

# Biometrics, Information Assurance, and Storage

Jack Cole

[jack.cole@ieee.org](mailto:jack.cole@ieee.org)

IEEE Information Assurance

IEEEIA.org

# Two Presentations

## 1. Biometrics

- Required by Session Chair
- Earned Place for Second Presentation

## 2. Information Assurance & Storage

# First Presentation - Biometrics

## Why Biometrics?

- Market for Storage
- Volume of Information
- Fill Need of Society

# Disclaimer

- Views Expressed Are My Own
- Does Not Reflect Views of Employer

# Biometrics (Rump Session)

- Biological Features Targeted
  - Fingerprint
  - Iris
  - Face
  - Etc
- Used For Identification, Authorization

# Drawbacks

- Spoofing These Not Difficult
- Opportunities Limited for Passive Collection of Information
- Limited Opportunity to Examine Face, Eye, Fingers

# Addressing Drawback

- But Not for Posterior!
- Posterior Anomaly Detection (PAD)
- Dubbed “Butt Print Biometrics”
- Many Parameters To Measure

# Posterior Biometrics

- IR Signatures,  
Residual Heat of Recently Seated Person(s)
- Other Parameters
  - Pressure Points
  - Perspiration
  - Area and Outline
  - Weight



# Seating

- How Seated
  - On Edge
  - Legs Extended
  - Adjusting Shoes
- Not Seated, But Standing
  - On Feet, Head, Hands
- Duration: **Most of Our Lives Spent Seated**

# Where Seated

- Airlines
  - Conferences
  - Meetings
  - Rental Cars, etc
- 
- Raise Hands:  
How Many of You Are Seated Now?

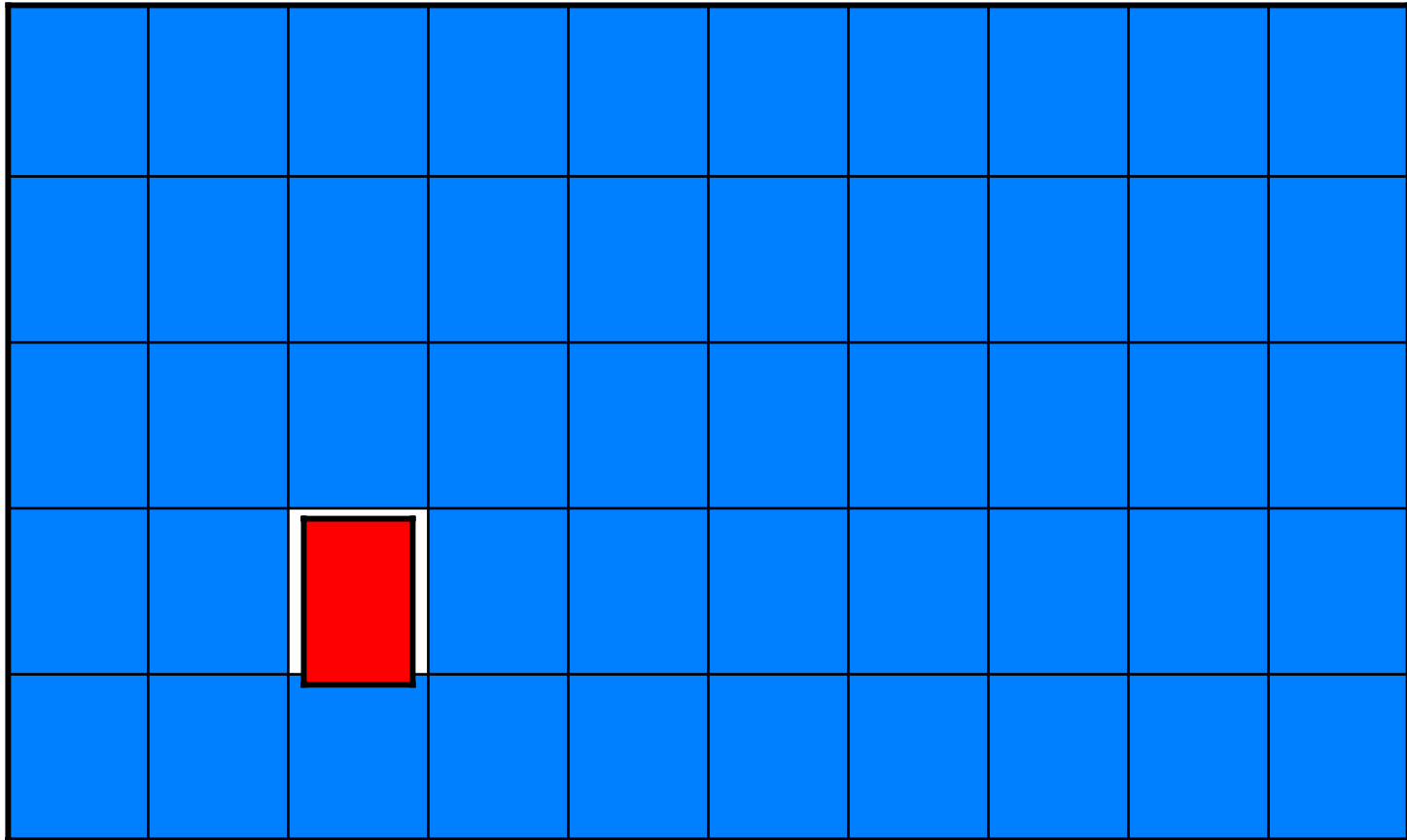
# Deployment of PAD Technology

- Seats on These Conveyances  
And in Those Locations PADed!
- Thin, BlueTooth ® Connect PADs
- Seating Charts Monitored
  - In Cockpit
  - On Net
  - By those in Rear Echelon

# Uses

- Detect
  - Terrorists (Shoe Adjustment?)
  - People Upset or Nervous
  - People Who Are Ill
- Identify People

# Seating Chart



# Seating Chart Usage

- Uncomfortable In Your Seat?
- Examine Seating Chart
  - You in the third Row, Why Are You So Nervous?
- Keywords: Squirm, Wiggle, Shift, Slump

# Future Work (FABB)

- Lower Back Biometrics
- Posture Analysis
- Back Therapy,
- Ultimately: Holistic Seating Biometrics (Bottom, Back, Arms (If Any), Foot Area)
- FABB: Foot, Arms, Back, and Bottom

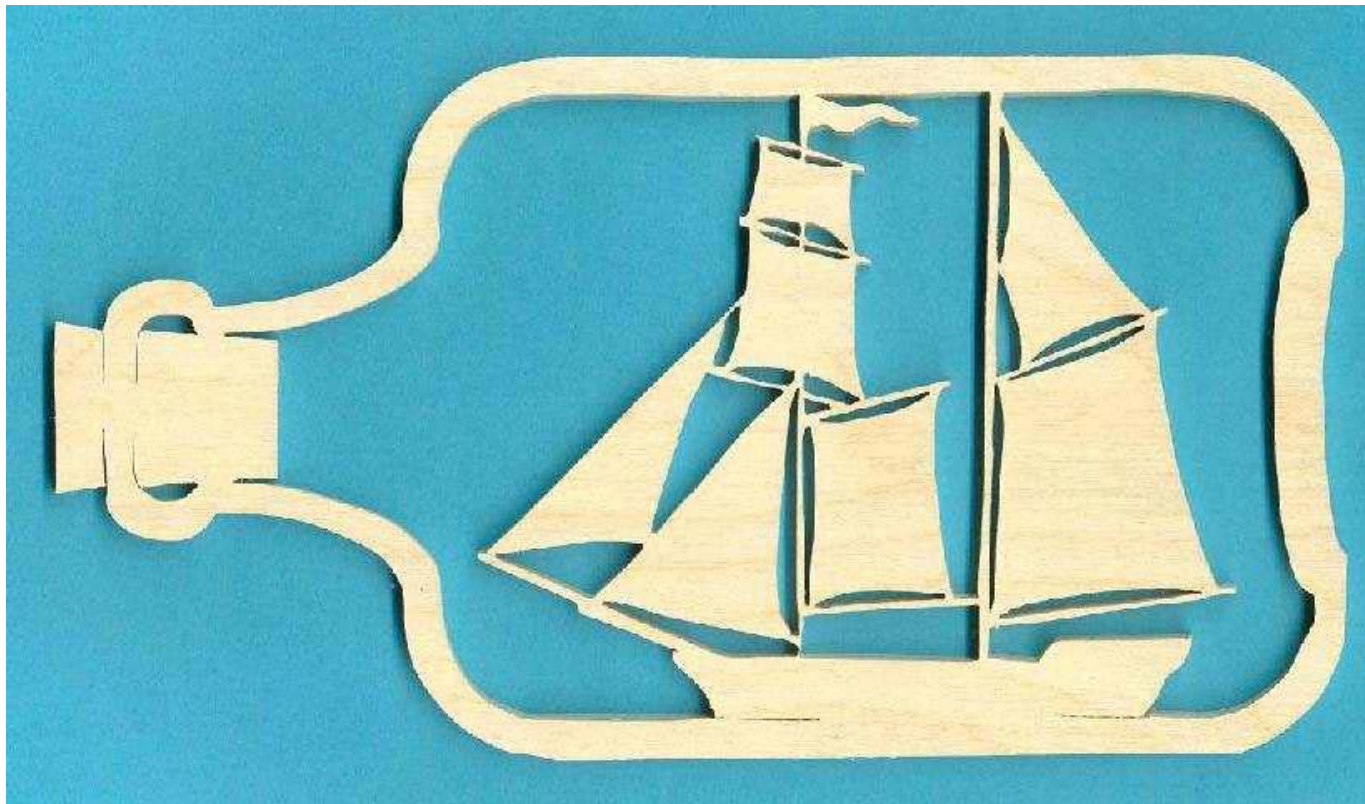
# Where Do We Stand Now?

- Concerned About Information Collected?
- Your Fears Are, Well, Seated



# Second Presentation

## Information Assurance & Storage



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# Information Assurance (IA)

# Disclaimer

- Does Not Necessarily Reflect Views of My Employer
- Reflects My Views and Those of A Growing IEEE Information Assurance Community, And Others

# Relation to Storage

- One State of Information Storage
- Same Goal: Information Delivery
- Same Issues
  - Recoverability
  - Survivability
  - Resilience
  - Etc

# Inter-Dependent IT Areas

- Information Assurance (IA)  
Depends On All Underlying IT Areas
- Storage Depends on Developments in  
Information That Cross IT Areas
- E.g., Storage & “Crypto”

# Old Definition of IA

- Information Operation (IO) Centric
- Reactive Mode
- Focus on Nuts & Bolts
- Focus on Intrusion Detection, Etc
- Government Committee Developed
- Not Consensus

# New Definition

- IA Guarantees Timely Delivery of Information Subject to Requires of Quality of Service (QoS) Set
- QoS Set: Authentication, Authorization, Confidentiality, Integrity, Non-Repudiation (Auditing)

# What is IA?

- Helper App for IT?
- Powerful Relationship to Knowledge Management (KM)

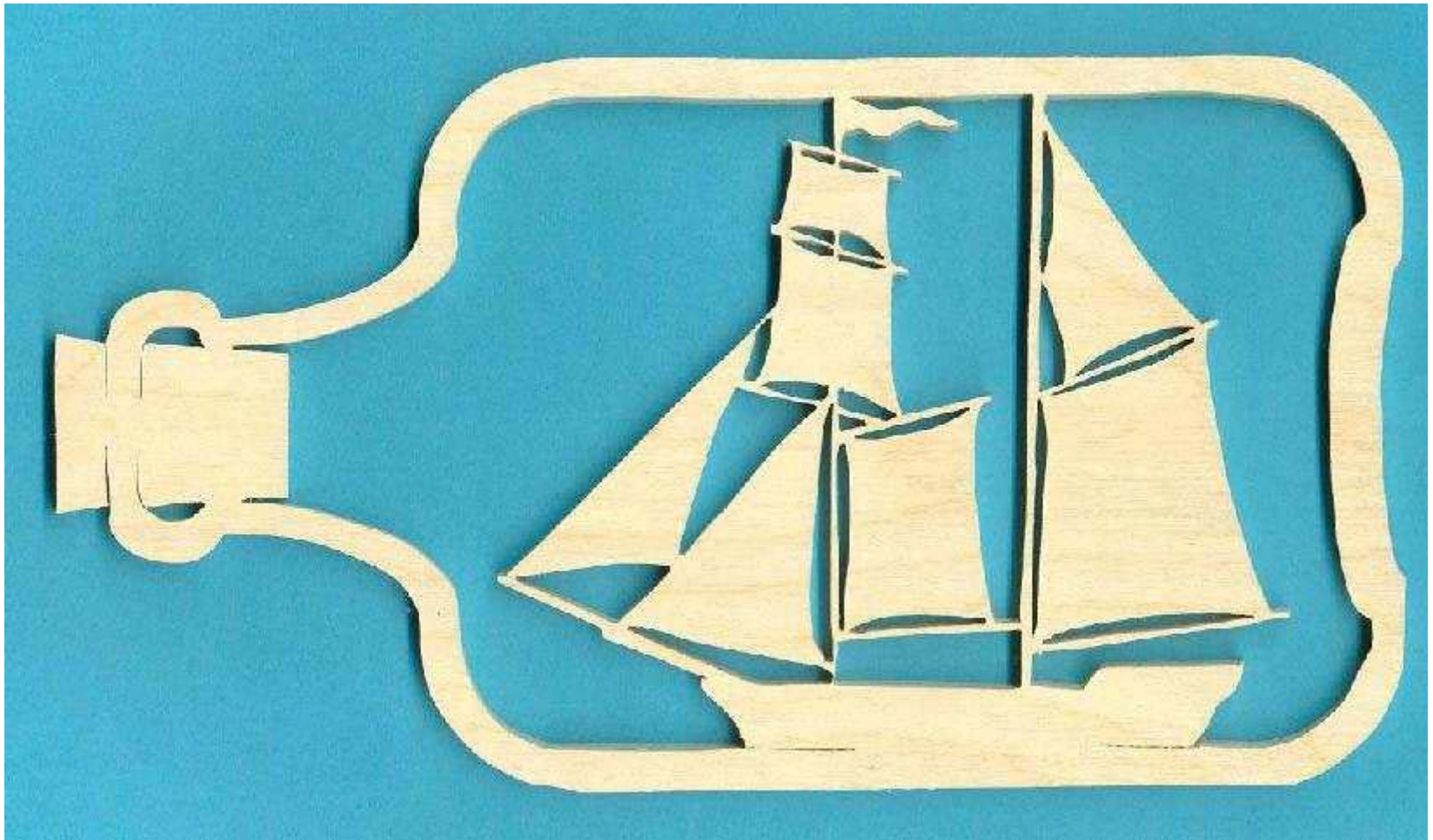


# Scope of IA

- Encompasses Security, IO, But Is Proactive
- Considers All Sources of Failure
  - Malicious Humans
  - IT Flaws
  - Other?
- (Not Formal, Complete Scope)

# IT Flaws, Storage Example

- Storage Capacity Growing 10x Faster Than Storage Throughput
  - Jim Gray, Rules of Thumb Paper
- *You Can't Have Your Data and Read It Too!*
- Irresponsible Computing?
- Ship-In-A-Bottle



# Higher Level Goals of IA

- Mission Completion
- Business Continuity
- HLGs = Higher Level Goals

# Value of HLGs

- Transparent Nuts & Bolts Not Interesting
- CEOs, Generals Interested in HLGs
- Security, IO Viewed As Nuisance Overhead
- Transparency Guarantees This View
- Support for HLGs, Proactive IA Means Better Support Indirectly for Transparent Nuts & Bolts

# IEEE IA Activities

- Standards for
  - Reliable Software
  - Protection Profiles (OS, Key Mgmt, VPN, etc)
  - Definition of Terms
  - Security in Storage
- Workshops
- Meetings with NSA, NIST, DHS, etc

# Contact

IEEEIA.org

jack.cole@ieee.org

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