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Information security, cybersecurity and privacy protection — Evaluation criteria for IT security —

Part 5:
Pre-defined packages of security requirements

Sécurité de l'information, cybersécurité et protection de la vie privée — Critères d'évaluation pour la sécurité des technologies de l'information —

Partie 5: Paquets prédéfinis d'exigences de sécurité

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Foreword

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

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Introduction

This document provides pre-defined packages of security requirements. Such security requirements can be useful for stakeholders as they strive for conformity between evaluations. Packages of security requirements can also help reduce the effort in developing Protection Profiles (PPs) and Security Targets (STs).

ISO/IEC 15408-1 defines the term "package" and describes the fundamental concepts.

NOTE This document uses bold and italic type in some cases to distinguish terms from the rest of the text. The relationship between components within a family is highlighted using a bolding convention. This convention calls for the use of bold type for all new requirements. For hierarchical components, requirements are presented in bold type when they are enhanced or modified beyond the requirements of the previous component. In addition, any new or enhanced permitted operations beyond the previous component are also highlighted using bold type.

The use of italics indicates text that has a precise meaning. For security assurance requirements the convention is for special verbs relating to evaluation.

Information security, cybersecurity and privacy protection — Evaluation criteria for IT security —

Part 5: Pre-defined packages of security requirements

1 Scope

This document provides packages of security assurance and security functional requirements that have been identified as useful in support of common usage by stakeholders.

EXAMPLE Examples of provided packages include the evaluation assurance levels (EAL) and the composed assurance packages (CAPs).

This document presents:

- *evaluation assurance level (EAL)* family of packages that specify pre-defined sets of security assurance components that may be referenced in PPs and STs and which specify appropriate security assurances to be provided during an evaluation of a target of evaluation (TOE);
- *composition assurance (CAP)* family of packages that specify sets of security assurance components used for specifying appropriate security assurances to be provided during an evaluation of composed TOEs;
- *composite product (COMP)* package that specifies a set of security assurance components used for specifying appropriate security assurances to be provided during an evaluation of a composite product TOEs;
- *protection profile assurance (PPA)* family of packages that specify sets of security assurance components used for specifying appropriate security assurances to be provided during a protection profile evaluation;
- *security target assurance (STA)* family of packages that specify sets of security assurance components used for specifying appropriate security assurances to be provided during a security target evaluation.

The users of this document can include consumers, developers, and evaluators of secure IT products.

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 15408-1:2022, *Information security, cybersecurity and privacy protection— Evaluation criteria for IT security — Part 1: Introduction and general model*

ISO/IEC 15408-3:2022, *Information security, cybersecurity and privacy protection— Evaluation criteria for IT security — Part 3: Security assurance components*

3 Terms and definitions

For the purposes of this document, the terms, definitions and abbreviated terms given in ISO/IEC 15408-1 and ISO/IEC 15408-3 apply.

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

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

— IEC Electropedia: available at https://www.electropedia.org/

4 Evaluation assurance levels

4.1 Family name

The name of this family of packages is evaluation assurance levels (EAL).

4.2 Evaluation assurance level overview

4.2.1 General

The EALs provide an increasing scale that balances the level of assurance obtained with the cost and feasibility of acquiring that degree of assurance. The approach of ISO/IEC 15408-1 identifies the separate concepts of assurance in a TOE at the end of the evaluation, and of maintenance of that assurance during the operational use of the TOE.

NOTE Not all families and components given in ISO/IEC 15408-3 are included in the EALs. This is not to say that these do not provide meaningful and desirable assurances. Instead, it is expected that these families and components can be considered for augmentation of an EAL in those Protection Profiles (PPs) and Security Targets (STs) for which they provide utility. Additionally, some classes found in ISO/IEC 15408-3 are not relevant for the EALs. Examples of such classes include the APE and ACO classes.

A set of assurance components have been chosen for each EAL.

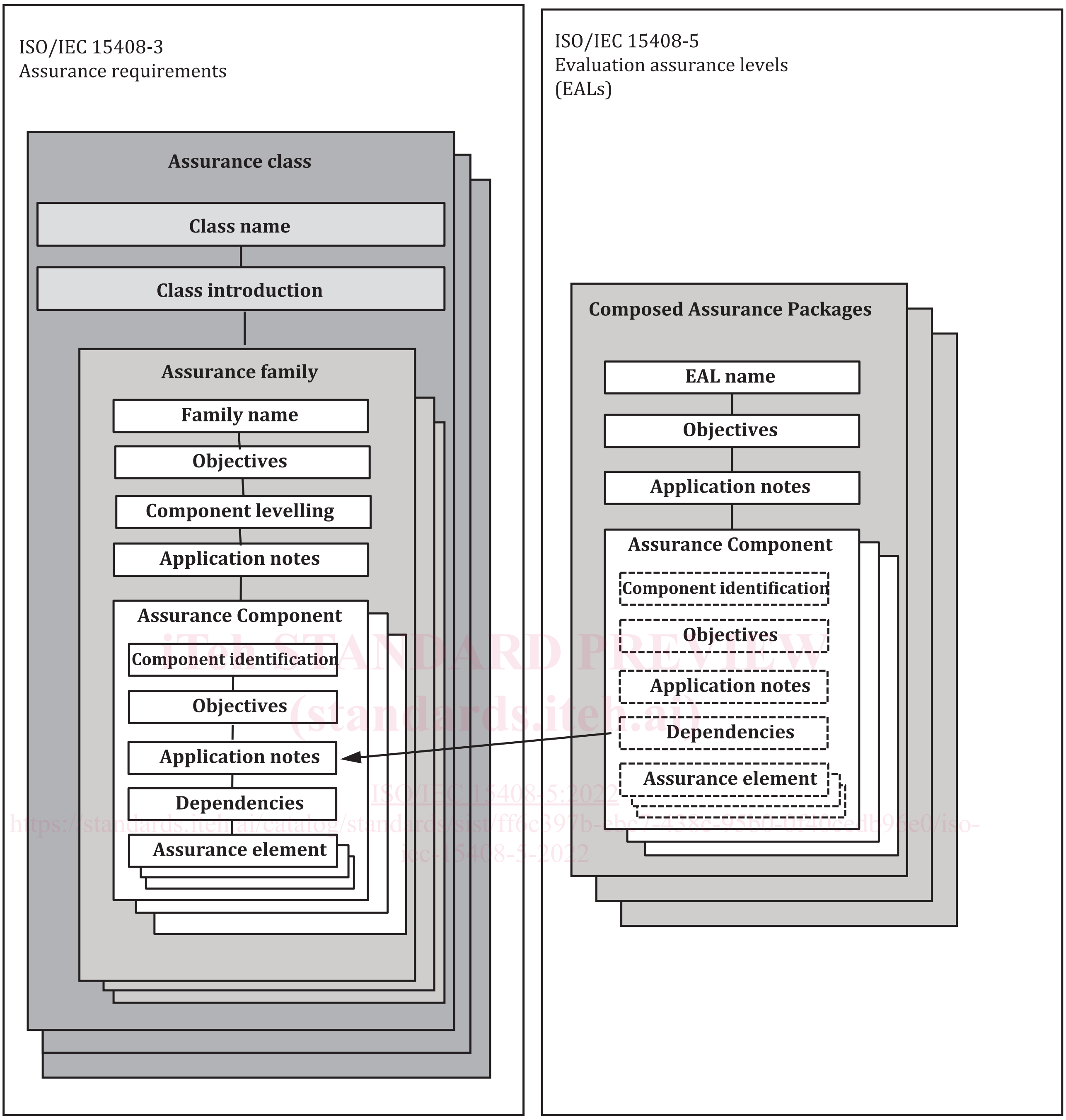
A higher level of assurance than that provided by a given EAL can be achieved by:

a) including additional assurance components from other assurance families; or

b) replacing an assurance component with a higher-level assurance component from the same assurance family.

4.2.2 Relationship between assurances and assurance levels

Figure 1 illustrates the relationship between the security assurance requirements (SARs) found in ISO/IEC 15408-3 and the assurance levels defined in this document. While assurance components further decompose into assurance elements, assurance elements cannot be individually referenced by assurance levels.



NOTE The arrow in the figure represents a reference from an EAL to an assurance component within the class where it is defined.

Figure 1 — Assurance and assurance level association

Table 1 represents a summary of the EALs. The columns represent a hierarchically ordered set of EALs, while the rows represent assurance families. Each number in the resulting matrix identifies a specific assurance component where applicable.

Those items marked in grey are not applicable in the EAL specification. However, they can be used to augment the EAL package.

NOTE Although the ALC_FLR and ALC_TDA families are not shown in Table 1, they are often used as an augmentation to the EALs.

Table 1 — Evaluation assurance level summary

Assurance class	Assurance family	Assurance components by evaluation assurance level						
		EAL1	**EAL2**	**EAL3**	**EAL4**	**EAL5**	**EAL6**	**EAL7**
Development	ADV_ARC		**1**	1	1	1	1	1
	ADV_FSP	**1**	**2**	**3**	**4**	**5**	5	**6**
	ADV_IMP				**1**	1	**2**	2
	ADV_INT					**2**	**3**	3
	ADV_SPM						**1**	1
	ADV_TDS		**1**	**2**	**3**	**4**	**5**	**6**
Guidance documents	AGD_OPE	**1**	1	1	1	1	1	1
	AGD_PRE	**1**	1	1	1	1	1	1
Life-cycle support	ALC_CMC	**1**	**2**	**3**	**4**	4	**5**	5
	ALC_CMS	**1**	**2**	**3**	**4**	**5**	5	5
	ALC_DEL		**1**	1	1	1	1	1
	ALC_DVS			**1**	1	1	**2**	2
	ALC_LCD			**1**	1	1	1	**2**
	ALC_TAT				**1**	**2**	**3**	3
ST evaluation	ASE_CCL	**1**	1	1	1	1	1	1
	ASE_ECD	**1**	1	1	1	1	1	1
	ASE_INT	**1**	1	1	1	1	1	1
	ASE_OBJ	**1**	**2**	2	2	2	2	2
	ASE_REQ	**1**	**2**	2	2	2	2	2
	ASE_SPD		**1**	1	1	1	1	1
	ASE_TSS	**1**	1	1	1	1	1	1
Tests	ATE_COV		**1**	**2**	2	2	**3**	3
	ATE_DPT			**1**	1	**3**	3	**4**
	ATE_FUN		**1**	1	1	1	**2**	2
	ATE_IND	**1**	**2**	2	2	2	2	**3**
Vulnerability assessment	AVA_VAN	**1**	**2**	2	**3**	**4**	**5**	5

4.3 Evaluation assurance level objectives

As outlined in 4.4, seven hierarchically ordered evaluation assurance levels are defined in this document for the rating of a TOE's assurance. They are hierarchically ordered inasmuch as each EAL represents more assurance than all lower EALs. The increase in assurance from EAL to EAL is accomplished by substitution of a hierarchically higher assurance component from the same assurance family (i.e. increasing rigour, scope and/or depth) and from the addition of assurance components from other assurance families (i.e. adding new requirements).

These EALs consist of an appropriate combination of assurance components as described in ISO/IEC 15408-3. More precisely, each EAL includes no more than one component of each assurance family and all the assurance dependencies of every component are addressed.

The notion of "augmentation" allows the addition of assurance components (from assurance families not already included in the EAL) or the substitution of assurance components (with another hierarchically higher assurance component in the same assurance family) to an EAL. Of the assurance constructs defined in ISO/IEC 15408-1, only EALs may be augmented. The notion of an "EAL minus a constituent assurance component" is not recognized in ISO/IEC 15408-1 as a valid claim. Augmentation carries with