Incident Response: From Basics to Best Practices
Michael Quinn & Lucie Hayward

August 20, 2018
Introductions – Who We Are

Michael Quinn
Associate Managing Director

Lucie Hayward
Director
Incident Response Plan (IRP)

Definition

The instructions and procedures an organization can use to identify, respond to, and mitigate the effects of a cyber incident.

- *NIST SP 800-34 Rev.1 Contingency Planning Guide for Federal Information Systems*
Incident Response Plan (IRP)

Key Components

- Incident definition
- Designated team members
- Clearly defined roles & responsibilities
- Severity levels
Incident Response Plan (IRP)

- Why is it important to define an incident?
- How do you define an incident?
- How do you define an event?
- How do you define a breach?

- What’s the difference between them? Why should I care?
Incident Response Plan (IRP) – Key Definitions

- Incident Definition (NIST 800-61 r2)
  - NIST says… “A computer security incident is a violation or imminent threat of violation of computer security policies, acceptable use policies, or standard security practices.”

- If we used this definition, we would always be in incident response mode. We all have users! 😊

- Consider appending with: “that has significant potential to lead to the following:
  - Negative impact to the company’s reputation
  - Inappropriate access to PII or PHI, customer data, research data
  - Loss of IP or Funds
Incident Response Plan (IRP) – Key Definitions

- Event Definition
  - NIST says… "An event is any observable occurrence in a system or network."

  - “Adverse events are events with a negative consequence, such as system crashes, packet floods (DDoS), unauthorized use of system privileges, unauthorized access to sensitive data, and execution of malware that destroys data.”
Incident Response Plan (IRP) – Key Definitions

- **Breach Definition (The “B Word”)**
  - “…a security breach in which sensitive, protected, or confidential data is copied, transmitted, viewed, stolen, or used by an individual unauthorized to do so.”
  - Be very careful when using that word in communications around an incident.
  - Generally occurs when an organization has lost control of certain types of sensitive data
    - PII, PHI, customer data
  - Talk to your counsel.
Incident Response Plan (IRP) – Roles & Responsibilities

- Identifies each member of the Incident Response Team (IRT)
- Outlines the role of each member
- Details each team member’s responsibilities
- Can define as one single team, or a core team + ad hoc members as needed
Incident Response Plan (IRP) – Roles & Responsibilities

- Team Members to include / consider:
  - General Counsel (Legal)
  - CISO / CIO (Management / technical)
  - Technical leads (Network / infrastructure)
  - HR
  - PR/Marketing
  - Risk Management/Insurance
  - Business Leads
  - Project Manager
  - Business Continuity Planning

- Know who is driving the bus. There are tough decisions ahead! (In other words – who is in charge?)
Incident Response Plan (IRP) – Communications

- Create a communications matrix
- How will the team communicate securely?
  - Where will you meet? (War rooms)
  - Is it safe to use corporate e-mail?
  - What is verbal, what is written?
- Define who owns communications with external parties
  - Outside counsel, Insurance, Law enforcement, the media, regulators
- Define who owns communications with the C-Suite
Incident Response Plan (IRP) – Communications

- Create a communications matrix
- How will the team communicate securely?
  - Where will you meet? (War rooms)
  - Is it safe to use corporate e-mail?
  - What is verbal, what is written?
- Define who owns communications with external parties
  - Outside counsel, Insurance, Law enforcement, the media, regulators
- Define who owns communications with the C-Suite
Incident Response Plan (IRP) – Associated Materials

- **Contact Lists**
  - Should include contact information for the IRT, key stakeholders
  - Consider critical vendors/service providers
    - When do we bring in outside help (e.g. Mike and Lucie 😊)
  - Should include out of hours contact information
  - Review and update quarterly

- **Network and Critical Application Diagrams**
  - Lack of this information kills response times
  - How can data get in and out of the organization?
Incident Response Decisions

- How do you establish severity levels for an incident?
  - Severity levels = the risk that you’ll mis-label an incident.
    - Don’t go by what your AV vendor says.
    - Make sure your definitions are clear and understood by everyone.
    - Make sure you re-evaluate the severity level as you uncover more information.
  - Incident Declared = top priority, all hands on deck.
Incident Response Decisions – Severity Levels

- How do you establish severity levels for an incident?
- Severity levels = the risk that you’ll mis-label an incident.
  - Don’t go by what your AV vendor says.
  - Make sure your definitions are clear and understood by everyone
  - Make sure you re-evaluate the severity level as you uncover more information
- Incident Declared = top priority, all hands on deck
- OK to establish a severity level for reporting purposes
Incident Response Decisions - Insurance

- Advantages of a cyber insurance policy
  - Access to third party support and discounted rates
  - Coverage for your incident, which can include loss and business interruption

- When do you notify your insurance carrier about an incident?
  - As soon as you think something is going on!
  - Be aware that an informal call usually is not considered “formal notice” by the carrier.
Incident Response Decisions – Third Party Support

- When do you bring in third party assistance? (Law Firm, Forensics, Crisis Communications)

- Remember “The 3 Cs”!
  - Capability – do you have the skillset to do the work?
  - Capacity – do you have enough resources to do the work?
  - Conflict – would it be a conflict of interest to conduct your own investigation?
Incident Response Decisions – Ransomware

- Would you ever consider paying ransomware?
  - Under what circumstances?
  - Who makes this decision?
  - What does your cyber insurance policy cover?
Incident Response Process

- Clearly outline all steps in the process
- Understand how an incident might be reported and how it should be escalated
- Clearly indicate when the team is convened
Incident Response Process

- Clearly outline all steps in the process
- Understand how an incident might be reported and how it should be escalated
- Clearly indicate when the team is convened
Incident Response Life Cycle

1. System Alert
   - Information Security
     - IR Team Lead Notified
       - Initial Investigation
         - Meets Definition?
           - NO: Event Resolved
           - YES: Incident Declared
             - Incident Response Team Convened
               - Investigation Conducted
                 - Investigation Closed
                   - Lessons Learned
                     - Incident Response Team Activities
                       - Mitigation & Remediation Actions
                         - Law Enforcement
                           - Regulatory Agencies
                           - Insurance Carrier
                           - 3rd Party Forensics
                           - Outside Counsel
                           - Notifications
                           - Media Notifications

Note: Some or all of these activities may be performed. The IRF will make the decision based on the nature and scope of the incident.
Incident Response Process

- Clearly outline all steps in the process
- Understand how an incident might be reported and how it should be escalated
- Indicate when the team is convened