

Lab and Projects Overview

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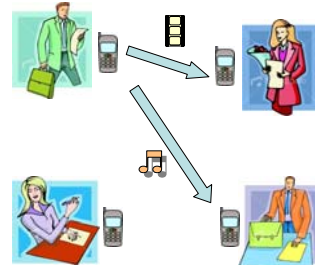


Faculty: **Radu Sion**
Established: **2006**
Active Funding: **\$360,000+**
Sponsors: **Motorola, CEWIT, NSF**
Graduate Students: **3+** (Fall 2006)
Affiliation: **Center for Cybersecurity**
Collaborators: **IBM Research, Motorola**

- NS³
- Tamper-proof WORM ☺
- Personal DRM
- Sensor Nets: Location Certification
- SQi: Secure Query Interface
- SecureGates
- Enterprise DRM

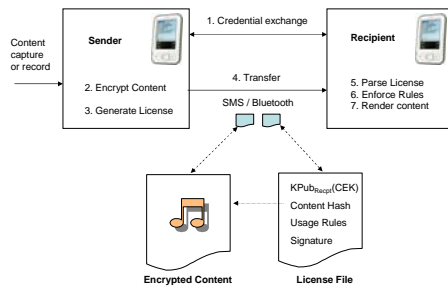
- Networked Data Storage
 - Confidentiality
 - Correctness
 - Efficient In-Storage Search
 - Access Privacy
 - Sponsor: NSF Cybertrust (with Erez Zadok)

- Storage in Un-trusted Environments
 - Massive Data (PetaBytes)
 - Write-Once Read-Many
 - Non-Repudiation
 - Efficient Search
 - Tamper-proof
 - Think about: Enron files ☺
 - Sponsors: none yet



Sponsor: Motorola

Personal DRM in Mobile Environments (Solution) **NSAC**



Location Certification for Sensor Networks **NSAC**

- Securing Sensor Networks
 - Un-trusted Environments
 - Battlefield
 - Emergency Response
 - Correctness Assurances of Location Claims
 - Adversary
 - Faulty Equipment
 - Interference
 - Malicious
 - Sponsor: CEWIT (**until 12/2006**)

SQi: The Secure Query Interface **NSAC**

- Outsourced Data Management
 - Clients require transparent assurances
 - Query Correctness
 - Data Confidentiality
 - Query Privacy
 - Example: Schwab allows IBM to manage its data warehouse
 - Sponsors: none yet.

SecureGates **NSAC**

- Inside a government agency
 - Document flow
 - Assured accountability
 - Document creation, access, modifications
 - Concerns
 - Leaks ☹
 - Merit distribution
 - Solution: Secure tracking infra-structure with data-persisted fingerprints.
 - Sponsors: none yet.

Enterprise DRM **NSAC**

- Inside a corporation
 - Controlled data flow
 - Scenario: business meeting documents should not be accessible outside the company. Upon crossing trust boundary, they should be automatically sanitized.
 - Content is augmented with DRM controls
 - Specify traditional DRM constraints
 - Extended to specify actions that happen upon crossing administrative boundaries
 - Transparent and portable mechanisms
 - Only add-on software layers
 - Specifically, no modifications required of legacy apps

Q/A **NSAC**

Thanks ! 😊