Crafting A Plan for When Security Fails

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Who is This Guy?

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Robert Lelewski

IBM's Emergency Response Service

Senior Incident Response Analyst and CSIRP Development Lead

Immersed in the forensics and incident response world since 2004

The Usual Security Certs:

CISSP, CISA, CISM, EnCE, CCE, etc.

Former Ski Train conductor!

Agenda

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- What is a CSIRP and why have one?
- Examples of Fail and Success
- CSIRP Success Factors
  - Internal Communication
  - Regulatory Issues & Committees
  - Blame
  - Cyclical Nature
  - Tiered and Flexible CSIRP
  - Resources
- Recap

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What is a CSIRP?

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Computer **S**ecurity **I**ncident **R**esponse **P**lan

CSIRPs come in many different names but have the same goal:

Apply a pre-approved process and methodology to address computer security incidents in order to allow an efficient and coordinated response.

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My experience with CSIRPs…

Incident Response Experience:

- Involved in hundreds of client emergencies, large and small
- Able to view what has and has not worked during incident response
- Develop custom CSIRPs for large, international companies in various sectors

Show of Hands!

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How many in the audience work for a company that has:

- A CSIRP?
- Updated their CSIRP in the last 9 months?
- Conducted a mock incident in the last 9 months?
- A specific person assigned to maintain your CSIRP?
- Pre-printed copies of your CSIRP?
- A plan consisting of someone yelling ‘PANIC!’ and 40 people jump on a conference line?
  - The Costanza Option

Why Have a CSIRP?

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Why is a CSIRP Important?

1. Saves time
2. Defensible, pre-approved methodology
3. Ensures the appropriate notifications
4. Communications structure
5. Easier to gather appropriate resources
6. Quicker resumption of operations

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Example of Fail

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Scenario:

A large bank experienced a successful SQL injection attack. Initial indicators demonstrated a high likelihood customer data was compromised.

The People:

Skilled, qualified to be in their positions, and seemingly excellent people to respond to the incident.

Example of Fail

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What went wrong?

1) Took four hours to find where the CSIRP was located.
2) Practice? What practice?
3) No clear person in charge or an apparent chain of command.
4) Executives jumping into the trenches.
5) No one notified regulatory agencies.
6) Blame was assigned.
7) CSIRP was not flexible to accommodate the situation.

Example of Fail

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End result?

An incident that would have normally taken only a few days to address became a long, drawn out affair.

Simply put, it was a mess.

Example of Success

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Scenario:

A medium sized, publicly traded chemical company had information posted on PasteBin about the ability to access restricted URLs with customer information.

The People:

Skilled, qualified to be in their positions, and seemingly excellent people to respond to the incident.

Example of Success

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What went right?

1. Key decision makers were quickly. Required attendees only.
2. Clear authority.
3. Redundancy.
4. Regulatory team was brought into the response early.
5. Statements to media and investors came from one source.
6. Key system owners with proper credentials were able to be immediately contacted.
7. Proper after action review occurred.

Example of Success

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End result?

The incident was treated with the proper level of severity.

Regulatory considerations were brought forth early on in the engagement.

Coordinated, preplanned response.

The Issues

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Breaking down the issues with the bank and the chemical company…

1. Internal communication
2. Regulatory Issues
3. Blame
4. Flexible CSIRP
5. Who's in charge?
6. Not including the proper people
7. Cyclical process

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Internal Communication

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The number one issue we see during incidents is not properly managing internal communication.

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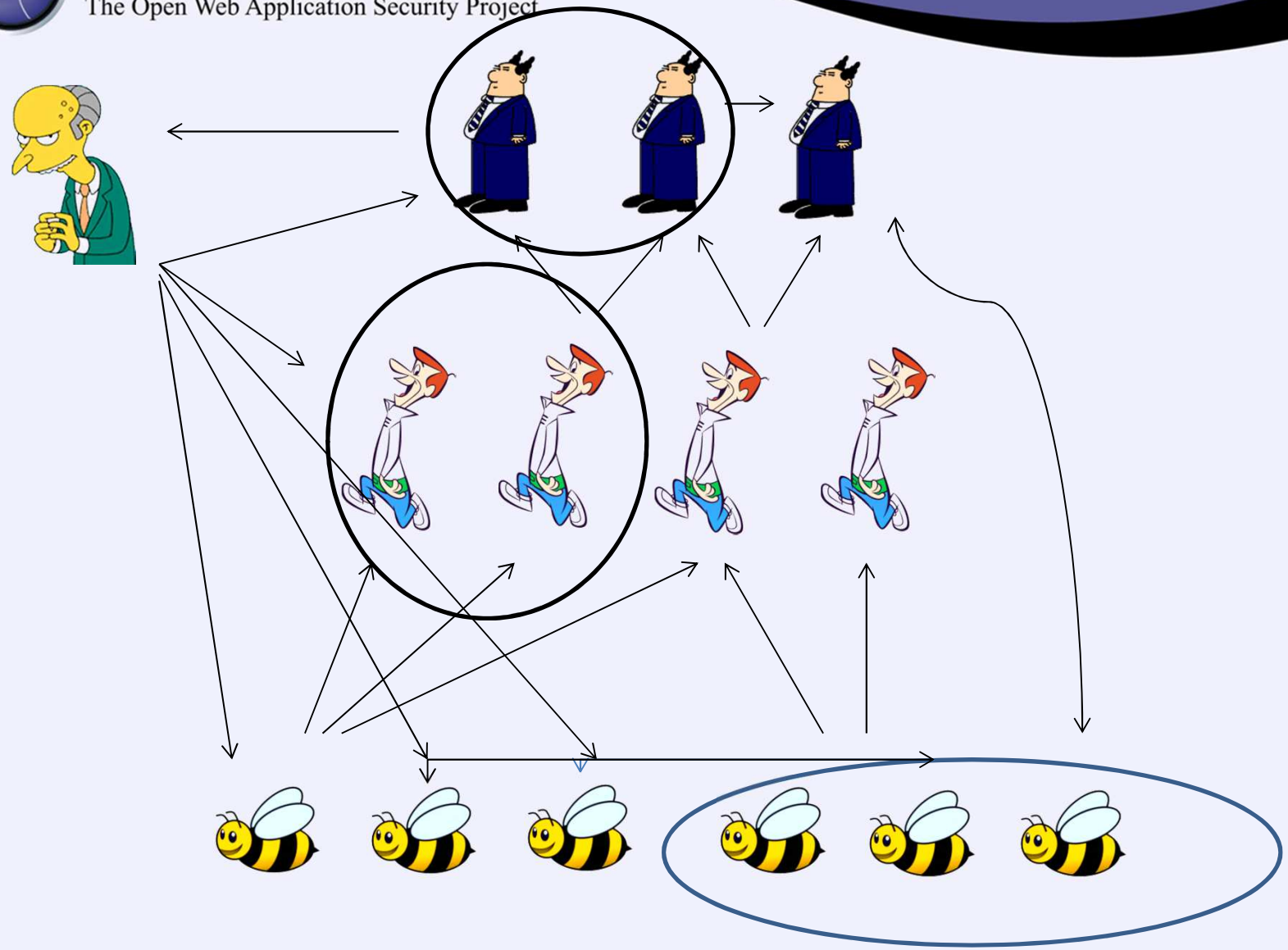

Internal Communication

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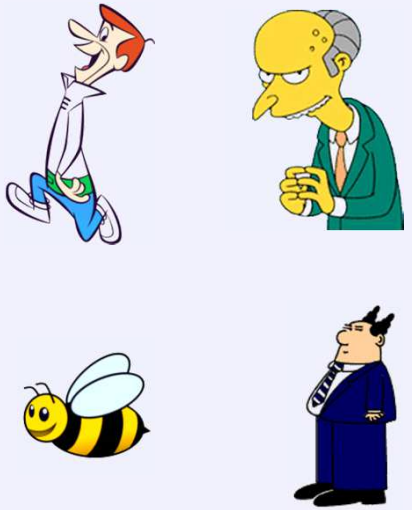
What went wrong?

1. Who is in charge?
2. Is this a coordinate response?
3. Siloed information and response?
4. Individual effort or a team effort?



Internal Communication

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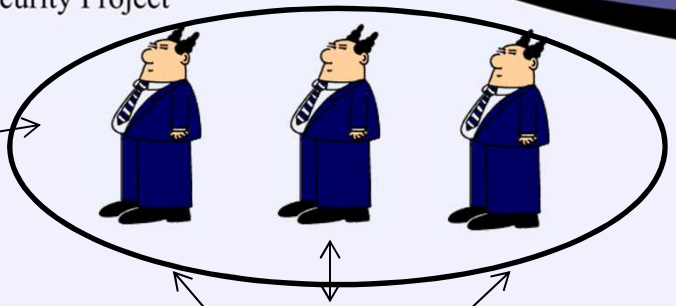
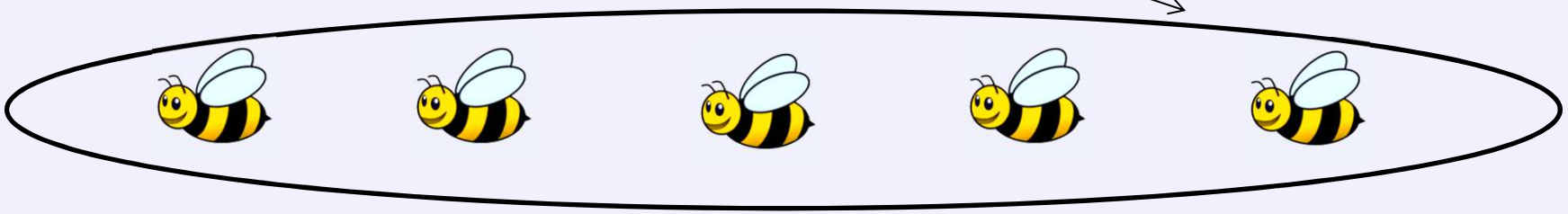


Strategic Team

Incident Officer

Incident Manager

Tactical Team



Internal Communication

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How does this help?

1. Clear, preapproved lines of communication
2. Key decisions makers are informed of all information
3. Executive management is kept in the loop
4. Organized, efficient response

Incident Manager

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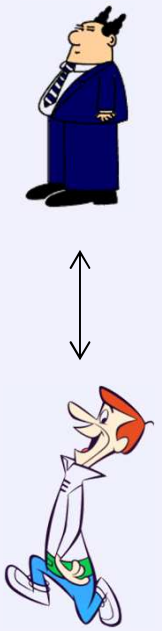
- Technical
- Must understand incident response and security
- Comprehends threat landscape
- Calm under pressure
- Knowledge of technical layout of the organization



Incident Officer

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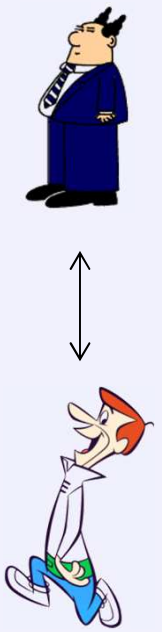
- Moderately technical
- Able to present well
- Understand business goals and risks
- Have an intimate organizational knowledge
- Respected by C-Level executives
- Invested in the CSIRP process



Who's In Charge?

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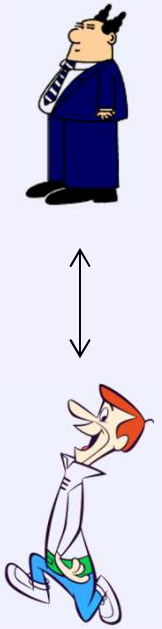
A clear chain of command also reinforces who is in charge.

- No diffusion of responsibility
- Accountability
- Investment in the CSIRP process



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Regulatory Issues

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We live and work in a highly regulated environment.

- PCI
- HIPAA
- SOX
- Individual state disclosure rules (California)
- Etc.

Depending on the regulation, disclosures may need to be reported within five days of a *suspected* release.

Regulatory Issues

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How do we remedy this?

Create tripwires to include relevant regulatory experts.

As soon as it is *possible* information may have been accessed by an unauthorized party, the regulatory committee gets pulled in.

Regulatory Issues

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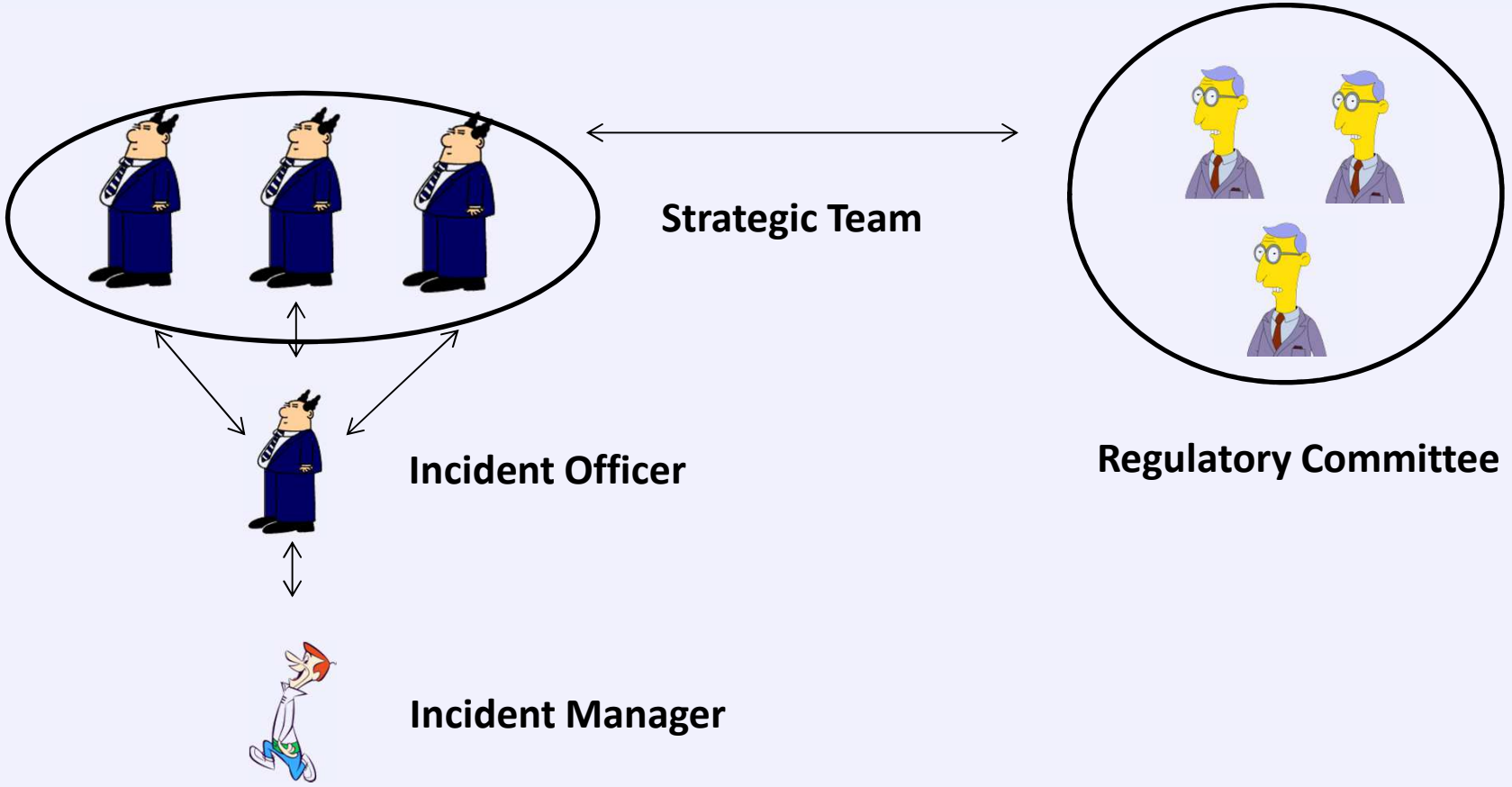

Regulatory Issues

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The regulatory committee is notified by the strategic team as soon as they may need to be involved.

- ‘Plugged in’ as needed and not a part of every incident.
- Briefed, may ask clarifying questions, convey their concerns, etc.
- They do not jump into the trenches.

Committees

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A committee approach may be applied towards other sensitive issues (e.g., brand management, corporate security).

Creates buy in from the committee members

Spreads knowledge of the CSIRP process

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Blame

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"Mary's weak password caused this event."

"Joe failed to secure the application."

Blame

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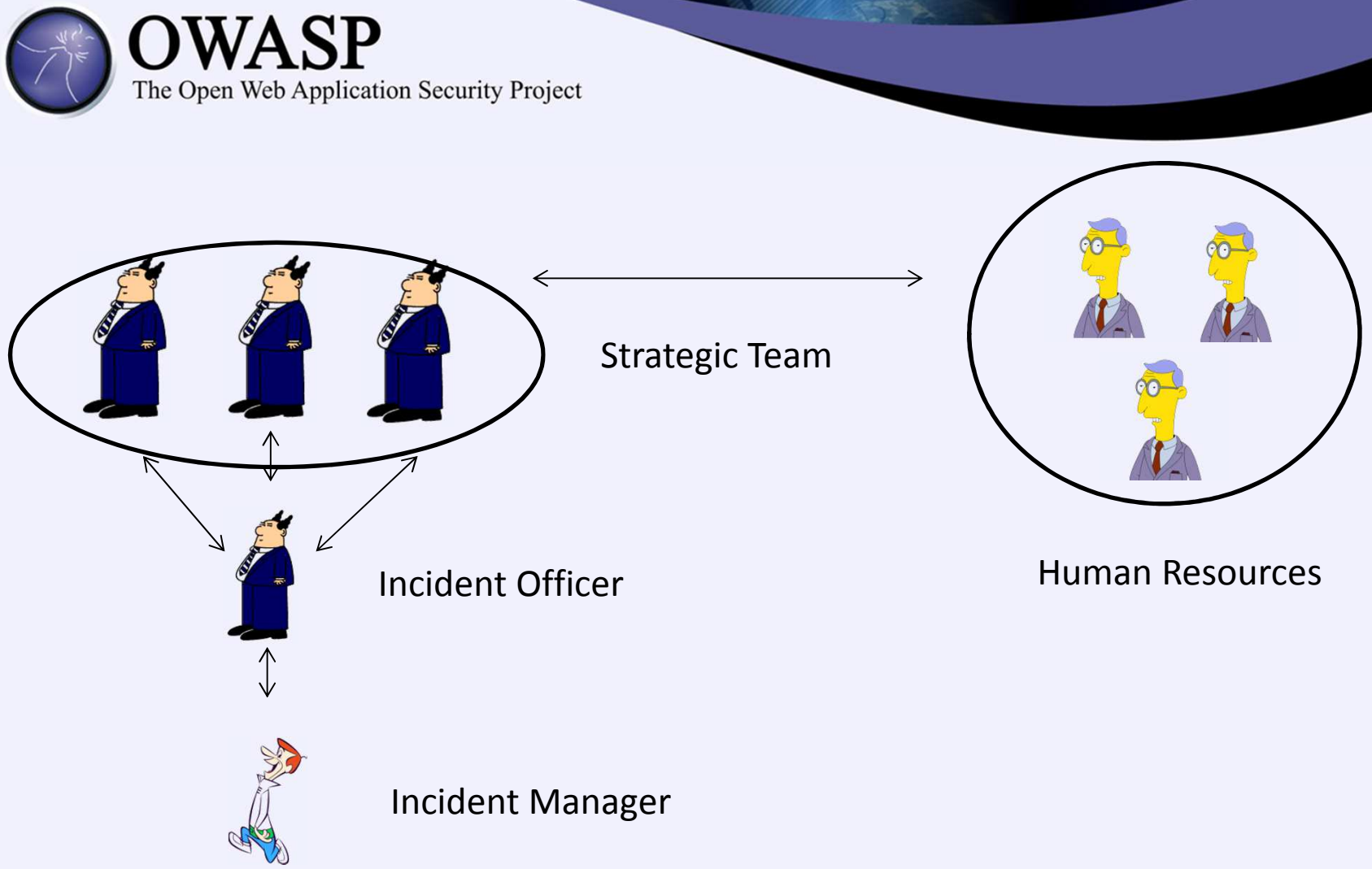
It is not the role of the core incident response team to assign blame. Why?

- Knowledge is rapidly changing.
- Statements may hurt reputation.

Ensure this is reinforced in trainings and mock incidents.

Blame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Strategic Team
Human Resources
Incident Officer
Incident Manager

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Cyclical

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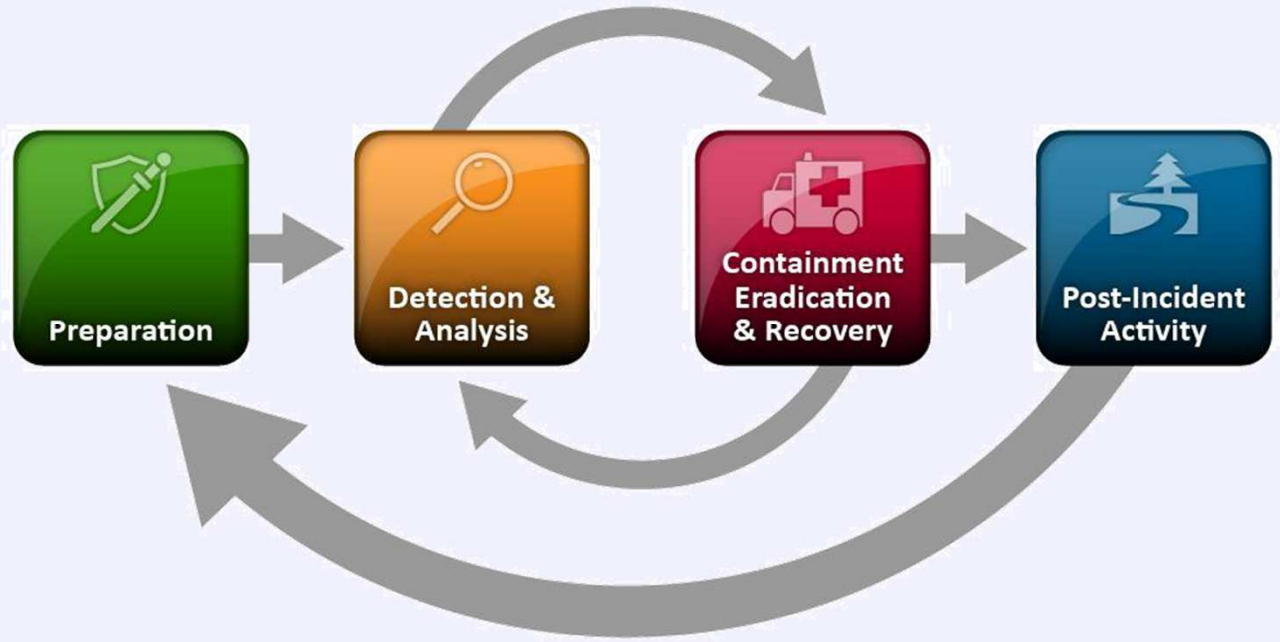
- Treat the CSIRP like a living document
- Not to be dusted off only during emergencies
- Preparation and after action often neglected

Cyclical



Source: NIST

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Tiered Approach

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Incidents need to be classified with at least three tiers of importance.

- Avoids panic at every incident
- No ‘crying wolf’
- Ensures truly bad incidents are treated as such

Flexible

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Does your CSIRP address:

Flexible

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- Threat Based
  - Limited value
  - Process breaks down for undefined threats
- Symptom Based
  - Plan for emerging threats
  - Covers USB eating locusts

Flexible

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Examples of Symptom Based Standards:

- Minimal risk of the unresolved problem getting worse or spreading to other areas of the organization.
- Potential risk…
- Medium to high risk…
- High risk…

Flexible

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Examples of Symptom Based Standards:

- Limited to very few individuals and/or systems.
- Limited to single department and/or non-critical application
- Event affects several locations and/or systems and/or applications with a direct business impact.
- Event affects worldwide operations and/or systems and applications critical to the business

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Resources

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- People
- Money and Contractors

Resources

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- Must be able to pull employees from normal jobs
  - Authority
  - CSIRP emergencies take priorities

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Money and Contractors

Incident Manager must be able to be able to quickly allocated equipment and necessary contractors

- Small slush fund (~$2,500)
- Pre-approval to include certain contractors

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Wrapping It Up

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- **Control communication**
- **Symptom vs. threat based**
- Committees can be your friends
- Cyclical process
- No blame
- Resources

Questions?

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Thank you!

Robert Lelewski
RLELEWSKI@US.IBM.COM
720.271.5130