CASE STUDY

VIBRANT - DEFENSIVE AI/ML FOR MISSION-CRITICAL AVIONIC ASSETS

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OVERVIEW

Securboration Inc. is a leading defense contractor located in Melbourne Fl. They specialize in creating innovative cybersecurity solutions for a wide variety of mission-critical infrastructure.

INTRODUCTION

VIBRANT, a groundbreaking technology in the realm of anomaly detection, offers real-time Cyber Anomaly Detection specifically tailored to address MIL-STD-1553 and ARINC 429 Attack Vectors. In this case study, we will delve into the capabilities and benefits of VIBRANT, showcasing its successful transition and application within the military sector.

PROBLEM STATMENT

In the ever-evolving landscape of cyber warfare, military assets and platforms are constantly under threat. To safeguard these mission-critical systems, there is an urgent need for a reliable and proactive cyber solution. VIBRANT was developed to address these challenges and provide essential capabilities for detecting, monitoring, and responding to cyber anomalies during and after flight.
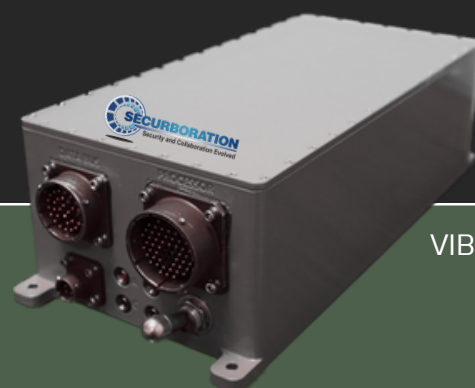
VIBRANT Box

KEY FEATURES

- **Standalone Real-time Anomaly Detection:** VIBRANT is designed to operate as a standalone system, capable of detecting cyber, mission, system, and health anomalies in real-time, thereby ensuring swift response to potential threats.
- **Message Data Anomalies Based On ICD Model Created By VIBRANT:** The technology leverages a proprietary ICD model to identify message data anomalies, which is essential for monitoring and maintaining data integrity.
- **Flight Phase And Platform Physics Anomaly Detection:** VIBRANT extends its capabilities, encompassing the detection of anomalies in flight phases and platform physics, ensuring comprehensive protection.
- **Mission Data Capture, Curation, And Analysis:** VIBRANT excels in capturing, curating, and analyzing mission data, making it a valuable resource for mission managers and cyber Mission Data Teams (MDTs).
- **Nonintrusive MIL-STD 1553 And ARINC 429 Bus Extension With LRU Test & Evaluation Support:** This feature allows for nonintrusive bus extension while providing support for Line Replaceable Unit (LRU) testing and evaluation, ensuring minimal disruption to existing systems.

MILITARY BENEFITS

The adoption of VIBRANT offers a range of benefits to military organizations, including:

Identification of Vulnerabilities:

- VIBRANT aids in identifying vulnerabilities, making it easier to preemptively detect and defeat adversary threats.

Proactive Monitoring

- Proactive Monitoring: Mission managers and cyber MDTs can proactively monitor ongoing cyber missions and platform lifecycles, thereby enhancing situational awareness.

VIBRANT collected data is filtered through customizable Dashboard:
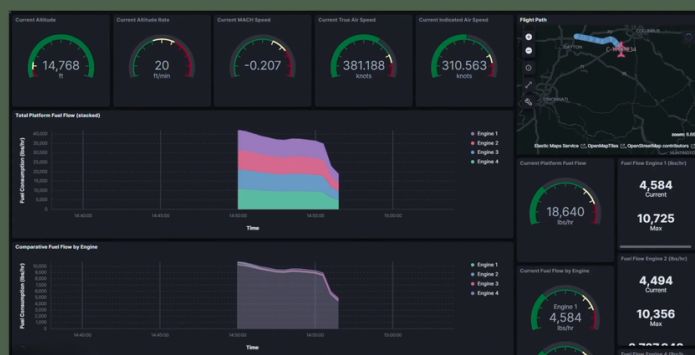
Dashboards above use simulated data to highlight the scale of anomalies that VIBRANT detects.

CONCLUSION

VIBRANT is a revolutionary product that addresses the critical need for cyber defense in mission-critical military assets. VIBRANT effectively detects anomalies and safeguards mission-critical systems. As the threat landscape continues to evolve, VIBRANT stands as a valuable tool for ensuring the security and integrity of avionic assets.

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