



# NSF Campus Cyberinfrastructure PI and Cybersecurity Innovation for Cyberinfrastructure PI Workshop

September 23 – 25, 2019 | Minneapolis, MN

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**NSF Program (either CC or CICI): CICI**

**Program Area: OAC**

**Award Number: 1547324**

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**co-PIs: David Lary**

**Project Title: CICI: Data Provenance: Collaborative Research: CY-DIR Cyber-Provenance Infrastructure for Sensor-Based Data-Intensive Research**



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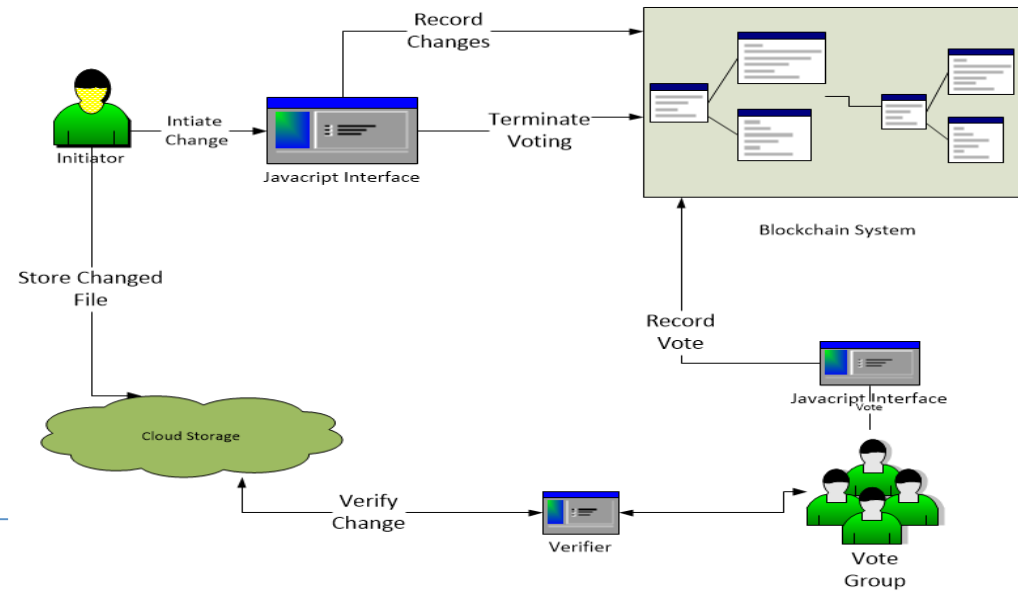
# Quad Chart for: CICI: Data Provenance: Collaborative Research: CY-DIR Cyber-Provenance Infrastructure for Sensor-Based Data-Intensive Research

## Challenge Project Seeks to Address:

Develop a **provenance management system** for **Sensor-based Data-Intensive Research** (CY-DIR) that includes **different types** of hosts, devices, and data management systems

## Solution(s) or Deliverables:

- **Blockchain based system** that can capture different types of data coming from different sources
- **Encrypted cloud based data** Storage for secure data sharing
- Integration of **public and private blockchains** for efficient provenance data sharing.
- **Smart contract** based automated **data sharing** and **policy enforcement**



## Metadata tag:

- *<Need collaborators>*
- *<Need more funds>*

## Scientific Impact or Broader Impact:

- Novel system to **capture, manage and share data provenance** information using **blockchains** for **enhanced security, integrity and privacy**
- Potential to **automate provenance management** across **multi-organization collaborative projects** while enforcing various security and privacy policies.