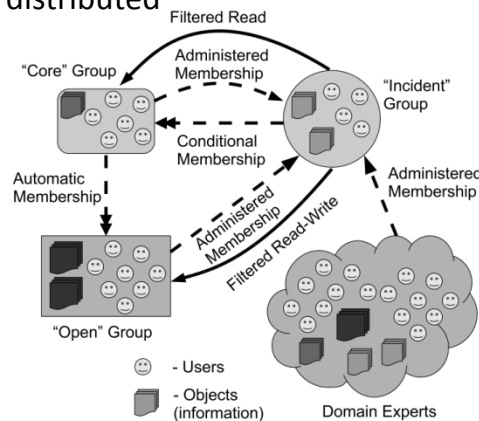# CAREER: Group-Centric Secure Information Sharing Models, Properties, and Implementation

Challenge:

- Lack of agile, usable and effective models for information sharing in decentralized and distributed systems
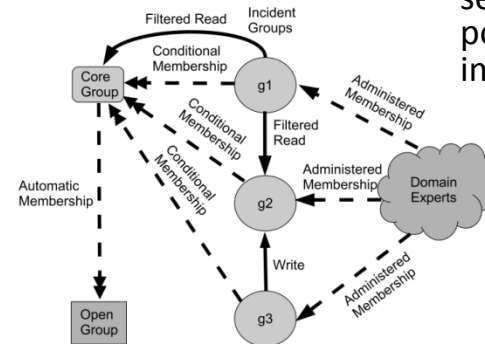
Scientific Impact:

- A methodology to design secure systems from policy to enforcement to implementation
- Approximation metrics for security gaps between policy, enforcement and implementation models

(a) Cyber-incident life-cycle

(b) Dynamic group relationship

Solution:

- Advanced policy models to characterize expected security properties
- Incremental consistency between policy and enforcement models

Broader Impact:

- Large-scale, automated cyber threat information sharing between private and public sector (e.g. bank industry)
- Transition to practice using DHS STIX/TAXII framework for automated cyber threat info exchange