Above My Pay Grade:

Incident Response at the National Level

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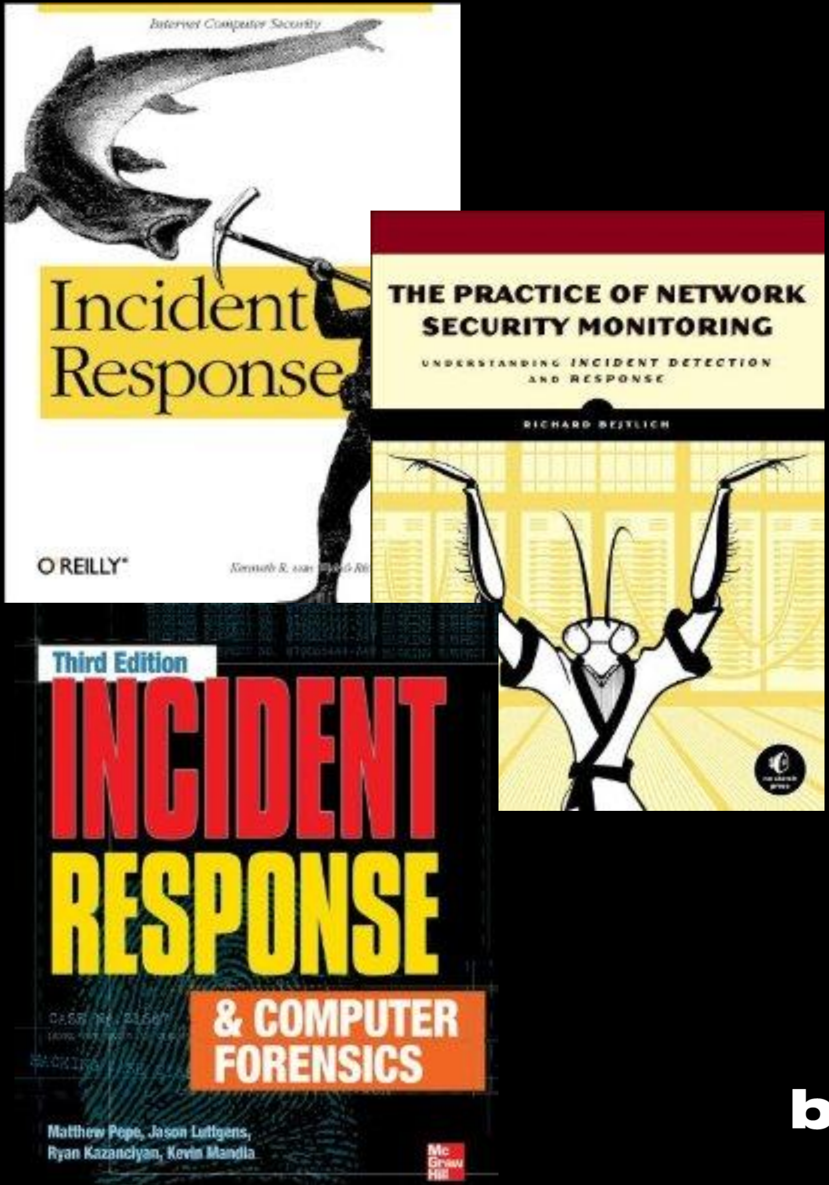
Atlantic Council

Traditional Incident Response


Internet Computer Security
Incident Response
O'REILLY
THE PRACTICE OF NETWORK SECURITY MONITORING
UNDERSTANDING INCIDENT DETECTION AND RESPONSE
RICHARD BEJTLICH
Third Edition
INCIDENT RESPONSE
& COMPUTER FORENSICS
Matthew Pepe, Jason Luttgens, Ryan Kazanciyan, Kevin Mandia
Mc Graw Hill

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But at the national level, incident response is a different game

Implications for

- Misunderstandings between geeks and wonks
- Attribution
- Decision making
- Large-scale response (or miscalculations about response)

EXAMPLE:

LARGE SCALE ATTACK ON FINANCE

Large-scale Attack on Finance Sector

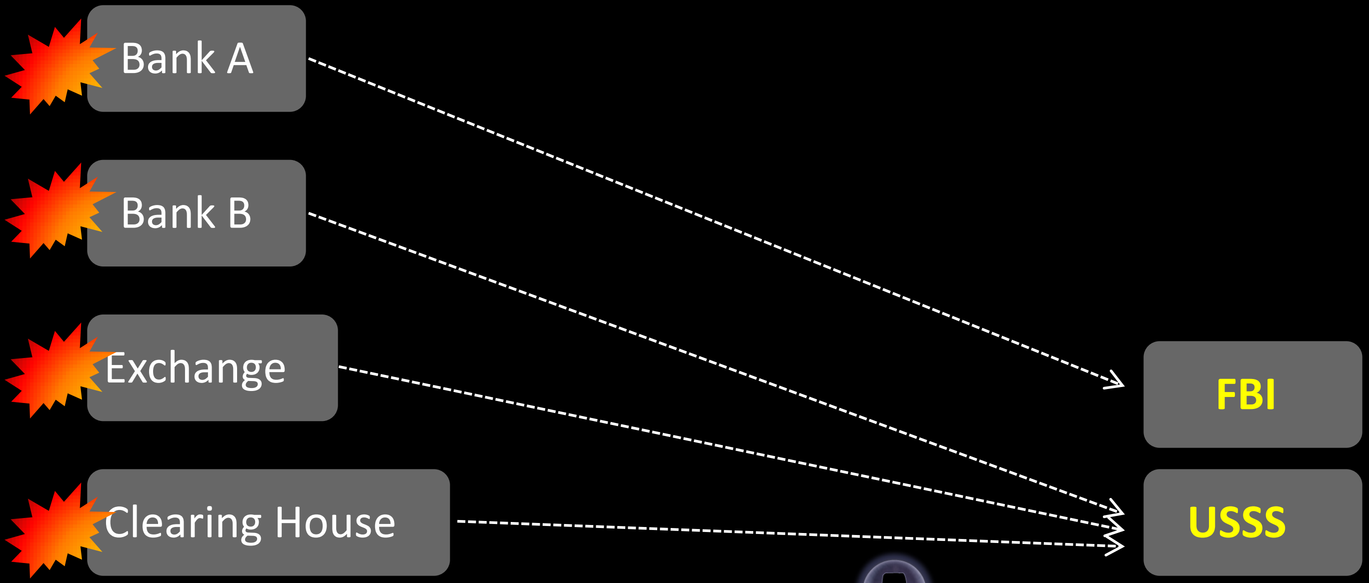
Who Is Their First External Call To?

- Bank A
- Bank B
- Exchange
- Clearing House

First: Call a Law Firm!

Then Mandiant or CrowdStrike!

After That: Tell the Cops…



Bank A

Bank B

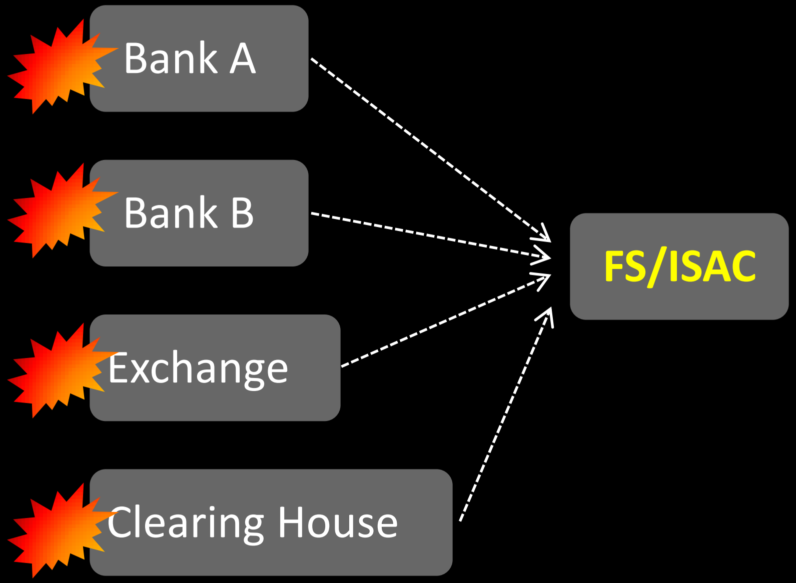
Exchange

Clearing House

FBI

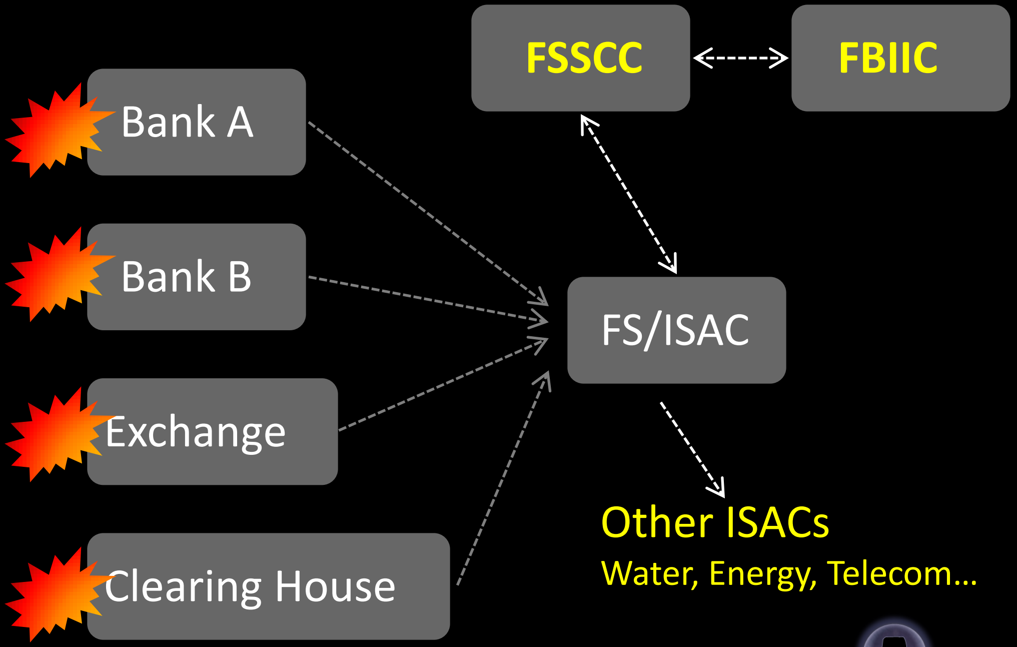
USSS

Then Share within the Sector



- *Operational* sharing and crisis management
- Shared with *all* financial institutions
- Sector-wide incident response via audioconfernce ‘bridge’ line
- Typically heard:
  - “What’s the vulnerability?”
  - “Is there a patch?”
  - What IP addresses?
  - “What works to mitigate?

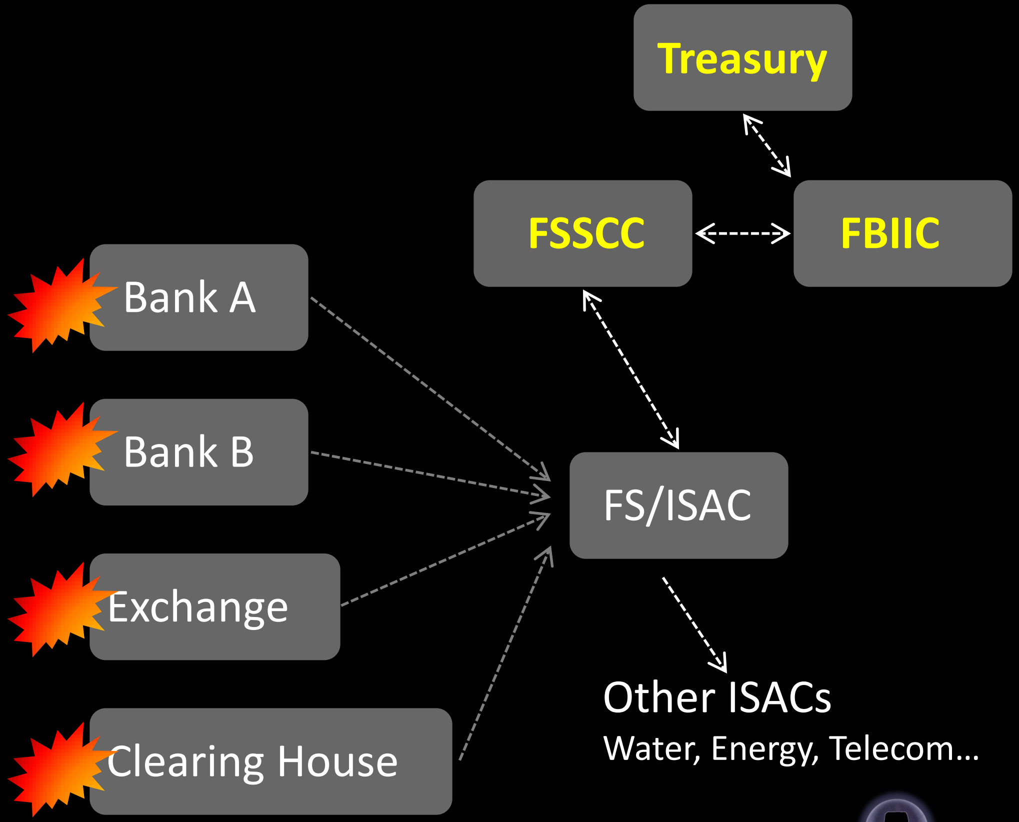
When More than Tech Discussions Are Needed…



Policy-Level Incident Response

- Senior company and government executives across all sector and regulators
- Management response via audio bridge
- Typically heard:
- “How healthy is the sector?”
- “What do we do if it gets worse?”
- “Can markets open as normal tomorrow?”

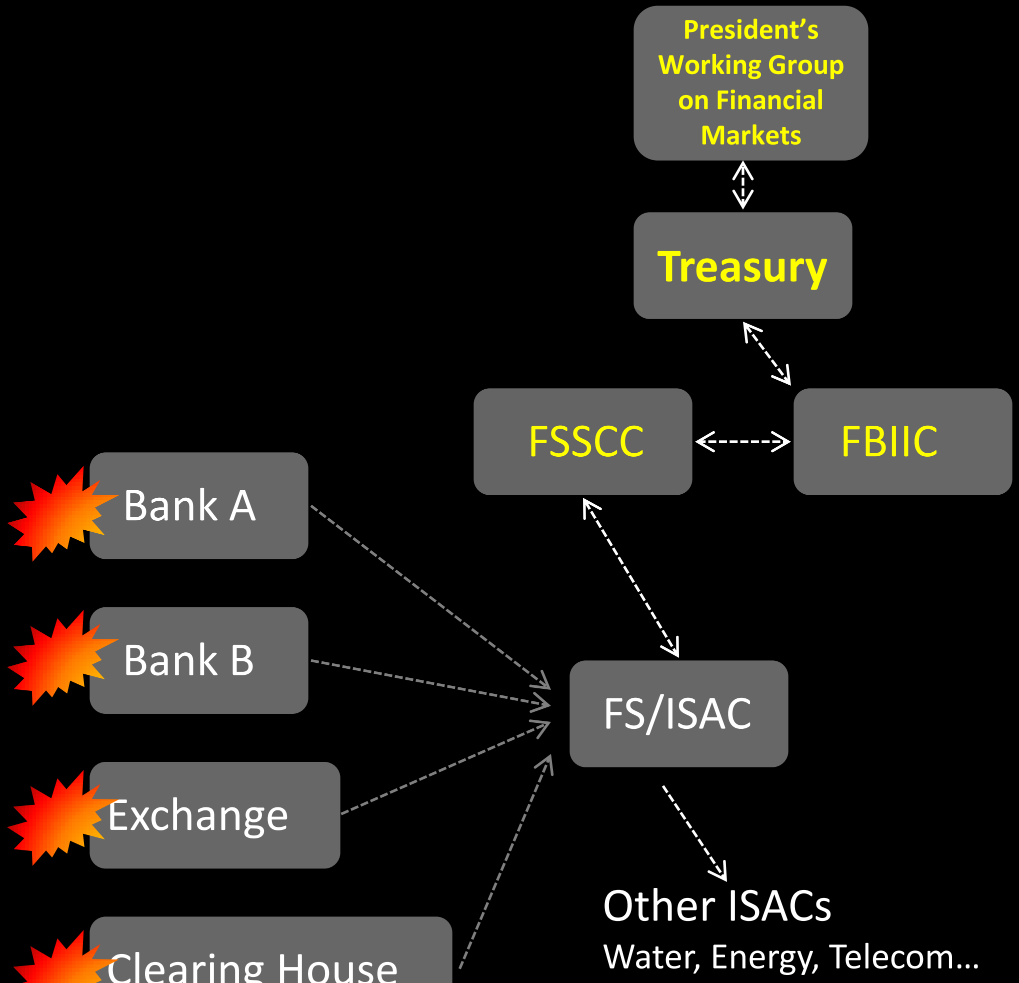
If Markets are Melting…



Within Treasury

- Escalate to the senior leadership, especially political appointees

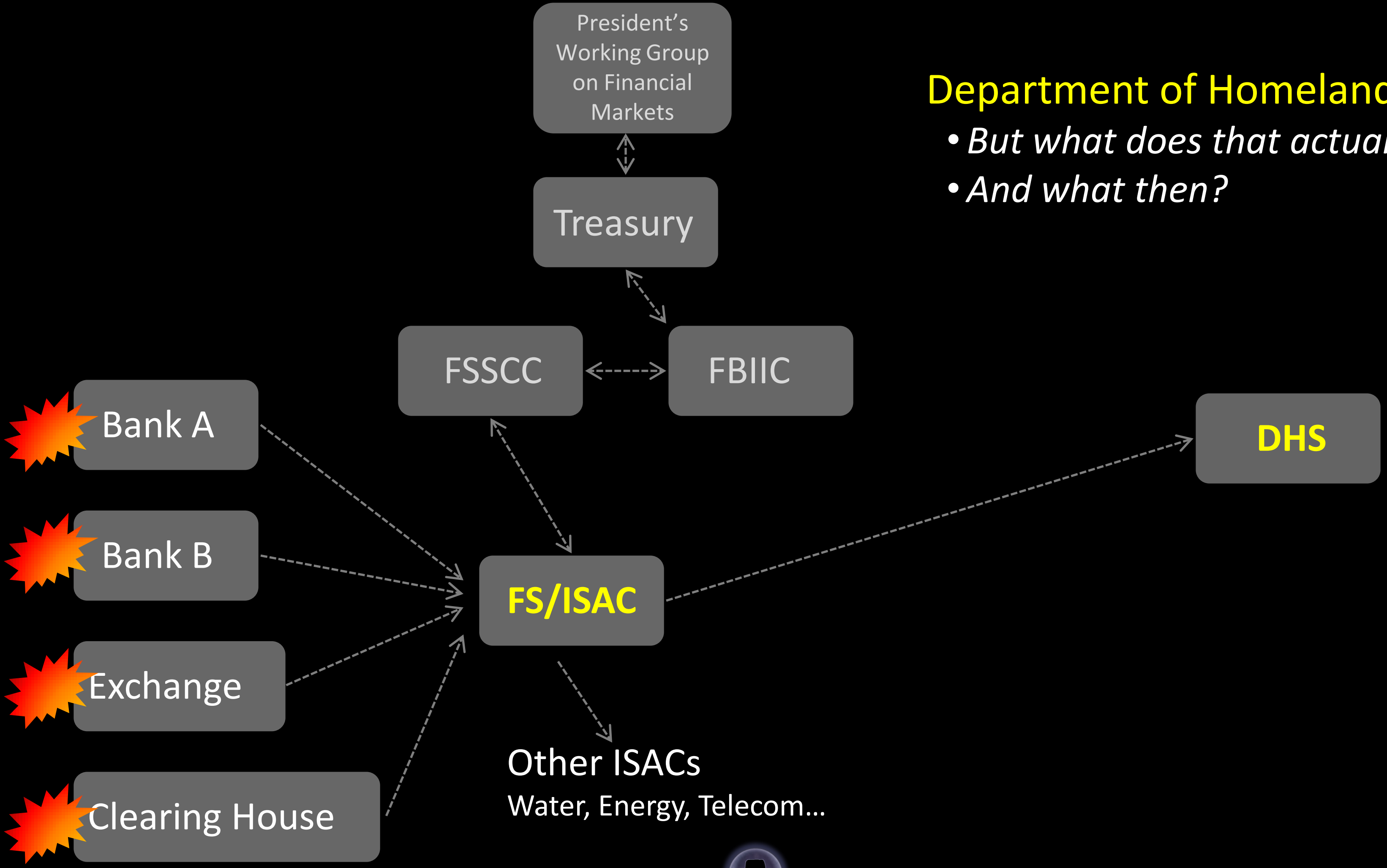
If Markets are Melting…



Highest Level of Financial Decision-making

- *No different than any other financial crisis!*
- *Secretary, Chairs of FRB, SEC, CFTC*

The *Cyber* Response…



President's Working Group on Financial Markets

Treasury

FSSCC

FBIIC

Bank A

Bank B

Exchange

Clearing House

FS/ISAC

DHS

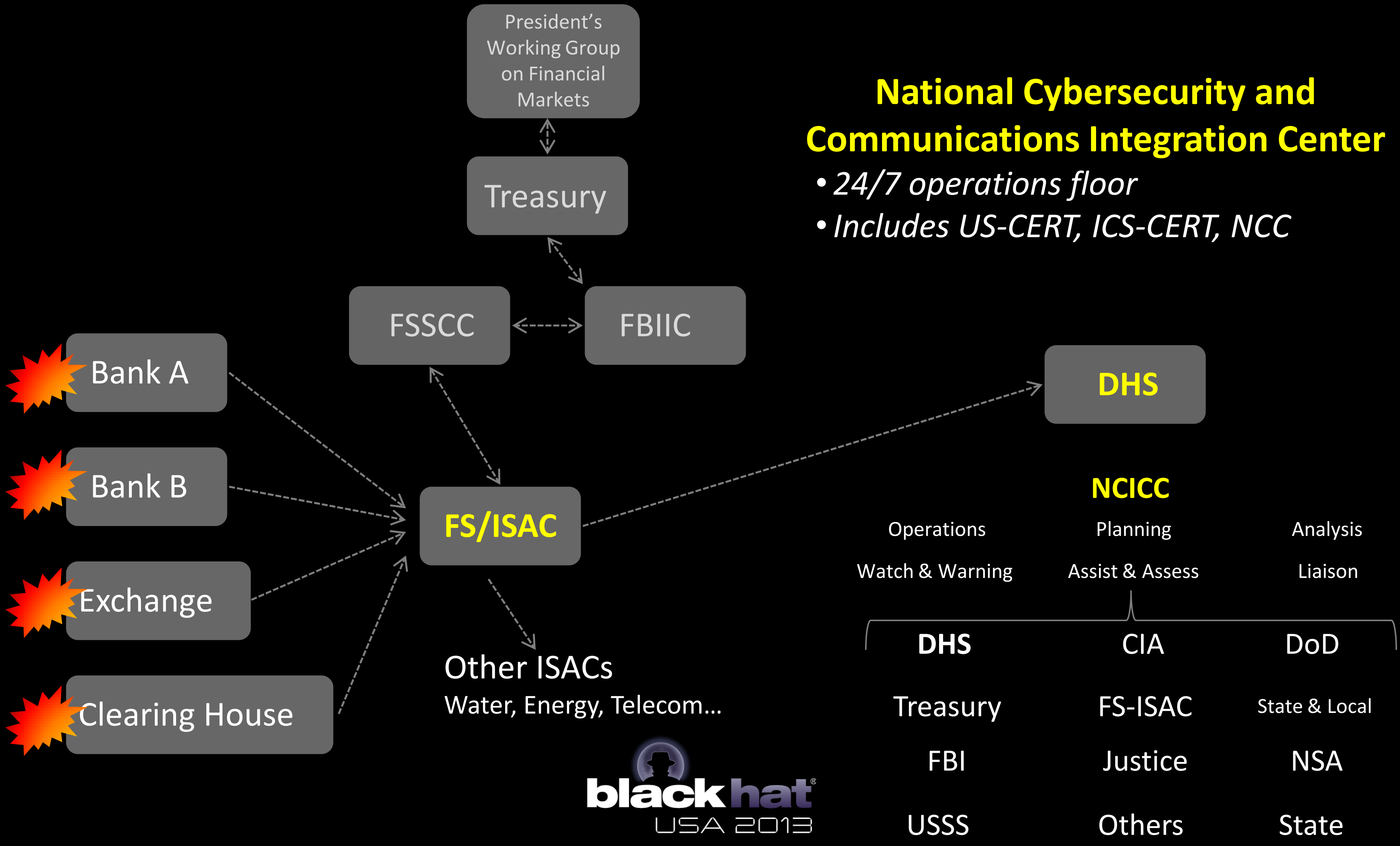
Other ISACs

Water, Energy, Telecom…

Department of Homeland Security

- *But what does that actually mean?*
- *And what then?*

The Cyber Response…



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Other ISACs
Water, Energy, Telecom…

DHS

National Cybersecurity and Communications Integration Center

- *24/7 operations floor*
- *Includes US-CERT, ICS-CERT, NCC*

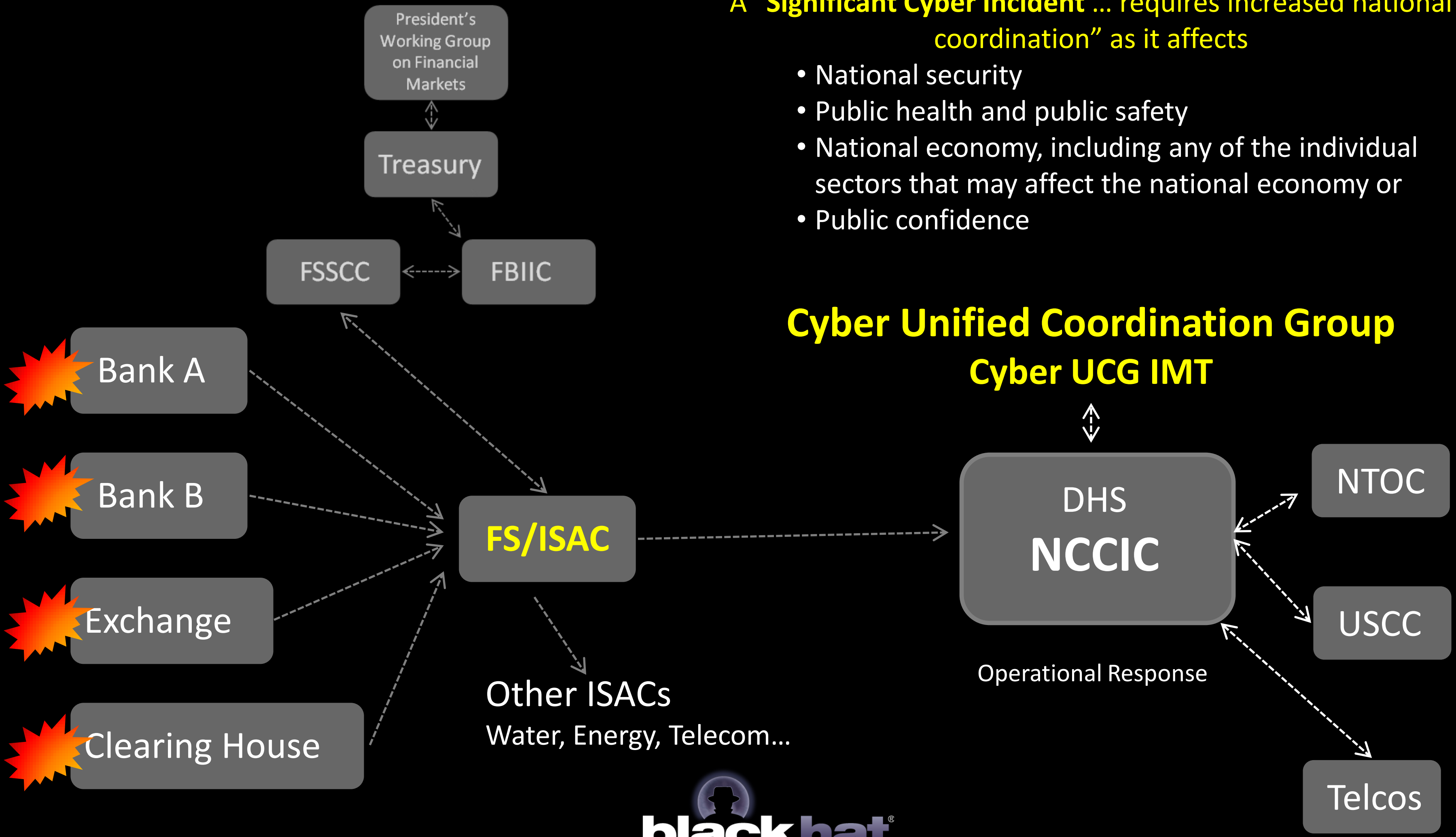
NCICC

Operations	Planning	Analysis
Watch & Warning	Assist & Assess	Liaison
DHS	CIA	DoD
Treasury	FS-ISAC	State & Local
FBI	Justice	NSA
USSS	Others	State

If Incident Needs Escalation

A "**Significant Cyber Incident** … requires increased national coordination" as it affects

- National security
- Public health and public safety
- National economy, including any of the individual sectors that may affect the national economy or
- Public confidence



Who Coordinates Above DHS?

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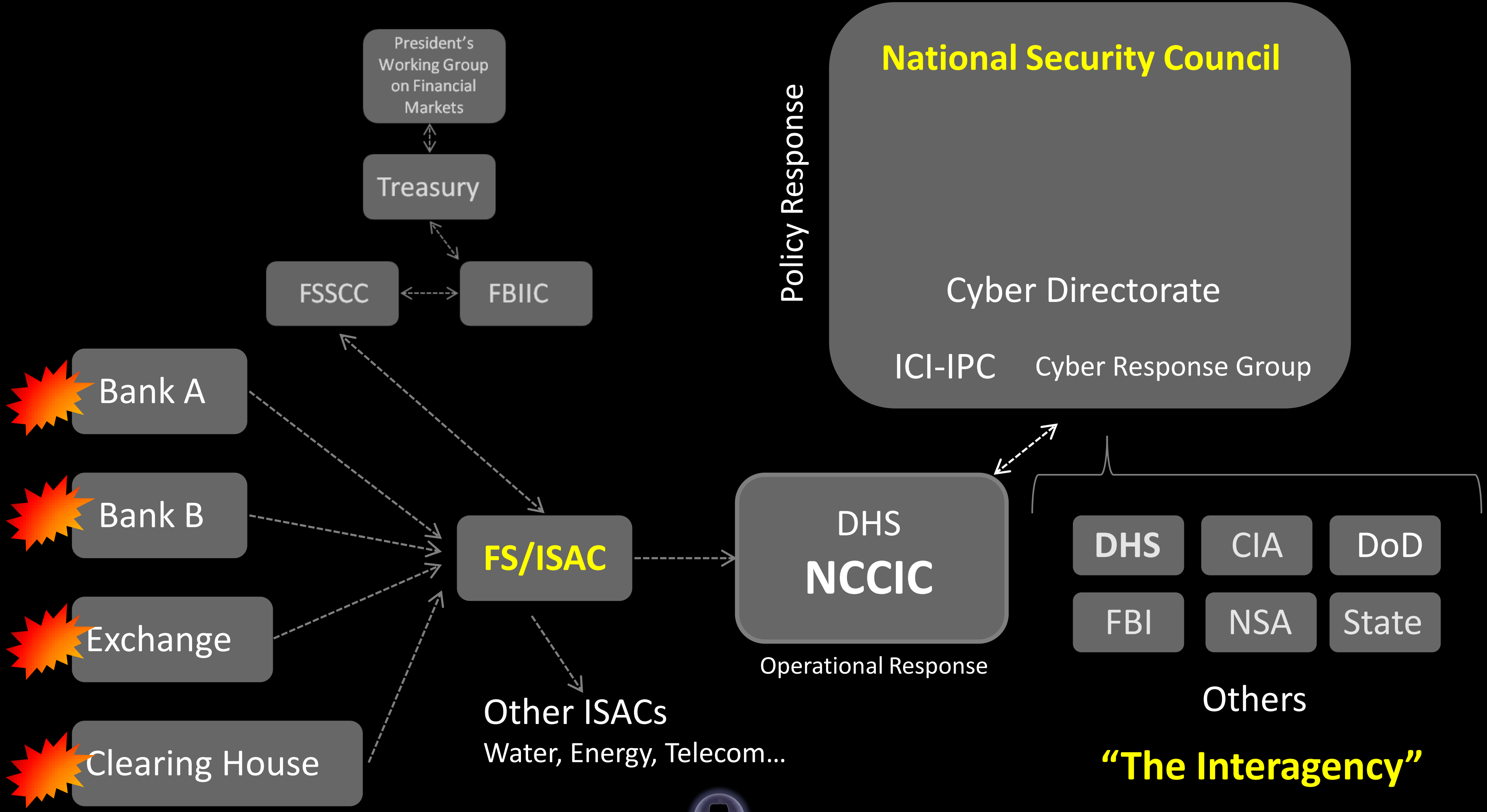
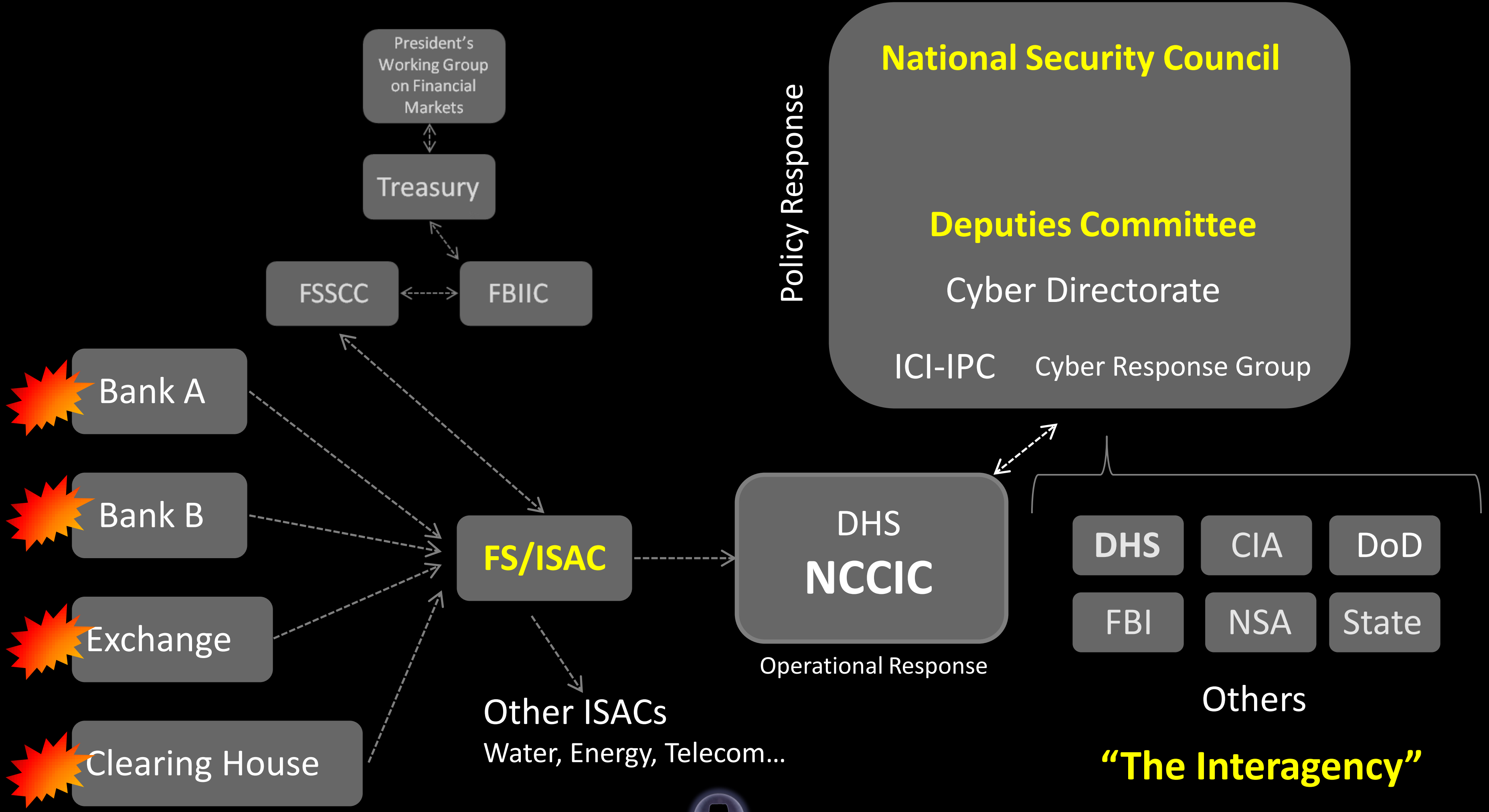
If Incident Needs Escalation



If Incident Needs Escalation



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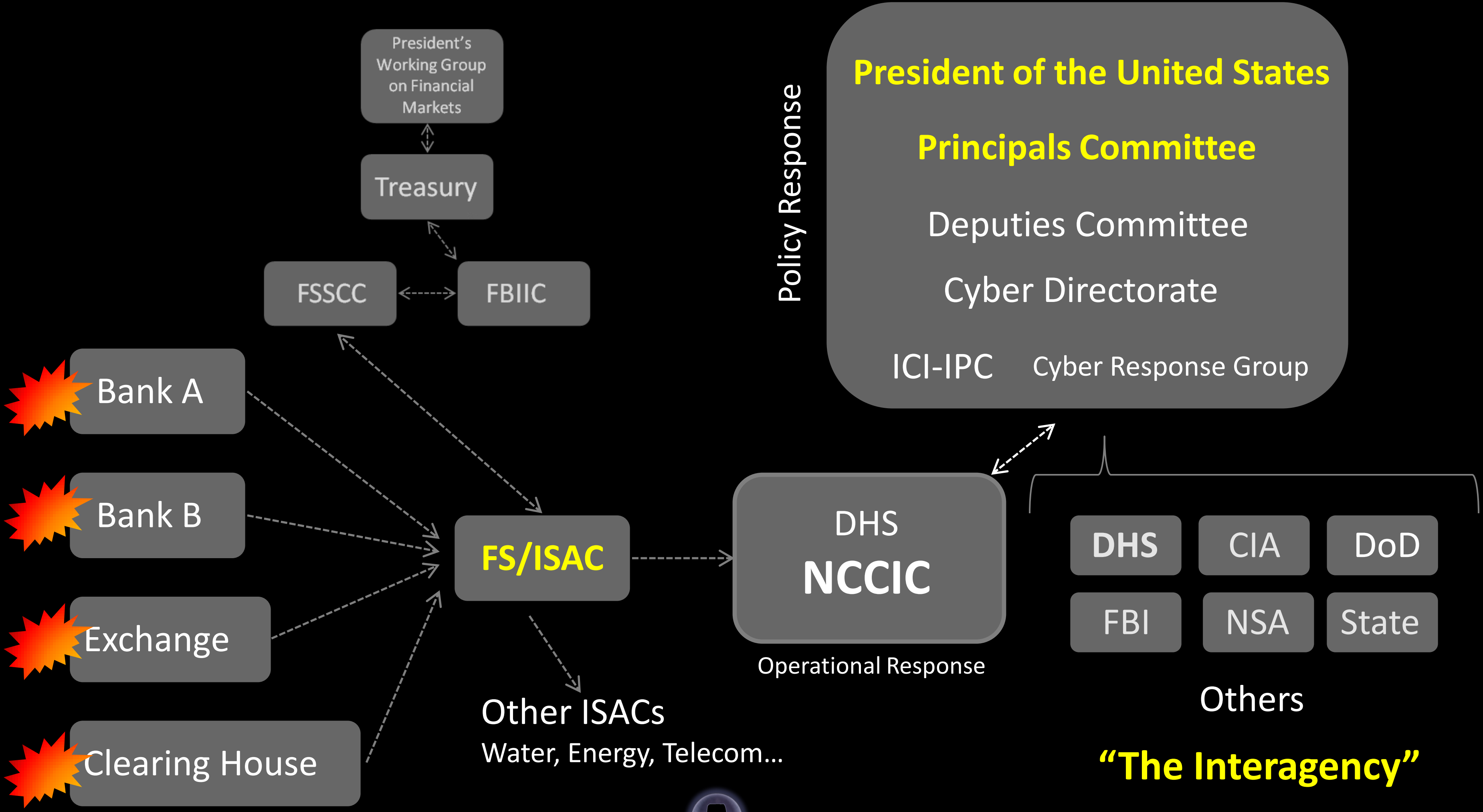

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Why This Works

- Since
  - Worst-impact cyber conflicts generally caused by nations, not individuals and
  - Cyber conflicts tend not to be "network speed"
- Process translates "cyber crisis" out of technical channels
- Into the time-tested traditional national security crisis management
- Countries with NSC equivalents have natural edge to those without … like China

Why This is a Good Thing:

Provides Process for Tough Decisions

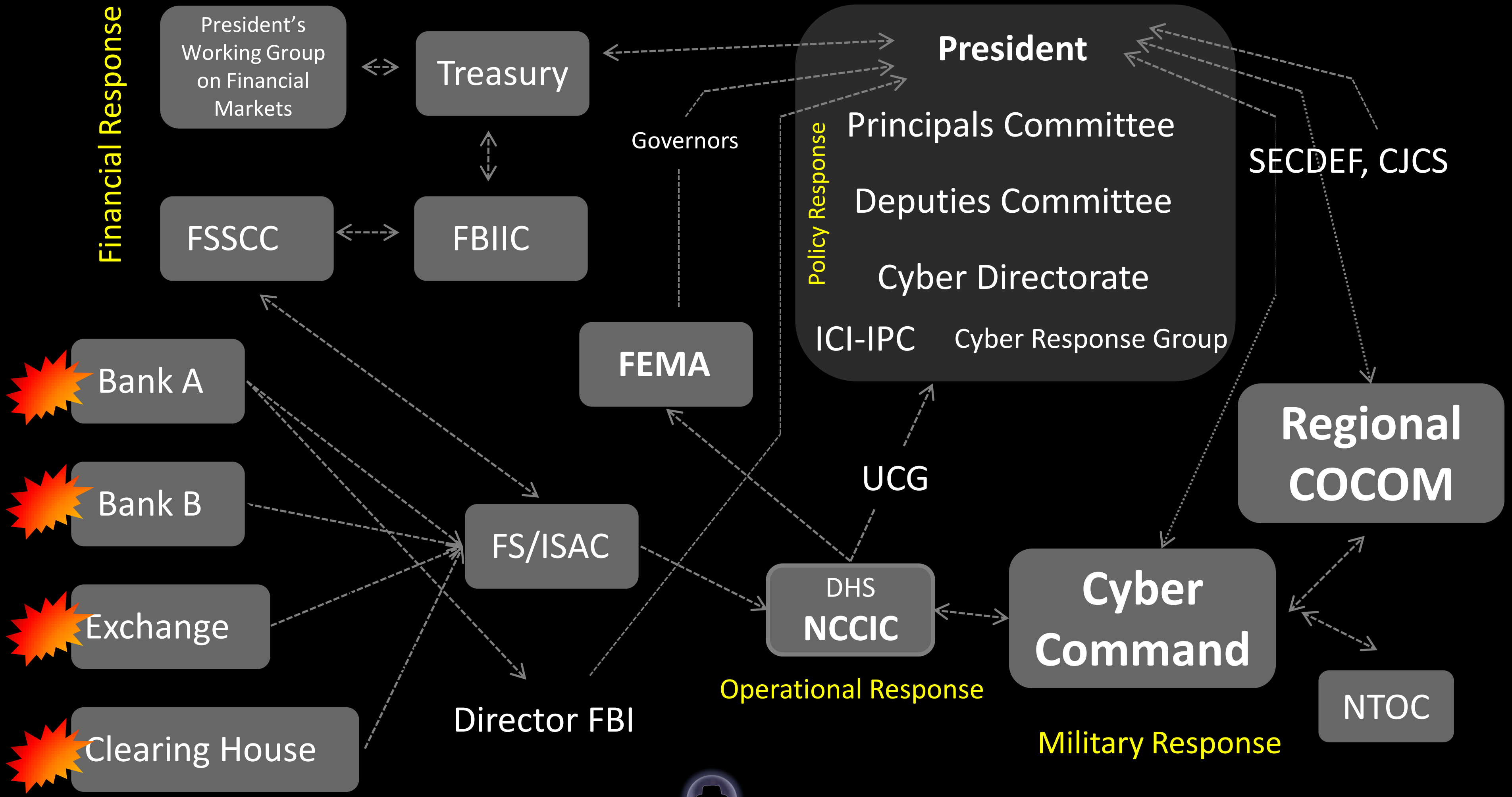
- Enables national-level technical response options
- Commitment of additional resources to help private sector response
  - Money, personnel, intelligence
- Determine "*what nation is responsible?*"
- Enables response using levers of national power:
  - Diplomatic, economic and yes, military

Why the Process Might Not Work or Otherwise Suck:

- It doesn’t always work even for physical crises!
- When government wants to control the response
- The “Katrina” of something on the edges of the system
- The “Six-Day War”
- True Cyber War

Why the Process Might Not Work:

If We Are At Cyberwar!



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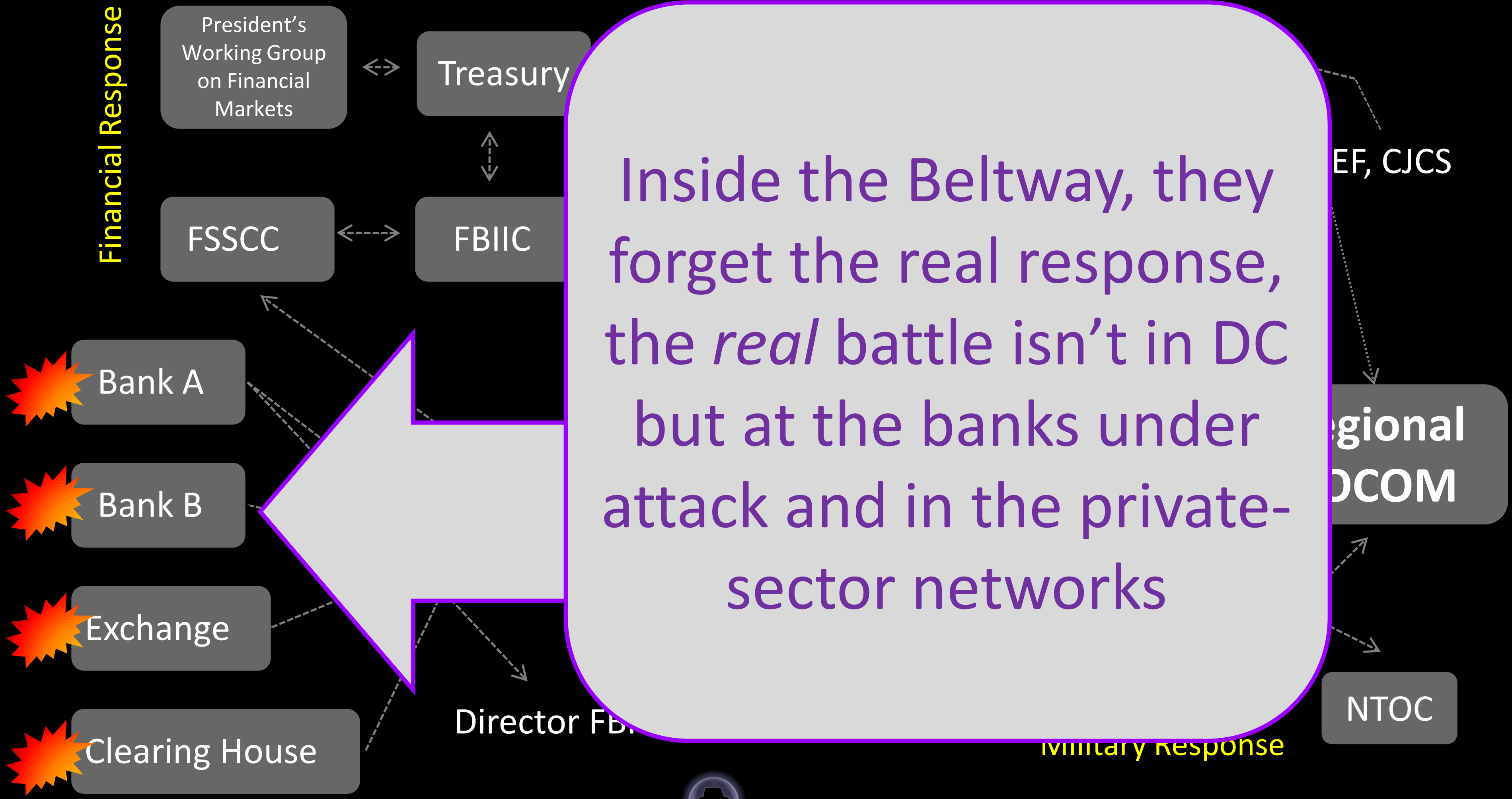
Why the Process Might Not Work:

If We Get Stupid…

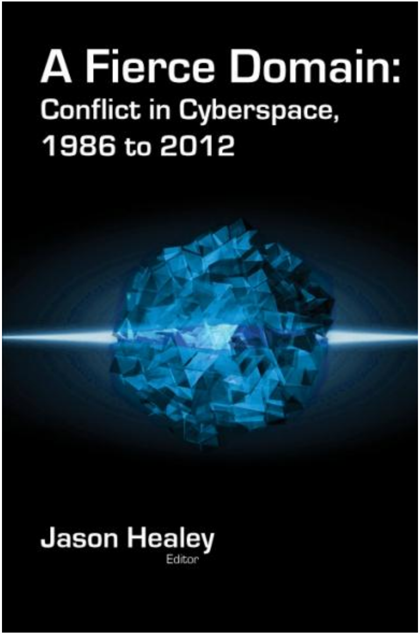


Inside the Beltway, they forget the real response, the *real* battle isn't in DC but at the banks under attack and in the private-sector networks

QUESTIONS?

Cyber Statecraft Initiative

- International conflict, competition and cooperation in cyberspace
- Publications (all at our website, acus.org)
- Public and Private Events



A Fierce Domain:
Conflict in Cyberspace, 1986 to 2012

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Editor

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