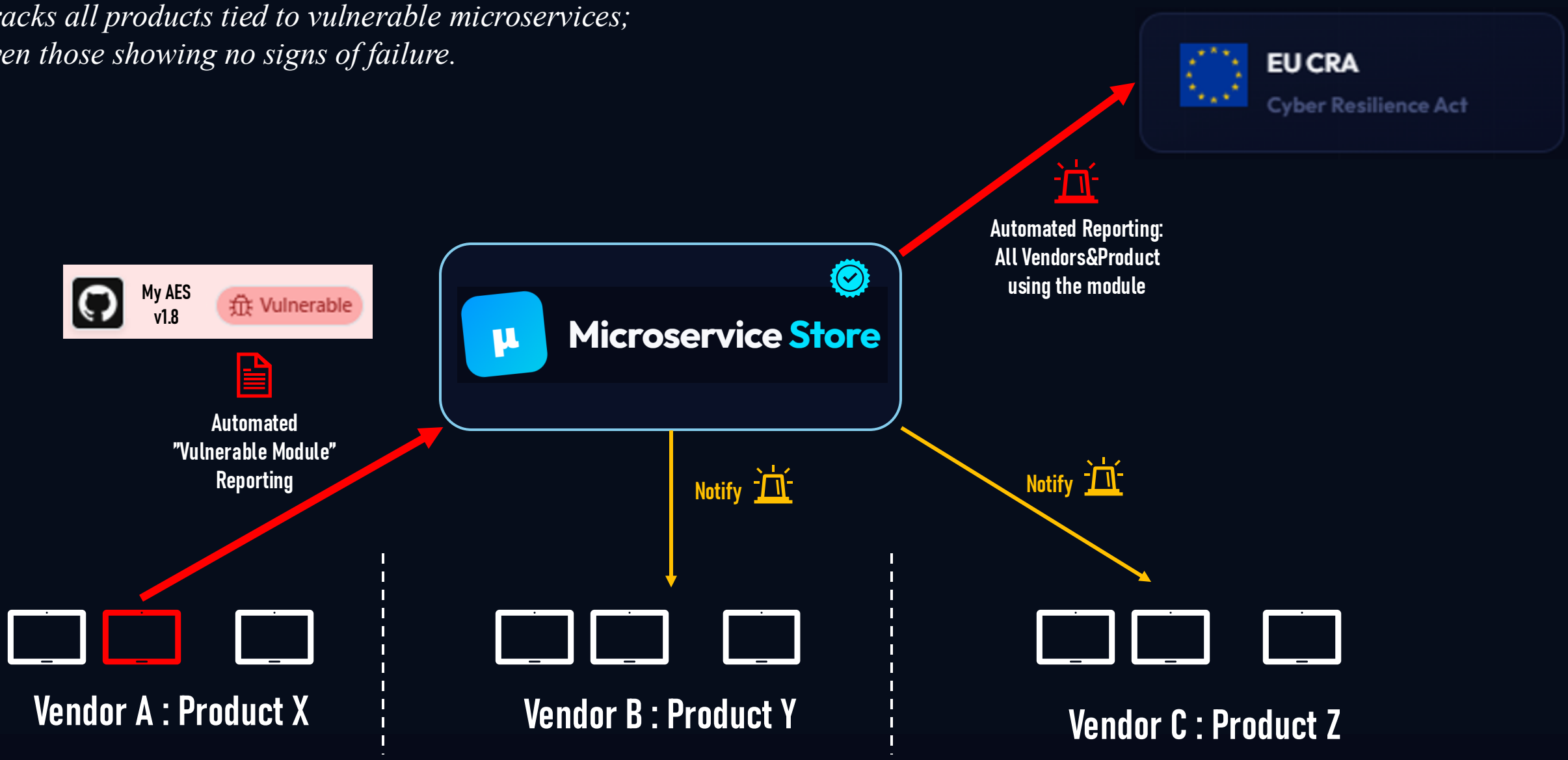
Vulnerable Products
Combined Module-Level SBOM and Vulnerability Reporting.

Vulnerable & Quarantined Module
with Name, Version, Hash, Access Policy …

Centralised CHERI Security Hub

Microservice Store

Tracks all products tied to vulnerable microservices; even those showing no signs of failure.



New Embedded Era

Microservice Store

Thank you

Contact Us

info@microservicestore.com

www.microservicestore.com

See next slides for more details

One Ecosystem. *Every Player Connected.*

Microservice Store

Click any node to explore how it works and who delivers it.

Age of Proactive & Automated Security: Edge To Cloud

Microservice Store

→ Supply-Chain Security: *"Protecting the entire fleet and operations."*

- Automated In-Field Security Lifecycle
- Automated SBOM and Vulnerability Reporting
- EU CRA, UK PSTI Compliance Automation

EU CRA Cyber Resilience Act

UK PSTI Product Security Act

→ Device Protection: *"Protecting the embedded device pro-actively"*

- Fault Containment : Compartmentalisation (Any CPU Architecture)
- Security Requirement Handling
- Module-Level Vulnerability Reporting

psacertified™ by GlobalPlatform

Global Platform™ SESIP

→ Microservice Protection: *"Protecting each sub-embedded module individually"*

- Expands device protection requirements onto each Microservice, as individual virtual environments.
- Isolation
- Microservice-Level Vulnerability Reporting.

Embedded Microservices/Containers

Microservice Store

→ High-Technology with Simplified Development

"Eliminating challenges of traditional software development: Fast, Efficient, Secure"

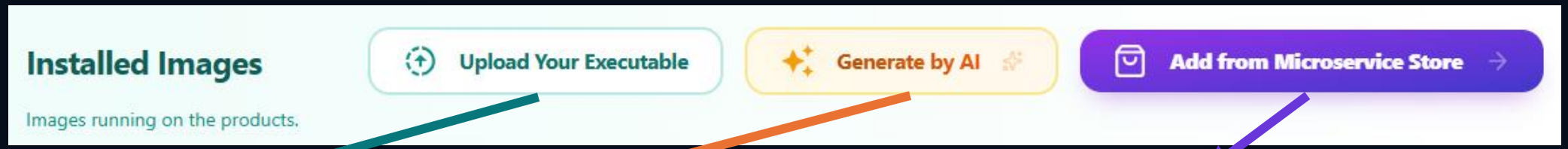
- **Platform-Agnostic**: *Implement Once Run Everywhere: Any CPU/Toolchain/IDE/Programming-Language*
- **No Migration, No Learning Curve**
- **No Performance/Runtime Overhead**: *Microservice Binaries are native-machine instructions (No-runtime Interpretation)*
- **Unbrickable**: *As stated in the previous slide*

main.c

```c
#include "SysCall.h"

int main(void)
{
    /* Platform Agnostic; No Clock/HW/Driver Initialisation */

    LOG_INFO("Hello World from My Microservice");

    /* Each Container/Microservice is also multithread */
    pthread_create(&thread_id, &attr, &thread_start, &tinfo);

    /* POSIX API is Available */
    socketfd = socket(AF_INET, SOCK_STREAM, 0);
    connect(socketfd, (struct sockaddr*)&server_addr, sizeof(server_addr));

    while (true) { }

    return 0;
}
```

Build a Product In Seconds; Store and AI

Microservice Store



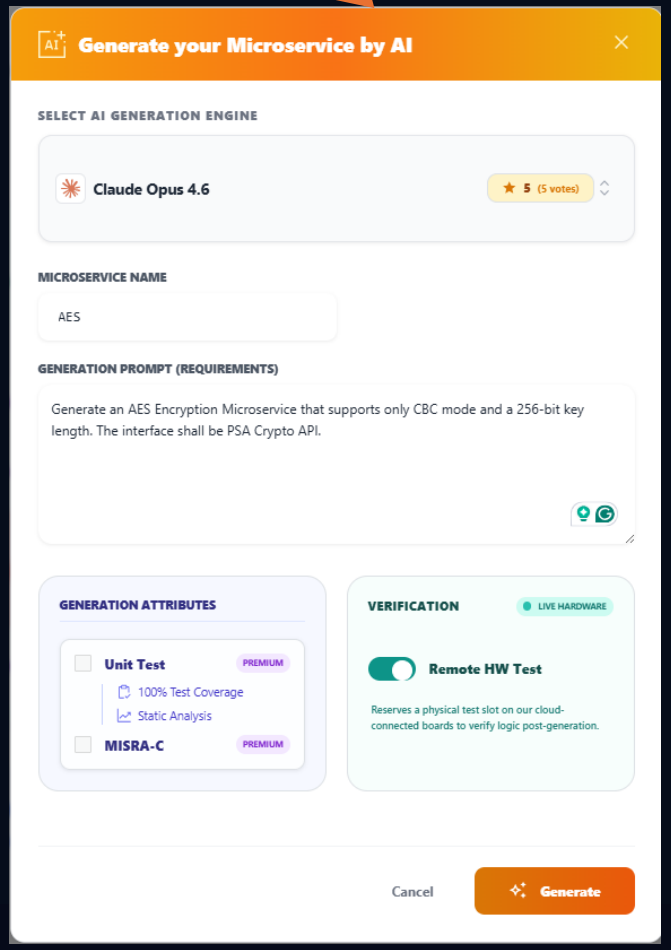
Generate Yourself

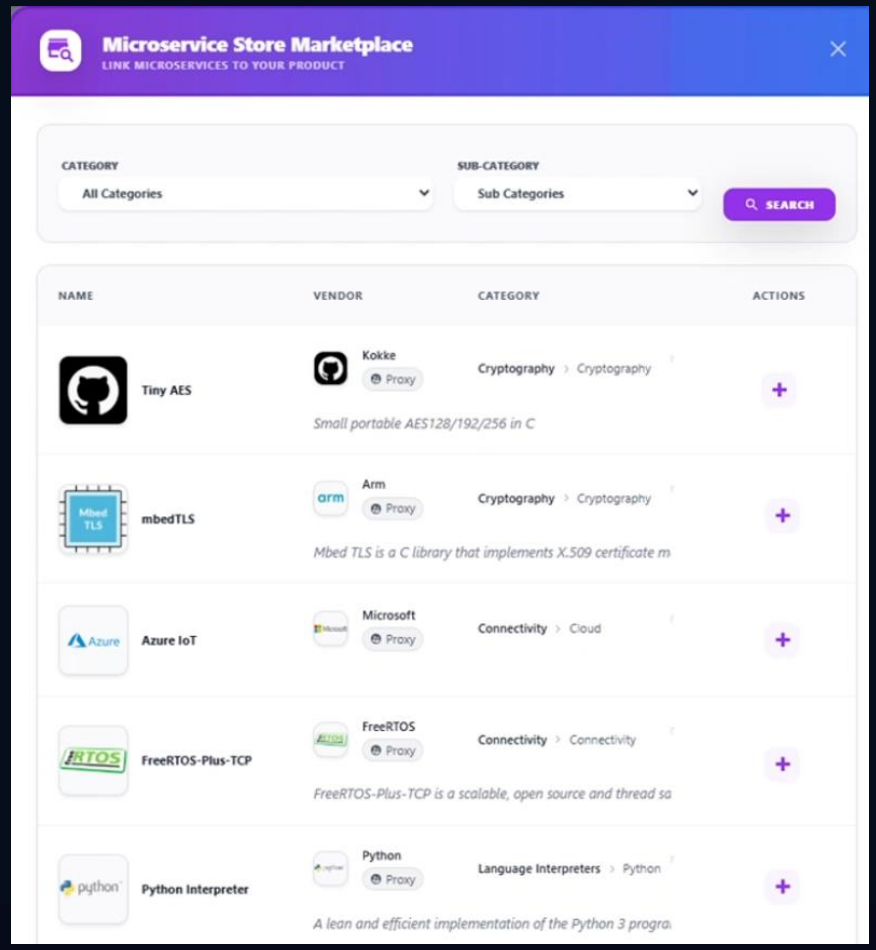
- For private usage/product
- For Public (In Store)

Generate A Microservice by AI

"Revolutionising embedded AI"

- High Success AI: Generate a single functionality for a platform-agnostic environment.
- Runs as Isolated and Access Controlled : Trusted-AI





Plug&Play Microservices from Microservice Store

"App Store Moment for IoT"

- Get any functionality in seconds
  (No code development, no integration, no compile)
- Runs as Isolated and Access Controlled; Third-Party Microservices cannot break the device.

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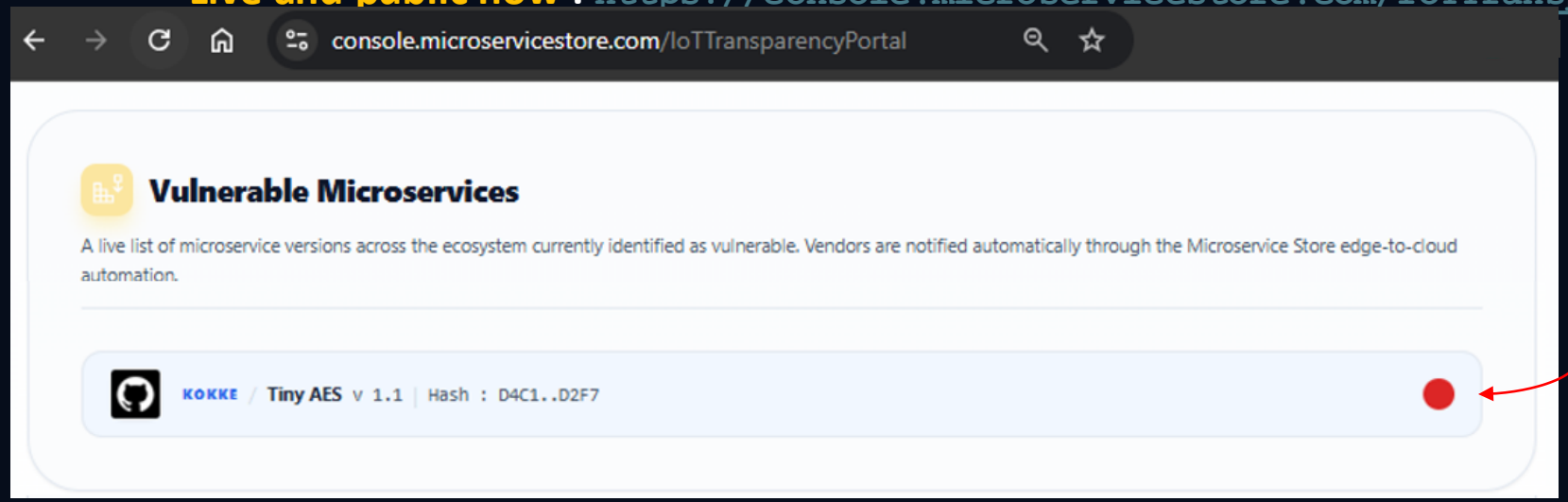
IoT Transparency Portal : Secure Third-Party Microservices

Microservice Store

"Microservice Store let Product Vendors to download plug-and-play Microservice from third-party securely."

→ Vendor Reporting and EU CRA Compliance is Automated.

- ✓ **Vulnerabilities quarantined on the field device.**
- ✓ **Centralized Security Hub; Tracks all products tied to vulnerable microservices; even those showing no signs of failure.**
- ✓ **Live and public now :** `https://console.microservicestore.com/IoTTransparencyPortal`



Live Status of
Vulnerable Microservices from the Store.

Developer must provide a fix in finite-days
to prevent ban from the store.

Microservice Store

Built for *Every Player* in the Ecosystem

Your personalised dashboard is one click away.

Product Vendor

Ship secure products fast

- → Install verified Microservices instantly. One-Click.
- → Automated Fleet Management: provisioning, OTA, vulnerability reporting.
- → EU CRA / UK PSTI compliance
- → Third-party Software — Safely
- → Trusted AI Code Generation

Product Dashboard →

Developer

Build, publish, and earn!

- → Open your store; start innovation
- → Publish Microservices globally
- → Recurring revenue on every deployment
- → No IP Exposure
- → Track, debug, evolve in-field
- → Skip marketing and sales, concentrate on what you do best; engineering!

Developer Dashboard →

Partner

Join us! Let us build together!

- → Design houses: Embedded Development Support
- → Security experts: Certification, Compliance
- → Domain Expertise
- → Tool Vendors: IDEs, Test Tools
- → AI providers: Code Generation
- → Cloud: Monitoring & Analytics

Join Partner Program →