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**Information technology — Security  
techniques — Vulnerability handling  
processes**

*Technologies de l'information — Techniques de sécurité — Processus  
de traitement de la vulnérabilité*

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## Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *Information security, cybersecurity and privacy protection*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

This second edition cancels and replaces the first edition (ISO/IEC 30111:2013), which has been technically revised. The main changes compared to the previous edition are as follows:

- a number of normative provisions have been revised or added (summarized in Annex A);
- organizational and editorial changes have been made for clarity and harmonization with ISO/IEC 29147:2018.

This document is intended to be used with ISO/IEC 29147.

## Introduction

This document describes processes for vendors to handle reports of potential vulnerabilities in products and services.

The audience for this document includes developers, vendors, evaluators, and users of information technology products and services. The following audiences can use this document:

- developers and vendors, when responding to actual or potential vulnerability reports;
- evaluators, when assessing the security assurance afforded by vendors' and developers' vulnerability handling processes; and
- users, to express procurement requirements to developers, vendors and integrators.

This document is integrated with ISO/IEC 29147 at the point of receiving potential vulnerability reports and at the point of distributing vulnerability remediation information (see [5.1](#)).

Relationships to other standards are noted in [Clause 5](#).

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# Information technology — Security techniques — Vulnerability handling processes

## 1 Scope

This document provides requirements and recommendations for how to process and remediate reported potential vulnerabilities in a product or service.

This document is applicable to vendors involved in handling vulnerabilities.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 27000, *Information technology — Security techniques — Information security management systems — Overview and vocabulary*

ISO/IEC 29147:2018, *Information technology — Security techniques — Vulnerability disclosure*

## 3 Terms and definitions

For the purposes of this document, terms and definitions given in ISO/IEC 27000 and ISO/IEC 29147 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

## 4 Abbreviated terms

The following abbreviated terms are used in this document.

CSIRT Computer Security Incident Response Team

PSIRT Product Security Incident Response Team

## 5 Relationships to other International Standards

### 5.1 ISO/IEC 29147

ISO/IEC 29147 shall be used in conjunction with this document. The relationship between the two is illustrated in [Figure 1](#).

This document provides guidelines for vendors on how to process and remediate potential vulnerability information reported by internal or external individuals or organizations.

ISO/IEC 29147 provides guidelines for vendors to include in their normal business processes when receiving reports about potential vulnerabilities from external individuals or organizations and when distributing vulnerability remediation information to affected users.

While this document deals with the investigation, triage, and remediation of internally or externally reported vulnerabilities, ISO/IEC 29147 deals with the interface between vendors and those who find and report potential vulnerabilities.

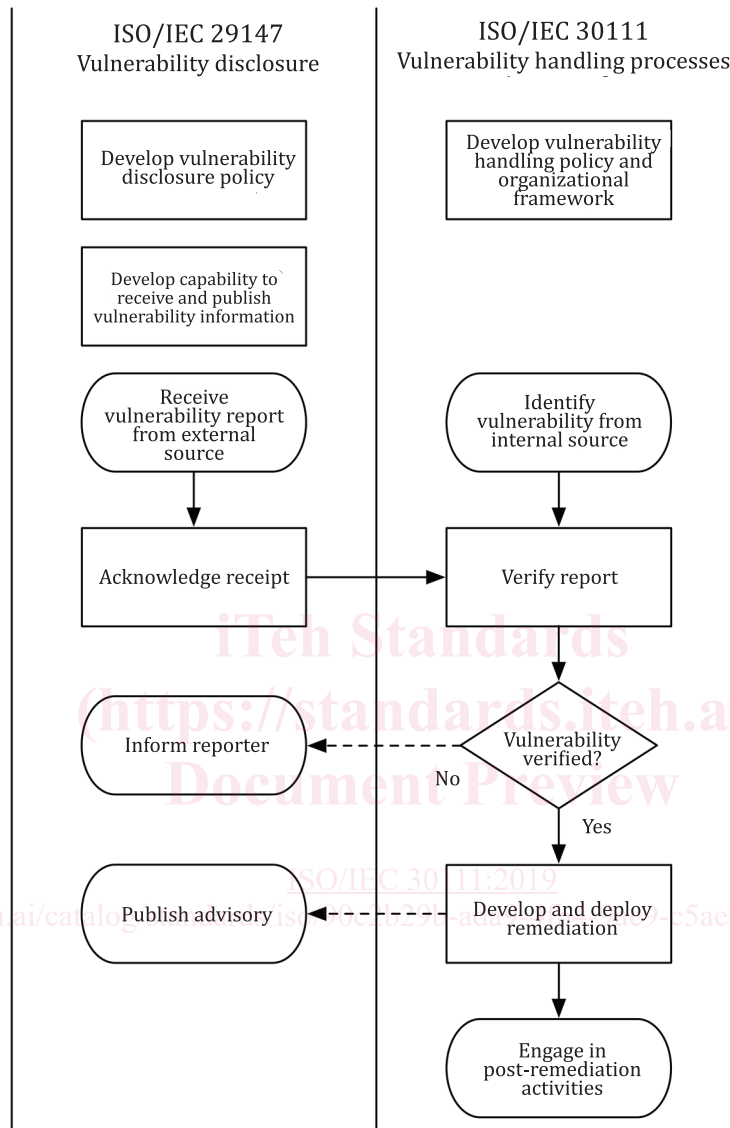


Figure 1 — Relationship between ISO/IEC 29147 and ISO/IEC 30111

## 5.2 ISO/IEC 27034 (all parts)

Application security seeks to reduce the creation of application vulnerabilities (see ISO/IEC 27034-1:2011, 6.5.2<sup>[1]</sup>). Application security techniques can also be useful for remediating reported vulnerabilities.

## 5.3 ISO/IEC 27036-3

Effective vulnerability handling processes require thorough understanding of ICT supply chain security as described in ISO/IEC 27036-3:2013, 5.4 a), 5.8 i), 6.1.1 a) 2) and 6.3.4<sup>[2]</sup>.



## 5.4 ISO/IEC 15408-3

This document takes into consideration the relevant elements of ISO/IEC 15408-3:2008, 13.5<sup>[3]</sup>.

# 6 Policy and organizational framework

## 6.1 General

[Clause 6](#) describes the organizational elements that vendors should consider in their vulnerability handling processes. Vendors should create a vulnerability handling process in accordance with this document in order to prepare for investigating and remediating potential vulnerabilities. The creation of a vulnerability handling process is a task that is performed by a vendor and should be periodically assessed to ensure that the process performs as expected and to support process improvements. Vendors should document their vulnerability handling processes in order to ensure that they are repeatable. The documentation should describe the procedures and methods used to track all reported vulnerabilities.

See ISO/IEC 27034 (all parts)<sup>[1]</sup> for information on how identification of the root cause of a vulnerability, which is a step in the process of vulnerability handling, can help improve secure software development lifecycles and result in an outcome of more secure product development.

## 6.2 Leadership

### 6.2.1 Leadership and commitment

Top management should demonstrate leadership and commitment with respect to vulnerability handling by:

- a) ensuring the policy and the objectives of vulnerability handling are established and are compatible with the strategic direction of the organization;
- b) ensuring the integration of the vulnerability handling into the organization's processes;
- c) ensuring that the resources needed for the vulnerability handling are available;
- d) communicating the importance of effective vulnerability handling;
- e) ensuring that the vulnerability handling process achieves its intended outcome(s);
- f) directing and supporting persons to contribute to the effectiveness of the vulnerability handling process;
- g) promoting continual improvement; and
- h) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

### 6.2.2 Policy

Top management should establish vulnerability handling policy that:

- a) is appropriate to the purpose of the organization;
- b) includes a best-effort commitment to satisfy user's requirements related to its product or online service security; and
- c) includes a commitment to continual improvement of the vulnerability handling process.

More information about vulnerability handling policy is provided in [6.3](#).

### 6.2.3 Organizational roles, responsibilities, and authorities

Top management should ensure that the responsibilities and authorities for roles relevant to vulnerability handling are assigned and communicated.

Top management should assign the responsibility and authority for:

- a) ensuring that the vulnerability handling process conforms to the requirements of this document; and
- b) reporting on the performance of the vulnerability handling to top management.

### 6.3 Vulnerability handling policy development

A vendor shall develop and maintain an internal vulnerability handling policy to define and clarify its intentions for investigating and remediating vulnerabilities as part of a vulnerability handling process. This policy should be compatible with the external vulnerability disclosure policy required by ISO/IEC 29147.

The internal vulnerability handling the policy is intended for the vendor's staff and defines who is responsible in each stage of the vulnerability handling process and how they should handle reports about potential vulnerabilities. It should include the following items:

- a) basic guidance, principles, and responsibilities for handling potential vulnerabilities in products or services;
- b) a list of departments and roles responsible for handling potential vulnerabilities;
- c) safeguards to prevent premature disclosure of information about potential vulnerabilities before they are fixed; and
- d) a target schedule for remediation development.

The audience for the external vulnerability disclosure policy is internal and external stakeholders, including reporters who wish to report potential vulnerabilities, and users of the vendor's products or services. This policy informs the audience of how the vendor is willing to interact with them when a potential vulnerability is found in the vendor's product or services. Guidance, details and examples of public vulnerability disclosure policies are included in ISO/IEC 29147:2018, Clause 9 and Annex A.

### 6.4 Organizational framework development

Handling vulnerabilities has several additional aspects than just engineering and technology (for example, customer service and public relations). An organizational framework should be designed, recognized, and supported by the stakeholder divisions of the vendor responsible for each area.

An organization should have a role or capability that is responsible for and has authority to make decisions on vulnerability handling, preferably at a management level. This role or capability should understand the responsibility toward the vendor's users, the internal processes, and the organizational framework for vulnerability handling.

An organization should have a role or capability that is a point of contact for handling potential vulnerabilities. This point of contact should be identified for each division or department within a vendor that provides products or services to customers.

An organization should establish a point of contact for external parties to reach and communicate with about vulnerabilities. The point of contact can be part of a vendor computer security incident response team (CSIRT) or a product security incident response team (PSIRT). Further details are discussed in [6.5](#).

Since customers and members of the media can contact the vendor with questions or requests for additional information after a vulnerability is disclosed, divisions responsible for customer and public relations should be prepared so that they can respond.