OmniTrust

DATA SHEET

FLEXIDS

Zero trust. Real-time. AI-trained embedded intrusion detection.

KEY FEATURES

- **Zero trust, built in**
  Validates every execution path against a behavioral trust model, enforcing runtime integrity inside the device.
- **AI-enhanced detection**
  Learns normal behavior, flags anomalies instantly, signature-free and zero-day ready. Detection rates 20% higher than SVM, up to 500× fewer false positives.
- **Real-time embedded processing**
  Responds in microseconds with no SOC or cloud dependency. Enables corrective action in mission- and safety-critical environments.
- **Embedded-first, small footprint**
  Optimized for MCUs, ECUs, IoT, and FPGAs. Lightweight CPU/memory requirements.
- **Legacy-ready and future-proof**
  Secures installed embedded deployments while preparing for next-gen AI platforms.

CORE VALUE TO PARTNERS

Semiconductors & IP Providers
Differentiate silicon with embedded runtime security.

Industrial and OT
Protect PLCs, SCADA (Supervisory Control and Data Acquisition), and long-lifecycle systems without forklift upgrades.

Automotive and Aerospace
Secure ECUs and flight systems with real-time anomaly detection.

AI and Robotics
Guarantee runtime trust for agentic and autonomous platforms.

Cyberattacks do not wait at the perimeter — their targets are the embedded devices at the physical edge. From legacy industrial controllers to next-gen AI-driven ECUs and IoT nodes, every embedded device is a target. FLEXIDS is the only embedded IDS designed for this reality, delivering AI-enhanced intrusion detection and microsecond real-time enforcement inside the device itself.

The FLEXIDS cycle operates as a continuous loop of Monitor > Analyze > Detect > Adapt. A lightweight agent first monitors software execution inside the device with minimal overhead. Statistical, probabilistic, and machine learning models then analyze this data to establish a baseline of normal behavior. Any deviation is detected instantly as a potential anomaly, enabling corrective action to be taken in microseconds. FLEXIDS adapts continuously: retraining models in production to reduce false positives toward zero and staying resilient against evolving zero-day threats.

TECHNICAL PROOF POINTS

FLEXIDS is not just conceptually different, it is technically proven to deliver superior performance in embedded environments:

- **Detection latency in microseconds:** anomalies are flagged and acted upon before compromise spreads, meeting the demands of mission- and safety-critical systems.
- **Lowest false positive rates:** demonstrated up to **500× fewer false positives** compared to competing ML approaches, reducing noise/analyst fatigue.
- **Highest detection rates:** proven **20% higher** than Support Vector Machines (SVM) and **14% higher** than Density Based Spatial models (DBS) across zero-day and evolving threats.
- **Lightweight deployment:** runs entirely on-device without reliance on SOC, cloud, or backhaul; requires no source code modifications.
- **Compliance alignment:** supports standards and requirements in automotive, aerospace, and industrial domains (e.g., **ISO 26262, DO-326A, IEC 62443**).

DATA COLLECTION

Lightweight agent runs inside the device — monitoring execution paths, tasks, and threads with minimal CPU and memory overhead.

ANALYSIS

Statistical, probabilistic, and AI-trained models build baselines of normal behavior. Proven to achieve 20% higher detection rates than SVM and 500x fewer false positives than competing ML.

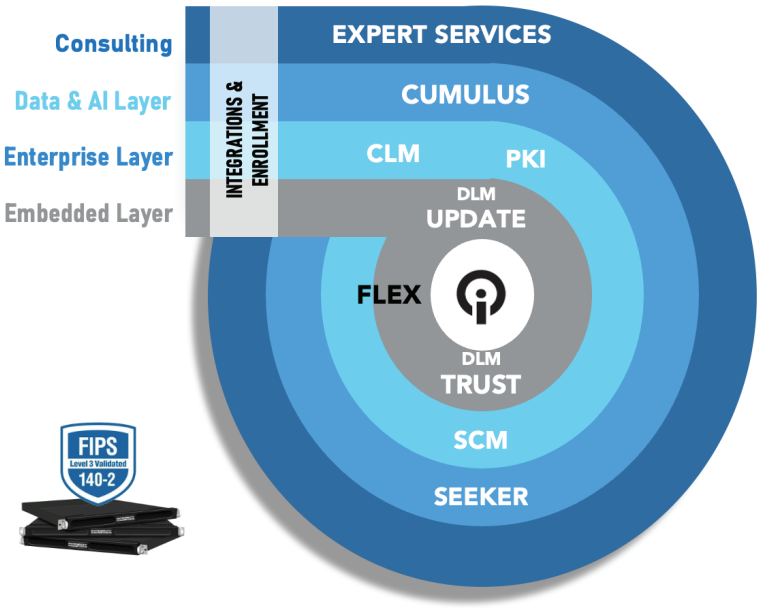
ANOMALY DETECTION

Any deviation from trusted execution is flagged in microseconds, enabling corrective action before compromise can spread.

MODEL REFINEMENT

Adaptive AI retrains in production, driving false positives toward zero and ensuring protection against zero-day and evolving threats.

OmniTrust is the embedded security authority and market leader – the only Trust Lifecycle Management (TLM) platform designed to span the full chain of trust, from chip to cloud to AI. Unlike enterprise-only security vendors, OmniTrust begins upstream, where trust is born inside devices and controllers at the physical edge.



END-TO-END TLM ARCHITECTURE

OmniTrust delivers layered trust across three domains:

→ **Embedded Layer**
Security built into firmware and hardware from the start, enabling cryptographic enforcement, secure updates, and runtime anomaly detection. This is where FLEX resides, and where FLEXIDS delivers embedded intrusion detection.

→ **Enterprise Layer**
Lifecycle management, policy enforcement, certificate handling, and supply chain trust at scale. Includes CLM, PKI, and update services that connect embedded devices to enterprise security.

→ **Data and AI Layer**
Discovery, visibility, and trust intelligence through integrated telemetry, crypto analytics, and insight via Seeker and Cumulus.

→ **Consulting and Expert Services**
Integration, onboarding, architecture design, and mission-critical security validation for partners and customers.

FLEX AND FLEXIDS IN CONTEXT

As part of the broader FLEX portfolio, FLEXIDS extends our embedded-first philosophy by ensuring devices remain trusted at runtime. It complements secure boot and cryptographic services with real-time intrusion detection inside the device itself. By operating within the OmniTrust TLM platform, FLEXIDS is not a standalone tool, but a connected capability that feeds anomalies into Seeker telemetry and Cumulus governance for lifecycle-wide visibility and compliance.

VALUE OF OMNITRUST & FLEX TO PARTNERS

Holistic Security
FLEXIDS is anchored in a complete platform that spans embedded, enterprise, and AI.

Integration & Scale
Partners can start with embedded intrusion detection and expand to full lifecycle trust.

Expert Support
OmniTrust provides consulting and integration services to accelerate adoption in semiconductor, OEM, and industrial markets.

OmniTrust delivers more than a product: it provides an end-to-end trust lifecycle platform. FLEXIDS is the embedded guardian, amplified through its integration with OmniTrust TLM — securing billions of devices and enabling partners to build trusted systems for the next era of autonomy, connectivity, and safety-critical innovation.

ABOUT OMNITRUST

OmniTrust (formerly INTEGRITY Security Services) secures the connected world — from silicon to cloud systems and AI — by delivering verifiable, enforceable trust across the entire device and software lifecycle. As the leader in Trust Lifecycle Management, OmniTrust ensures security from design and provisioning through operation, update and retirement, protecting more than 2 billion devices and 3 billion software updates per year. OmniTrust enables full-lifecycle security across the chain of trust for companies in the automotive, aerospace and defense, finance, healthcare and other safety-critical, regulated sectors.

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