**Template Instructions**

Vulnerability Scanning Standard

Follow the instructions below to complete this standards template for use within your own organization.

1. Click each bracketed field below to input basic policy information:

* **Organization Name *(e.g. ACME Co)*:**

[Organization Name]

* **Organization Address *(e.g. 123 Elm St. City, ST. 12345)*:**

[Organization Address]

* **Standard Authority *(e.g. CEO, CIO, or CISO)*:**

[Policy Authority]

* **Standard Owner *(e.g. IT Department)*:**

[Policy Owner]

* **Standard Contact Info *(e.g.*** [***jon.smith@acme.com***](mailto:jon.smith@acme.com)***)*:**

[Owner Contact Info]

* **Standard Number *(e.g. STRD-INFOSEC-01)*:**

[Policy Number]

1. Thoroughly review all 10 Standards Sections to ensure accuracy and alignment with existing organizational policies, procedures, and standards.
2. Input key term definitions that require clarification into Section 7.
3. Review related documents in Section 10.
4. Save the document and print the necessary pages to a PDF or printer.
5. Visit [docs.policytemplates.online](https://docs.policytemplates.online/) for further policy/standard creation and implementation resources.

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| --- | --- |
| [Organization Name] | **No:**  [Policy Number] |
| **IT Standard**:  **Vulnerability Scanning** | **Updated:** 11/1/2024 |
| **Issued By:**  [Policy Authority]  **Owner:**  [Policy Owner] |

# 1.0 Purpose and Benefits

The purpose of this Vulnerability Scanning Standard is to provide a systematic approach for identifying, tracking, evaluating, prioritizing, and managing vulnerabilities in systems, network devices, and applications through automated scanning. By implementing this standard, organizations can effectively mitigate risks associated with known and potential vulnerabilities, thereby enhancing the confidentiality, integrity, and availability of their information assets.

Adhering to this standard offers numerous benefits, including improved risk management through timely identification of vulnerabilities and proactive remediation, which reduces the likelihood of exploitation. It ensures compliance with industry best practices and regulatory requirements, fosters accountability among stakeholders, and enhances overall security posture. Additionally, the systematic tracking of vulnerabilities helps in making informed decisions regarding resource allocation and security investments, ultimately leading to a more resilient IT environment.

# 2.0 Authority

This standard is established under the authority of organizational management and is guided by best practices outlined in the National Institute of Standards and Technology (NIST) Cybersecurity Framework 2.0. While not mandated by law, the organization adopts this framework to enhance its cybersecurity posture and protect its information assets. The authority for enforcement and adherence to this standard is vested in the [Policy Authority], who is responsible for ensuring compliance across all departments.

# 3.0 Scope

This standard applies to all employees, contractors, third-party vendors, and any individuals or entities accessing, using, or managing the organization's information systems, networks, and physical infrastructure, regardless of the medium or format of the information. It covers all electronic, paper-based, and verbal communication, including, but not limited to, data processing systems, cloud services, email platforms, mobile devices, databases, and other digital storage mechanisms that store, transmit, or process sensitive organizational information.

The standard encompasses internal and external users, whether they access the organization's systems on-site or remotely, and includes all physical infrastructure such as data centers, workstations, and hardware that interact with or support the organization's information environment. Additionally, it extends to any devices, both personal and organizational, that connect to the corporate network or handle company data.

All users are responsible for protecting the confidentiality, integrity, and availability of information, complying with this standard and relevant laws, and familiarizing themselves with the organization's security policies and procedures to ensure the protection of organizational assets. Failure to comply with these requirements may result in disciplinary action, including termination of access rights or contractual agreements.

# 4.0 Information Statement

In accordance with the Information Security Policy, all systems must undergo regular vulnerability scanning to identify and assess potential security weaknesses. Each system must be accurately inventoried, and a designated individual or team must be assigned responsibility for its maintenance and administration. Vulnerability scans should be conducted using approved automated tools capable of providing remediation recommendations and assigning severity ratings to identified vulnerabilities based on their potential impact.

All scan reports are classified as having moderate confidentiality and integrity, requiring appropriate protection measures. It is essential that all entities provide external IP addresses and URLs for externally facing web applications to ensure comprehensive scanning. Network and system administrators must enable scanning tools to access all services, ensuring no configurations block authorized scans. Regular scanning is required throughout the system development lifecycle, including pre-deployment, implementation, and periodic assessments based on risk ratings.

* 1. Types of Scans

The type of vulnerability scans appropriate for a given target depends on the target type (i.e., hardware, software, source code) and the target’s location (i.e., internal or external to the network). The table below lists the types of vulnerability scans required by this standard.

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| **Type** | **Description** |
| **External Infrastructure Scan** | Scans of the perimeter of networks or any externally available hosted infrastructure to identify potential vulnerabilities in Internet accessible IT infrastructure. |
| **Internal Infrastructure**  **Scan** | Scans of IT infrastructure on protected networks or any hosted infrastructure to identify potential vulnerabilities. |
| **“Lite” Web Application Scan** | Cursory unauthenticated scans of externally facing production web applications to identify security vulnerabilities. |
| **In-depth Web Application Scan** | When implemented, authenticated in-depth scans of web applications to identify security vulnerabilities. |
| **Application Source Code Analysis** | Scans of application source code run during development to identify problems in the code that could cause potential vulnerabilities. |

* 1. Scanning

Entities are responsible for confirming that vulnerability scans are conducted. Entities must use a scanning tool approved by the ISO/designated security representative. Any approved scanning tool must be able to provide remediation suggestions and be able to associate a severity value to each vulnerability discovered based on the relative impact of the vulnerability to the affected system.

As per the Information Classification Standard, scan reports are classified with moderate confidentiality and moderate integrity and should be protected as such.

Entities are required to provide all external IP addresses and Uniform Resource Locators (URLs) for all externally facing web applications to the ISO/designated security representatives.

Network and system administrators must provide sufficient access to allow the vulnerability scan engine to scan all services provided by the system. No devices connected to the network shall be specifically configured to block vulnerability scans from authorized scanning engines.

Scans must be performed within the system development life cycle (see SSDLC Standard) while in pre-deployment environments, when deployed into the target implementation environment, and periodically thereafter as specified below:

1. Pre-deployment scans occur prior to the move of the system or web application to the target implementation environment:
   1. All systems must undergo an authenticated internal infrastructure scan, where technically feasible or required, before being deployed to the target implementation environment. Any infrastructure vulnerability discovered must be remediated or determined to be a false positive or insignificant risk, by the Information Security Officer (ISO)/designated security representative, prior to the system being deployed for intended use.
   2. When source code is available, applications must undergo source code scanning before the updated code moves into the target implementation environment if there has been a change to application code.
   3. Scans must be authenticated when the application requires authentication before being deployed into the target implementation environment or into an environment that is externally accessible. When authentication is required to access the application, scans must be run with authenticated access at each access level (e.g., user, admin) supported by the application, except where limitations in the tool prevent authenticated scanning. Any web application vulnerability discovered must be remediated or determined to be a false positive or insignificant risk by the ISO/designated security representative, prior to the system being placed into the target implementation environment.
   4. Any system or application deployed to its target implementation environment with un-remediated vulnerabilities must have a formal remediation plan and the documented approval of the executive responsible for risk management or their designee.
2. Implementation scans occur the first time a system or web application is moved to its target implementation environment:
   1. Systems must be scanned immediately upon being placed into the target implementation environment with an authenticated internal infrastructure scan, where technically feasible or required. If the system is accessible from the internet or an external network, then the system must be scanned with an external infrastructure scan.
   2. Web applications must be scanned within the first month of being placed into the target implementation environment. An authenticated in-depth web application scan is required if feasible, but at minimum a “lite” web application scan is required. Sensitivity and criticality of the application must be considered when determining the schedule for the initial implementation scan.
3. Recurring Scans: After the initial scan in the target implementation environment, the frequency of scans are to occur according to the system or application’s risk rating (see Table 2).
   1. When performing internal infrastructure scans on systems built using a shared image, such as workstations, scans may be run on a sampling of systems but the sample set must vary from scan to scan.
   2. Web applications in production are required to undergo recurring scans. At minimum, web applications in production are required to undergo recurring “lite” application scans.
   3. All vulnerabilities found during scans must be addressed as per the remediation section below.
   4. Determine Risk Rating and Frequency of Scans

The risk that vulnerabilities pose to systems and applications is based on the likelihood of a vulnerability being exploited and the impact if the confidentiality, integrity or availability of the information assets were compromised. The likelihood of a vulnerability being exploited is increased in direct relation to the system’s or application’s accessibility from other systems.

The impact to the information assets is based on the asset’s information classification (see Information Classification Standard). Impact (i.e., high, moderate or low) if the confidentiality, integrity or availability is compromised must be considered and the highest individual impact rating for confidentiality, integrity or availability utilized within the table below.

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| **Table 2: RISK RATING** | | | |
| **Impact**  **(Confidentiality, Integrity, Availability)** | **Exposure** | | |
| **Systems with no network connectivity to production data** | **Systems with network connectivity to production data (not internet facing)** | **System that is publicly available from the internet** |
| **High** | **Medium** | **High** | **High** |
| **Medium** | **Low** | **Medium** | **High** |
| **Low** | **Low** | **Low** | **Medium** |

Minimum frequency of scans is dependent on the risk rating. Systems without a risk rating must be scanned as if they had a risk rating of “High” until they are rated.

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| **TABLE 3: FREQUENCY OF SCANS** | |
| **Risk Rating** | **Frequency** |
| **Infrastructure scans** | |
| High | Monthly |
| Medium | Quarterly |
| Low | Semi-annually |
| **Web Application Scans** | |
| High | Quarterly or after significant change |
| Medium | Semi-annually |
| Low | Annually |

* 1. Remediation

Vulnerabilities discovered during scans must be remediated based on risk rating (see Table 2) and vulnerability severity identified by the scanning tool as per the table below.

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| **TABLE 4: REMEDIATION TIMEFRAMES** | | | |
| **Risk Rating (from** [**Table 2**](#Table2)**)** | **Vulnerability Severity** | | |
| Low or Below | Above Low to Below High | High or Above |
| **High** | At the discretion of the ISO/designated security representative | Action Plan in 2 Weeks, Resolved in 6 Months | Action Plan in 1 Week, Resolved in 1 Month |
| **Medium** | At the discretion of the ISO/designated security representative | Action Plan in 3 Weeks, Resolved in 1 year | Action Plan in 2 Weeks, Resolved in 6 Months |
| **Low** | At the discretion of the ISO/designated security representative | At the discretion of the ISO/designated security representative | Action Plan in 3 Weeks, Resolved 1 year |

The ISO/designated security representative may review vulnerabilities to adjust the severity rating if necessary. Testing must be done to verify that remediation has been completed.

Individuals managing vulnerability scans are required to notify the ISO/designated security representative within 1 business day of scan completion for new vulnerabilities and at least monthly of un-remediated vulnerabilities on systems or applications that are running in production.

ISOs/designated security representatives must notify management of any un-remediated vulnerabilities not addressed in the timeframes prescribed in this standard, so that risk is accepted by the appropriate party.

# 5.0 Compliance

This standard shall take effect upon publication. Compliance is expected with all enterprise policies and standards. Policies and standards may be amended at any time; compliance with amended policies and standards is expected.

If compliance with this standard is not feasible or technically possible, or if deviation from this standard is necessary to support a business function, entities shall request an exception through the following process.

# 6.0 Standard Exceptions

Requests for exceptions to this standard must be submitted to the [Policy Authority] by the requesting department. Each request should include the scope and justification for the exception, potential risks, proposed mitigation measures, and a timeframe for achieving compliance. The [Policy Authority] will review and discuss these requests with the department.

# 7.0 Definitions of Key Terms

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| **Term** | **Definition** |
| Information Systems | Any combination of hardware, software, data, and personnel that processes, stores, or transmits information, including but not limited to computers, servers, networks, and applications. |
| Users | Individuals or entities, including employees, contractors, and third-party vendors, who access or interact with the organization’s information systems and data. |
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# 8.0 Contact Information

Submit all inquiries and requests for future enhancements to the standard owner at:

[Policy Owner]

[Owner Contact Info]

[Organization Address]

# 9.0 Review and Revision

This standard should be reviewed at least annually to keep pace with evolving regulations, threat landscapes, and organizational changes. However, more frequent reviews may be necessary following regulatory updates, cybersecurity incidents, significant technology changes, organizational shifts, or compliance audits. This standard should be revised based on these reviews and those revisions noted below.

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| --- | --- | --- |
| **Date** | **Description of Change** | **Reviewer** |
|  |  |  |

# 10.0 Related Documents

[National Institute of Standards and Technology (NIST) SP: 800-92 - Guide to Computer Security Log Management](https://csrc.nist.gov/pubs/sp/800/92/final)

[National Institute of Standards and Technology (NIST) SP: 800-115 - Technical Guide to Information Security Testing and Assessment](https://www.nist.gov/privacy-framework/nist-sp-800-115)