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3:00 pm - 3:20 pm

Shifting to Highly Assured Data-Centric Security (HADCS)

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Abstract:

In the evolving landscape of digital security, we need a revolutionary framework designed to tackle the complexities of data-centric security across modern IT infrastructures. The focus needs to be on building Highly Assured Data-Centric Security (HADCS), which goes beyond traditional perimeter-based security models by shifting the focus to securing the data itself, irrespective of where it resides or how it travels. At the core of this framework there are several advanced technologies that aim to provide end-to-end protection for sensitive data. These include:

1. Identity-Native Security: This emphasizes leveraging hardware-backed identities and cryptographic keys that are fused with the devices and workloads. Each entity interacting with the system—whether a device, workload, or user—carries a root of trust anchored in tamper-resistant hardware.

2. Post-Quantum Cryptography (PQC): The near horizon mission need to integrate post-quantum cryptographic techniques, which provide resilience against emerging quantum computing threats. This ensures that sensitive data remains secure, even in a future where quantum attacks become feasible.

3. Zero Trust Architecture (ZTA): The operation under a Zero Trust model, which assumes that no entity—whether inside or outside the network—should be inherently trusted. Each interaction within the system requires continuous verification, ensuring a robust layer of security around all data exchanges.

4. Federated Trust and Governance: The framework should facilitate secure data sharing across decentralized environments, allowing organizations to maintain control over their data while collaborating securely with external partners.

In this session, we will explore how a framework could combine these cutting-edge technologies to create an ecosystem where data is secured through an integrated, highly automated, and scalable security solution. The session will highlight use cases and discuss how to future-proof systems by adopting HADCS in industries ranging from national defense to critical infrastructure, ensuring that organizations are equipped to meet the security challenges of tomorrow.