MSS Lunch & Learn Series

YALE-MSS-13: Logging

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What are the MSS?

- The Minimum Security Standards (MSS) are baseline requirements for securing Yale IT Systems based on risk.
- The MSS apply to any Yale IT System that uses Yale data and/or operates in support of Yale's Mission

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Understanding the MSS

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The MSS are broken down into:

- Standard Groups (YALE-MSS-X): These group standards together based on cybersecurity requirements.
- Standards (YALE-MSS-X.Y): Standards tell us we must do to meet that cybersecurity requirement at Yale.
- Controls (YALE-MSS-X.Y.Z): Controls provide details on how you can meet the cybersecurity requirement.

YALE-MSS-1:
System Classification

YALE-MSS-1.1:
Classify the IT System and meet the Minimum Security Standards

YALE-MSS-1.1.2:
Determine your system type

What MSS will we review today?

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What are we talking about here?

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- "A *log* is a record of the events occurring within an organization's systems and networks." – NIST (National Institute of Standards and Technology) *Guide to Computer Security Log Management* (SP 800-92)

- Why so important?
  - Incident response
  - Troubleshooting
  - Resource use tracking (what gets measured, gets managed)

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Yale MSS 13.1: Ensure logging contains information required for incident response

- **Servers only**

- Need a minimum of information for troubleshooting and incident response. E.g.:
  - The time and date an event happens
  - System name
  - Source and destination IPs, if network communications are involved
  - User/service account IDs, if feasible
  - The name and ID of the affected process
  - Any basic messages generated by the process (e.g., error, debug, informational messages)

- Yale MSS 13.1.1: Use multiple time servers (*a person with two clocks is never sure of the time*)

- Yale MSS 13.1.2: Ensure client IP addresses are not obscured by load balancers and reverse proxies

- Yale MSS 13.1.3: Ensure adequate space to log data. Logs should be kept for a minimum of 90 days.

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Yale MSS 13.2: Log all authentication events

- **Endpoints and Servers** (moderate- and high-risk)
- Becomes a non-issue when you use Yale's central authentication (e.g., single sign-on via CAS)
- Yale MSS 13.2.1: Collect logs that include all authentication and privileged escalation events

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Yale MSS 13.3: Ensure logs are forwarded to a log server in addition to the in-scope system

- **Not currently required by MSS**—eventually for moderate- and high-risk servers
- Options for access to a log server depend on system deployment; **work with your IT support to deploy the best solution for your system**
  - AWS CloudWatch
  - Azure Monitor
  - Google Cloud Operations
  - Local to Yale
    - Windows—Winlogbeat/Filebeat (transmits data to ISO's SIEM)
    - Linux—Filebeat (transmits data to Logstash and Graylog--possibly to ISO's SIEM, too, depending on server)

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Yale MSS 13.4: Collect and review all source system activity logs

- **HIPAA Systems only**
- *Source system*: in HIPAA, this is an authoritative source of ePHI. Yale Policy 5142 requires auditing of source system activity logs and specifies system activities of interest
- Yale MSS 13.4.1: Identify, track, and periodically audit source systems for compliance with all applicable laws, regulations, and University policies, standards, and procedures
- Yale MSS 13.4.2: Collect log data needed for Information System Activity Review

What is a Security Planning Assessment (SPA)?

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- A SPA is used to:
  - Think through questions about how to meet and maintain the MSS for your IT system
  - Contribute to a registry of IT systems used for security testing
  - Identify and understand risk related to your IT system
- A SPA is **not**:
  - A gate (from ISO's perspective)
  - A detailed review of the security of an IT system
  - A statement of approval from the Information Security Office about an IT system

Steps to the SPA Process

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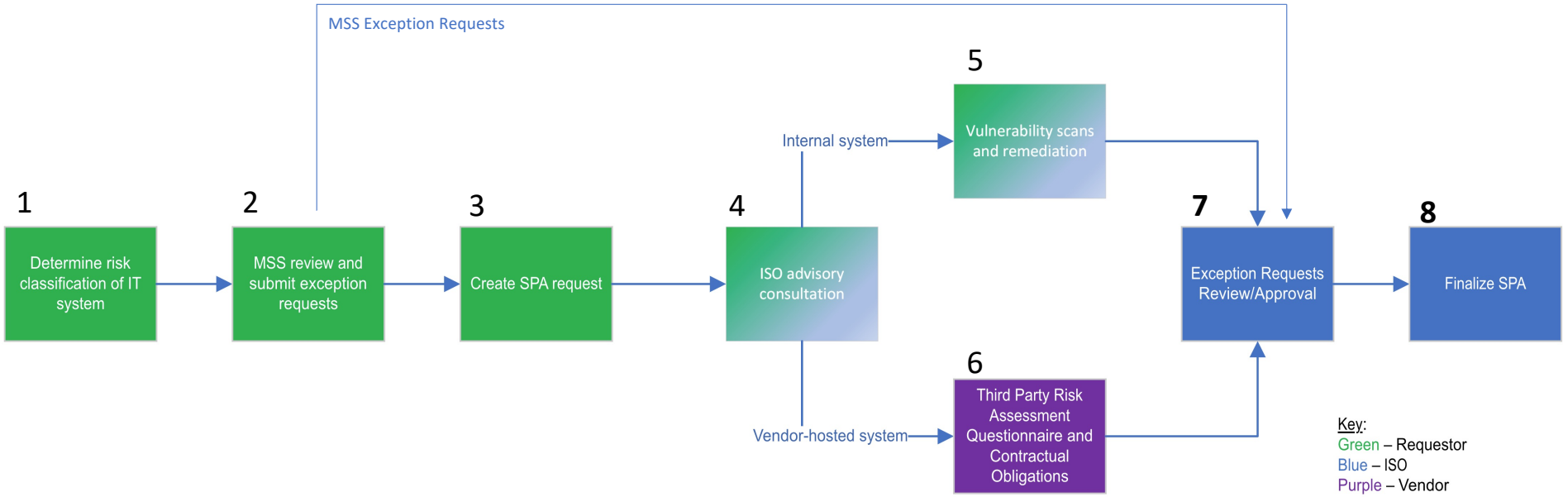

Questions and Answers

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Appendix: SPA at a Glance

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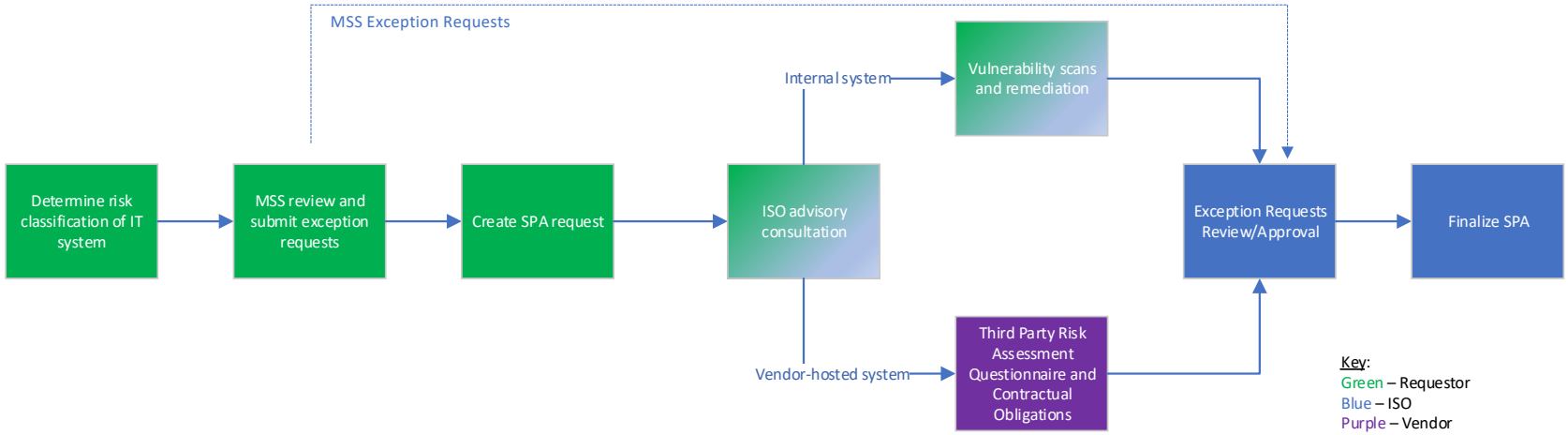

The SPA is used to:

- **Think through questions about how to meet and maintain the MSS for your IT system.**
- **Contribute to a registry of IT systems used for security testing.**
- **Identify and understand risk related to your IT system.**

The SPA is not:

- **A detailed review of the security of an IT system.**
- **A statement of approval from the ISO about an IT system.**

Important Links:

Risk Classification
https://cybersecurity.yale.edu/risk-classification

MSS Calculator
https://cybersecurity.yale.edu/mss/calculator

Submitting a SPA
https://cybersecurity.yale.edu/spa

Submitting an Exception Request
https://cybersecurity.yale.edu/exception-request