A Ransomware Research Framework

Dan Wolf and Don Goff, Cyber Pack Ventures, Inc.

Supported by a grant from the National Science Foundation

Abstract: This research develops a series of research frameworks for addressing the problem of ransomware from the perspective of multiple disciplines, begins to develop theories about ransomware, and identifies needs for future research. Approaches include criminal justice, hardware and software technologies, file structures, critical infrastructure impact, an abstract theoretic approach, and money tracking. To date, poster presentations are available and formal articles from each researcher are forthcoming.

Ransomware classification with RNN

C3E 2017 Fall Meeting

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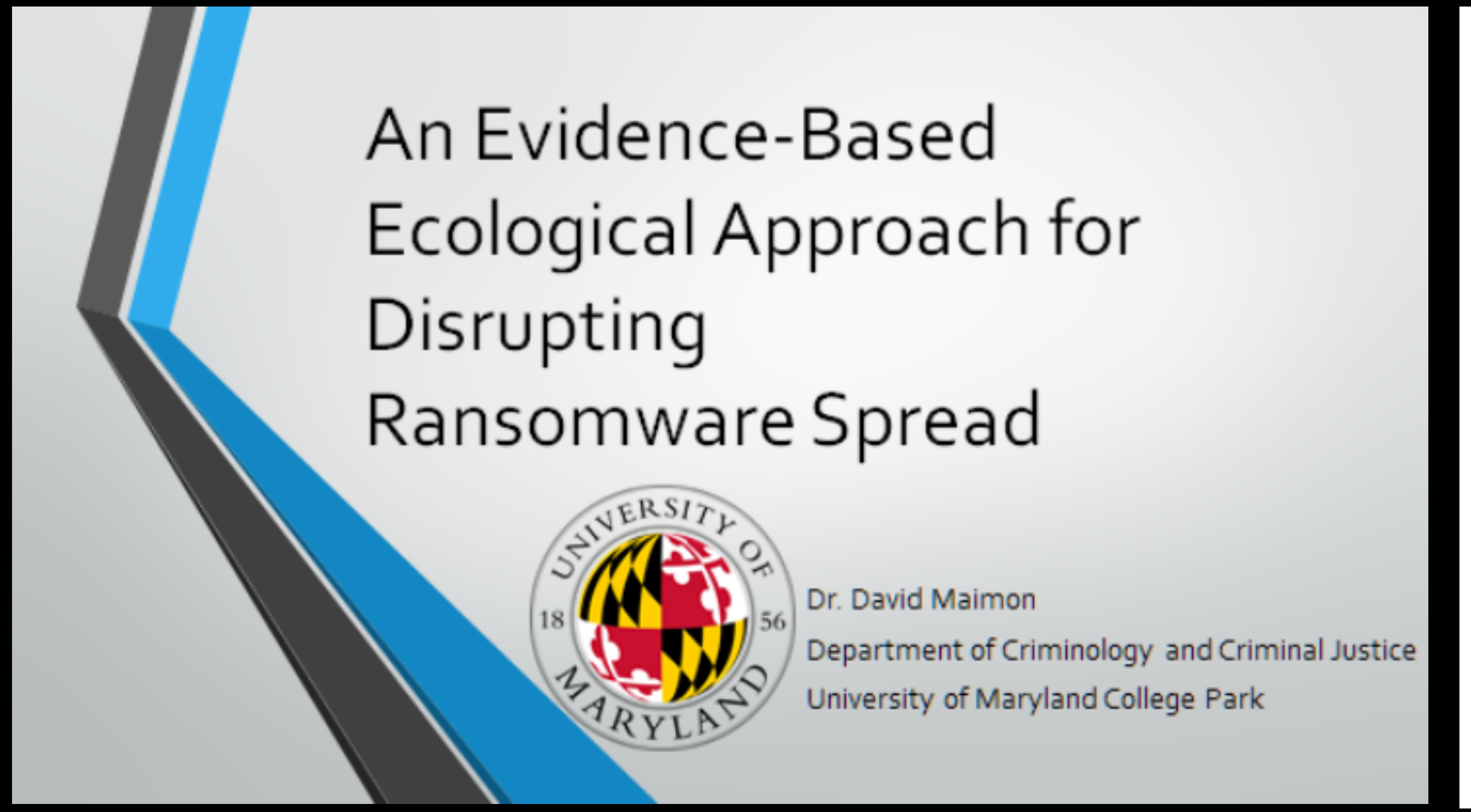
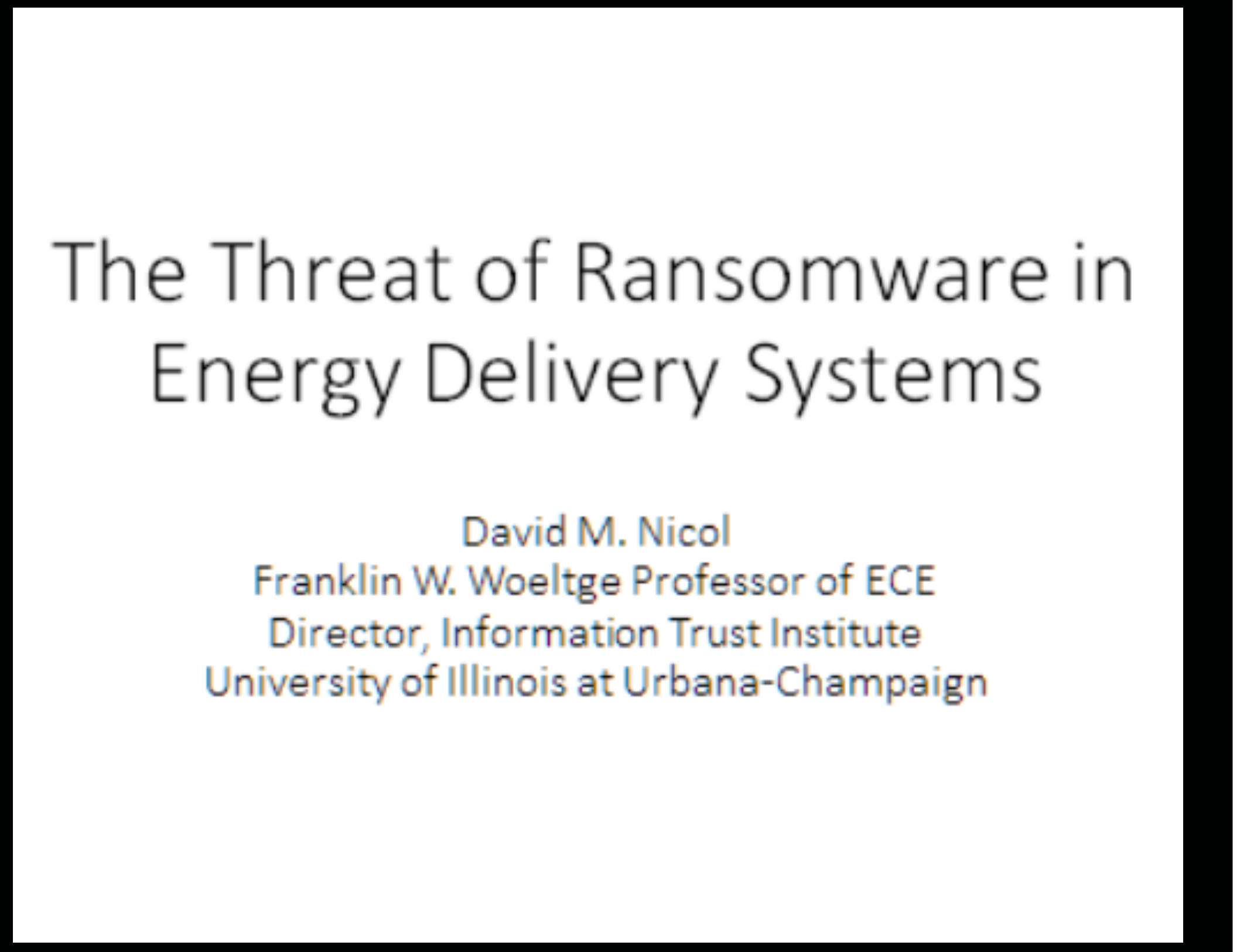


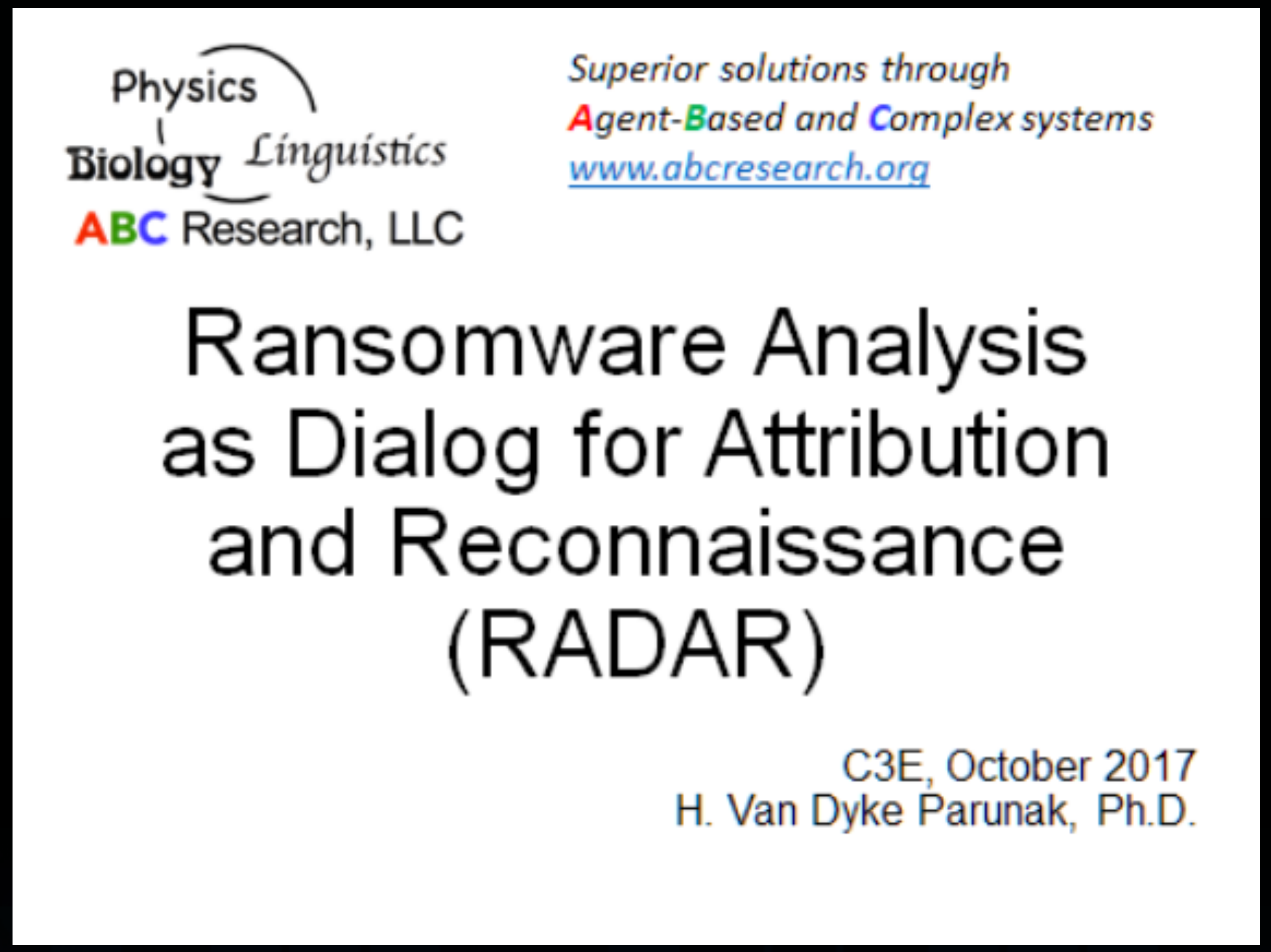
An Evidence-Based Ecological Approach for Disrupting Ransomware Spread

Dr. David Maimon
Department of Criminology and Criminal Justice
University of Maryland College Park



The Threat of Ransomware in Energy Delivery Systems

David M. Nicol
Franklin W. Woeltge Professor of ECE
Director, Information Trust Institute
University of Illinois at Urbana-Champaign



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Ransomware Analysis as Dialog for Attribution and Reconnaissance (RADAR)

C3E, October 2017
H. Van Dyke Parunak, Ph.D.

Florida Institute of Technology
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An Approach to Ransomware Effects Mitigation

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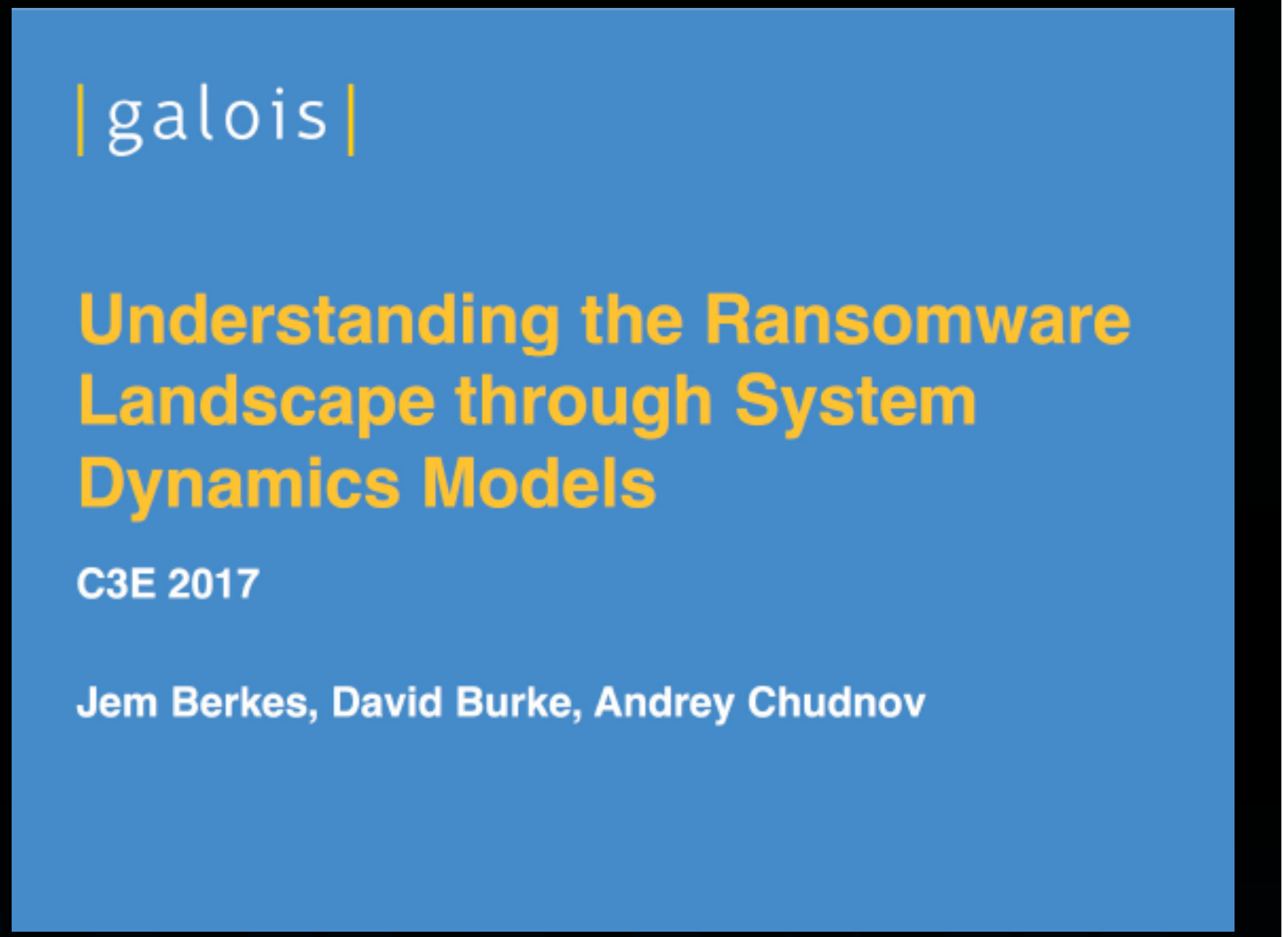

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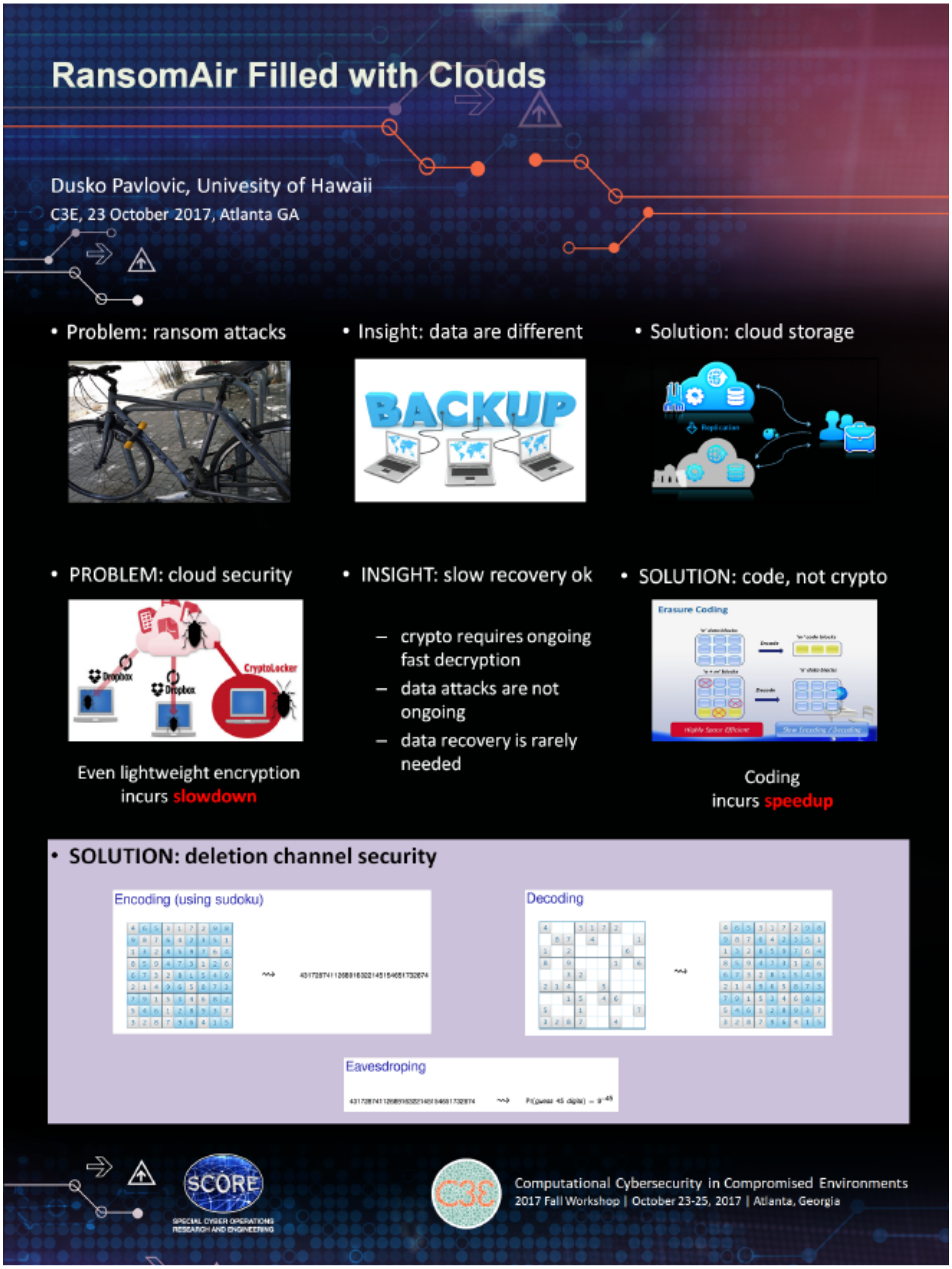
Understanding the Ransomware Landscape through System Dynamics Models

C3E 2017

Jem Berkes, David Burke, Andrey Chudnov



RansomAir Filled with Clouds

Dusko Pavlovic, Univesity of Hawaii
C3E, 23 October 2017, Atlanta GA

- Problem: ransom attacks
- Insight: data are different
- Solution: cloud storage

- PROBLEM: cloud security

Even lightweight encryption incurs slowdown

- INSIGHT: slow recovery ok
  - crypto requires ongoing fast decryption
  - data attacks are not ongoing
  - data recovery is rarely needed

- SOLUTION: code, not crypto

Coding incurs speedup

- SOLUTION: deletion channel security

Computational Cybersecurity in Compromised Environments
2017 Fall Workshop | October 23-25, 2017 | Atlanta, Georgia

Computational Cybersecurity in Compromised Environments
2018 Fall Workshop | September 17-19 | Atlanta, Georgia