INTERNATIONAL STANDARD

ISO/IEC 24773-1

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Software and systems engineering — Certification of software and systems engineering professionals —

Part 1:
General requirements

Ingénierie du logiciel — Certification des professionnels de l'ingénierie du logiciel —

Partie 1: Exigences générales

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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).

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) 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. This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 07, *Software and systems engineering*.

This first edition cancels and replaces ISO/IEC 24773:2008 which has been technically revised.

The main changes compared to the previous edition are as follows:

— normative reference has been made to ISO/IEC 17024, for general requirements related to certifications and the certification of persons;

— a statement of general requirements or recommendations applicable to both software and systems engineering has been added;

— a separation of software-engineering-specific requirements from the generic requirements has been made;

— additional requirements for certifications in systems engineering have been included;

— additional recommendations concerning bodies of knowledge which form one element of a certification scheme have been added; and

— additional guidance concerning the description of skills and competencies has been added.

A list of all parts in the ISO/IEC 24773 series can be found on the ISO website.

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.

Introduction

Over the past several decades, software systems have become critical components of most aspects of life. At the same time, these systems have become increasingly complex. One response to this situation has been the recognition and codification of effective practices for systems and software development processes and products. This effort has led to the development of systems and software engineering standards by ISO and IEC, by professional societies, and by national standards bodies. It has also led to the definition of an internationally-recognized body of knowledge for software engineering[5] and systems engineering[8].

The increasing globalization of the industry implies that a systems engineering or software engineering professional is likely to work in different countries over the course of a career. Currently individuals around the world are working in these domains and they possess varying levels of knowledge and skill. However, there is no single certification which is recognized for these domains – there are many certifications and they differ in several respects.

It is therefore important to develop certifications for these domains which are more meaningful, more readily comparable, and which are recognized internationally. An International Standard which contains minimum requirements for the scope and content of certifications for professionals in these domains can increase confidence in those certifications which conform to that International Standard.

Because conforming certifications meet the requirements contained in this document, the standard can improve the recognition and acceptance of those certifications in countries and jurisdictions around the world. This increased acceptance and recognition in turn can enhance the mobility of the professionals holding a conforming certification.

This document responds to the needs of organizations that require software or systems engineers whose skills and competence are attested by a certification that conforms to an International Standard.

At present, different countries have adopted different approaches regarding the required skills and knowledge for professionals working in these domains – these may be implemented by means of regulations and laws. The establishment of certifications for professionals in these domains, and the definition for minimum requirements for such schemes are not intended to interfere with or override such national regulations and laws. A certification for professionals in these domains, as described in this document is not a licence to practice in any jurisdiction. However, licensing bodies and regulators may consider various certifications of individual persons. The intention of this document is to be open to these national approaches by providing a framework for expressing them in a common scheme that can lead to understanding between different countries.

This document is part one of ISO/IEC 24773 (all parts), a multi-part standard that revises and replaces ISO/IEC 24773:2008. The existing version of ISO/IEC 24773:2008 was intended to be used as a framework for the comparison of certifications for software engineering professionals.

Many qualifications and some certifications exist for systems and software engineering. There is currently no International Standard that defines the minimum requirements for such schemes. This new revision of ISO/IEC 24773 addresses the certification of professionals in software engineering and systems engineering.

ISO/IEC 17024 is a base standard containing general requirements for bodies performing certification of persons. The revised ISO/IEC 24773 (all parts) contains requirements specifically related to certifications for software and systems engineering professionals. ISO/IEC 24773 (all parts) also contains guidance to certification bodies regarding the definition of knowledge, skill and competence that are to be incorporated into a certification for such professionals. ISO/IEC 24773 (all parts) is intended to be used in combination with ISO/IEC 17024.

ISO/IEC 24773 (all parts) is useful to industry organizations seeking to compare various certifications for professionals in systems and/or software engineering; to individual professionals seeking to obtain certification; and to employers who may choose or recognize such certifications. Such comparison is important for the society and for various types of stakeholders, since many disparate certification

schemes currently exist in this domain and since each scheme defines its own competence scheme. A comparison framework facilitates the comparison between certifications and thus encourages certification providers to engage in continuous improvement of a certification. An engineer or an organization can also benefit from a comparison framework, because they can choose a certification which is appropriate for their skill/career development needs and their current level of achievement.

ISO/IEC 24773 (all parts) is useful to certification bodies offering schemes in the domain of systems/ software engineering, as it contains minimum requirements for the certification, and conformance to ISO/IEC 24773 (all parts) can help the conforming certification to be globally accepted and recognized. The document is useful to many stakeholder groups since it can help to promote clear consistent standards for knowledge, skill and competence that are applicable to professionals in these domains.

ISO/IEC 24773 (all parts) is also useful to bodies offering qualifications in the domain of systems/ software engineering. Qualifications, as defined in ISO/IEC 24773 (all parts), cannot claim conformance to ISO/IEC 24773 (all parts) because they do not address one or more of the minimum requirements defined for certification. However, the various requirements defined in ISO/IEC 24773 (all parts) can be used as a comparison framework for certification and qualification schemes. Thus, it becomes possible for a user of ISO/IEC 24773 (all parts) to examine and clarify the differences between various certification and qualification schemes. Such comparison is important from the viewpoint of society in general and from the viewpoint of various types of stakeholders, since many certification and qualification schemes exist in this domain. In addition, such a comparison framework can facilitate comparisons by both certification bodies and their customers. So, the existence of a comparison framework can encourage competition and continuous improvement of a qualification scheme. Using ISO/IEC 24773 (all parts) as a comparison framework, an engineer or an organization can more readily select certifications or qualifications that are appropriate to their needs.

ISO/IEC 24773 (all parts) consists of the following parts:

— ISO/IEC 24773-1, *Software and Systems Engineering — Certification of Software and Systems Engineering Professionals — Part I: General Requirements*

  — ISO/IEC 24773-1 serves as the basis for the revised multipart 24773 standard. It contains terminology, concepts and requirements that are common to the remaining parts.

— ISO/IEC 24773-2, *Software and Systems Engineering — Certification of Software and Systems Engineering Professionals — Part II: Guidance Regarding Description of Knowledge, Skill and Competence in Certification and Qualification Schemes.*

  — ISO/IEC 24773-2 (under preparation) provides guidance and recommendations that may be used by certification or qualification bodies regarding the description of knowledge, skill and competence within their particular schemes.

— ISO/IEC 24773-3, *Software and Systems Engineering — Certification of Software and Systems Engineering Professionals — Part III: Systems Engineering*

  — ISO/IEC 24773-3 (under preparation) provides specific requirements for certification schemes and certification bodies in systems engineering.

— ISO/IEC 24773-4, *Software and Systems Engineering — Certification of Software and Systems Engineering Professionals — Part IV: Software Engineering*

  — ISO/IEC 24773-4 (under preparation) provides specific requirements for certification schemes and certification bodies in software engineering.

ISO/IEC 24773 (all parts) is applicable across all organizations and is useful to certification or qualification bodies and consumers (potential certificants, employers and IT service users) who are comparing or evaluating various certification or qualification schemes.

ISO/IEC 24773 (all parts) references and uses as a normative base the general concepts and basic requirements related to the certification and qualification of persons. ISO/IEC 17024 is used and referenced by ISO/IEC 24773 (all parts) with respect to the general requirements of establishing

and managing a certification or a qualification scheme. ISO/IEC 24773 (all parts) is intended to provide additional requirements and guidance that are specific to schemes in the domains of systems engineering and software engineering.

When published, ISO/IEC 24773-3 and ISO/IEC 24773-4 will incorporate by reference the requirements defined in ISO/IEC 24773-1. This relationship is depicted in Figure 1.

NOTE   When published, conformance of a certification scheme in systems engineering will be claimed with respect to the requirements contained in ISO/IEC 24773-3, and by reference, the general requirements contained in ISO/IEC 24773-1. Similarly, when published, conformance of a certification scheme in software engineering will be claimed with respect to the requirements contained in ISO/IEC 24773-4 and ISO/IEC 24773-1. A certification scheme can only claim conformance to ISO/IEC 24773 (all parts) if it satisfies all requirements contained in ISO/IEC 24773-1 and either of ISO/IEC 24773-3 or ISO/IEC 24773-4.
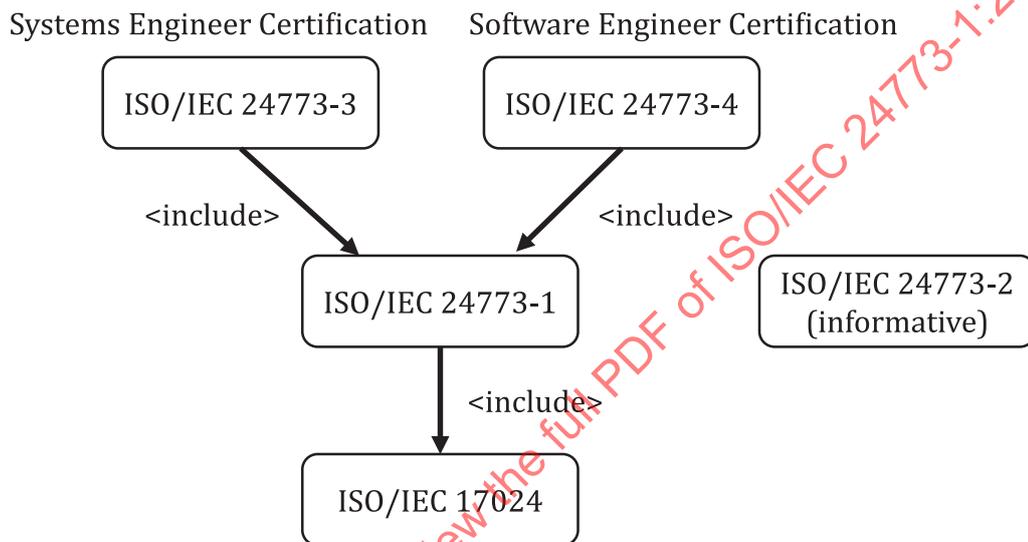

Figure 1 — ISO/IEC 24773 Structure and normative references

Software and systems engineering — Certification of software and systems engineering professionals —

Part 1:
General requirements

1 Scope

This document is part one of the ISO/IEC 24773 series. It contains the requirements which will be common to all other parts of the ISO/IEC 24773 series, for certifications (schemes and bodies) in the domain of software and systems engineering.

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 17024, *Conformity assessment — General requirements for bodies operating certification of persons*

ISO/IEC TS 17027, *Conformity assessment — Vocabulary related to competence of persons used for certification of persons*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 17024, ISO/IEC TS 17027 and the following 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/

3.1
applicant
person who has submitted an application to be admitted into the *certification process* (3.6)

[SOURCE: ISO/IEC 17024:2012, 3.13]

3.2
assessment
process that evaluates a person's fulfilment of the requirements of the *certification scheme* (3.8)

[SOURCE: ISO/IEC 17024:2012, 3.8]

3.3
candidate
applicant (3.1) who has fulfilled specified prerequisites and has been admitted to the *certification process* (3.6)

[SOURCE: ISO/IEC 17024:2012, 3.14]

3.4
certificant
recipient or holder of a certification

3.5
certificate
document issued by a certification body under the provisions of this document, indicating that the named person has fulfilled the *certification requirements* (3.7)

[SOURCE: ISO/IEC 17024:2012, 3.5, modified — The NOTE has been removed.]

3.6
certification process
activities by which a certification body determines that a person fulfils *certification requirements* (3.7), including application, assessment, decision on certification, recertification and use of *certificates* (3.5) and logos/marks

[SOURCE: ISO/IEC 17024:2012, 3.1]

3.7
certification requirements
set of specified requirements, including requirements of the scheme to be fulfilled in order to establish or maintain certification

Note 1 to entry: This definition refers to requirements which apply to the candidate.

[SOURCE: ISO/IEC 17024:2012, 3.3, modified — Note 1 to entry has been added.]

3.8
certification scheme
competence (3.9) and other requirements related to specific occupational or skilled categories of persons

Note 1 to entry: A certification scheme addresses a candidate's knowledge, skill, competence or proficiency, but it also includes requirements for certified person's ongoing maintenance of proficiency. A specific scheme also contains declarations concerning scope and title; the criteria for assessment of the certified person; and declarations regarding validation of the scheme. The scheme is documented.

[SOURCE: ISO/IEC 17024:2012, 3.2, modified — The original NOTE has been removed; Note 1 to entry has been added.]

3.9
competence
competency
ability to apply knowledge and skills to achieve intended results

Note 1 to entry: Results are defined with respect to tasks, functions or responsibilities which in turn are job/role/title-related.

Note 2 to entry: The word competency and competencies can be used as synonyms of competence and competences. Competence can be used to refer to general ability (e.g. overall competence), while competency can be used to refer to a specific ability (e.g. competency in design of user interfaces). The word competence is used in this document to refer to a general ability; and the word competency is used in this document to refer to a specific ability.

[SOURCE: ISO/IEC 17024:2012, 3., modified — The alternative term "competency" has been added; Note 1 and Note 2 to entry have been added.]

3.10
examination
mechanism that is part of the *assessment* (3.2), which measures a *candidate's* (3.3) *competence* (3.9) by one or more means such as written, oral, practical and observational, as defined in the *certification scheme* (3.8)

[SOURCE: ISO/IEC 17024:2012, 3.9]

3.11
body of knowledge
BOK
collection of knowledge items or areas generally agreed to be essential to understanding a particular subject

3.12
reference body of knowledge
body of knowledge (3.11) that is used for the comparison of a particular body of knowledge associated with a *certification scheme* (3.8)

3.13
qualification
<general> demonstrated education, training and work experience, where applicable

[SOURCE: ISO/IEC 17024:2012, 3.7]

3.14
qualification
<professional recognition> specific recognition, title or token, which may indicate proficiency, skill or knowledge in a given domain, but which is done on a one-time basis only

Note 1 to entry: A qualification of this meaning is similar to a certification but satisfying fewer requirements specified for certifications. See 5.2 for more explanations.

3.15
qualification scheme
requirements which, when satisfied, results in the issuance of a *qualification* (3.14)

4 Conformance

This document contains general requirements that apply to all certifications within the scope of the ISO/IEC 24773 series. The general requirements in this document are referenced and incorporated by subsequent parts of the ISO/IEC 24773 series. Therefore, conformance cannot be claimed to this document alone.

One of the requirements contained in this document is that of conformance to ISO/IEC 17024. This means that conformance to ISO/IEC 17024 is a prerequisite of any claim of conformance to this document. However, this document does not address conformance to ISO/IEC 17024, nor does it address conformity assessment under ISO/IEC 17024. These issues are addressed directly by ISO/IEC 17024.

5 Concepts relating to certification and qualification

5.1 General

This clause introduces major concepts related to the certification and qualification of professionals in systems and software engineering.

5.2   Certification and qualification

This document distinguishes certification and qualification. Figure 2 represents a simplified view of the relationship among certification, knowledge, skill and competency. Detailed explanation of knowledge, skill and competence can be found in 5.3, 5.4 and 5.5 respectively.

A conformant certification scheme is a scheme that satisfies all requirements defined in this document. An issued certificate/certification provides a proof of ability of an individual over a certain period of time. A certification scheme contains a re-certification mechanism for this purpose. The ability addressed by the certification includes knowledge, skill and competence at adequate levels. Competence involves the ability to apply knowledge and skills as illustrated in Figure 2.

A qualification scheme is a scheme which is similar in some respects to certification schemes, but which does not incorporate a re-qualification requirement or a requirement for the maintenance of proficiency. The focus of a qualification is to assure an ability at a certain point in time. In comparison, a certification is to assure an ability ongoing over a certain period of time and remains valid as long as the certificant complies with requirements for renewal and maintains proficiency.

A qualification may be labelled by its provider as a "certificate". Many qualification schemes address requirements related to knowledge, skill or competence, but they do not incorporate a re-qualification requirement or a requirement for the maintenance of proficiency. For this reason, such a qualification scheme cannot be conformant with respect to this document.

Although this document does not address conformance for qualifications, the requirements defined within this document can be used for the purpose of comparison. Users of this document can evaluate a qualification scheme against the requirements. The requirements can also be used to compare multiple certifications and qualifications to clarify relationships among them.
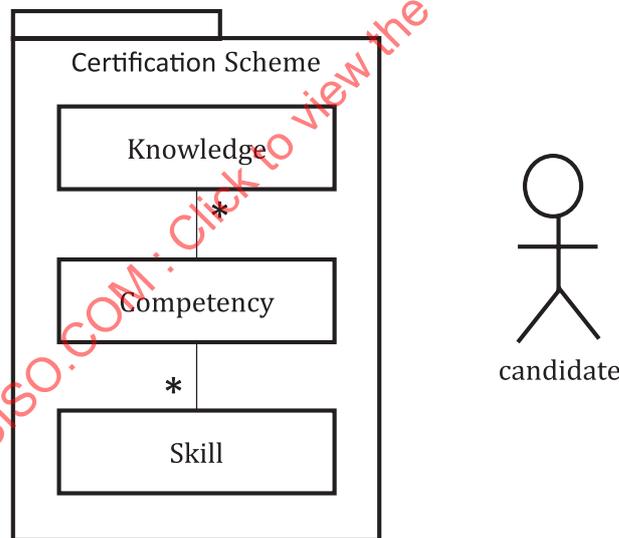
Figure 2 — Major concepts related to certification

5.3   Knowledge, BOK and cognitive level

A body of knowledge (BOK) associated with a certification scheme is a set of knowledge areas documented to describe the depth and breadth of knowledge required for a certified professional of the scheme.

A BOK may also contain other technical knowledge, for example:

1.   detailed knowledge of parameter setting of a particular tool is also required for an administrator of the tool;

2. an extension of the BOK to add new knowledge areas required for a particular role.

Certain reference BOKs, SWEBOK[5] and SEBOK[8] are already used in some certification schemes for systems and software engineering and the area of knowledge they cover. These BOKs are used as reference BOKs so that certification schemes can use other BOKs instead when claiming conformance to this document.

A certification scheme may directly use the reference BOK identified in the relevant part of the ISO/IEC 24773 series. But it is also permitted to use some other BOK. In the latter case, the BOK used in the certification scheme shall be "mapped" to the reference BOK to demonstrate coverage of the knowledge areas (See 6.4.2.2).

A cognitive level is defined for each knowledge component to describe expected knowledge processing levels. A cognitive level can be defined in detailed objective terms such as "aware of", "know", "can explain" and "can discuss" as defined in Bloom's taxonomy[9].

The relationship between knowledge and cognitive level is illustrated in Table 1.

Table 1 — Knowledge and cognitive level

Knowledge	Cognitive level
Knowledge 1	Cognitive level description
Knowledge 2	Cognitive level description
:	:

5.4 Skill and performance level

A skill is in general the ability to apply knowledge to perform a simple operation. A skill may be acquired in many ways, for example, taught at an educational institution or a seminar. In systems and software engineering, some knowledge is required to demonstrate a skill.

The performance level (or skill level) for a given skill indicates how well that skill is performed or demonstrated. There are various ways to define performance levels. Bloom's taxonomy[9] can be used for this purpose. In some cases, depending upon the nature of the skill, the performance levels and the criteria for evaluation of performance level can be defined in detailed objective terms such as "cannot execute (only explain)", "can execute with detailed instruction", "can execute with simple instruction", "proficient in the skill" and "can teach to others". In other cases, only two performance levels are needed, and the criteria are simply "not accomplished (only knowledge)" vs "accomplished".

A certification body is required to define a set of skills and corresponding performance levels for each skill within their scheme. Detailed requirements for conformance to this document can be found in 6.4.4.

The relationship among skill, knowledge and performance level is illustrated in Table 2.

Table 2 — Skill, knowledge and performance level

Skill	Knowledge	Performance level
Skill 1	List of knowledge required to demonstrate skill 1	Performance level description
Skill 2	List of knowledge required to demonstrate skill 2	Performance level description
:	:	:

5.5 Competence and proficiency level

Competence is related to the performance of a job, role or function by the professional (References [7] and [10] to [13]). In order to accomplish all objectives (including performing actions, producing deliverables, or making decisions) of a job, the professional is deemed to possess competence. A given job or role may require more than one competencies.

However not all jobs in an industry or within a professional domain are identical. Jobs with similar titles and descriptions can vary in terms of their specific details, including activities performed, decisions made, artifacts produced and level of proficiency required. A certification scheme defines or declares a job, role or function which generally applies to the candidates[1]. The scheme also defines, in more detail, the specific competencies and proficiency levels which it covers[2]. Because each scheme defines the specific competencies it covers, certification schemes may be evaluated and compared more effectively by candidates and other stakeholders.

Competence involves the ability to apply knowledge and skills. In order to achieve a successful result on an ongoing basis (i.e. to demonstrate competence) with respect to the job, the professional is expected to apply sound judgement, make correct decisions, apply the appropriate skills and knowledge and make use of relevant professional attributes.

Competence for a professional indicates more than the ability to exercise only one specific skill or to produce a simple work product – it indicates that he/she performs consistently, succeeds in achieving the objective and is reliable at the professional level.

A certification scheme defines one or more competencies which are relevant to that job role or function.

The scheme can define the breakdown of the competencies covered into tasks/activities, so that candidates and other stakeholders can evaluate the scope and context of that certification scheme, and so that they can evaluate the scheme's coverage of knowledge, skills and competencies as they apply to professionals performing the role or function within a particular domain.

Proficiency level (associated with each competency covered by a given scheme) indicates a degree or level expected for a particular competency.

The relationship among competency, knowledge, skill and proficiency level is illustrated in Table 3.

Table 3 — Competency, knowledge, skill and proficiency level

Competency	Knowledge	Skill	Proficiency level
Competency 1	List of knowledge required to demonstrate competency 1	List of skills required to demonstrate competency 1	Proficiency level description
Competency 2	List of knowledge required to demonstrate competency 2	List of skills required to demonstrate competency 2	Proficiency level description
:	:	:	:

A conformant scheme shall define a set of competencies and corresponding proficiency levels for each competency. Detailed conformance requirements can be found in 6.5.

Additional requirements for the certification scheme concerning the definitions of competence and proficiency levels may apply which are specific to the domains of software engineering and systems engineering.

A conforming certification scheme shall define specific competencies and proficiency levels for each competency within the scope of that scheme.

5.6 Assessment methods

This clause describes the concepts of assessment and validation within the context of a certification scheme. In this context, the term assessment refers to the evaluation of a candidate's knowledge, skill or competence. It does not refer to the assessment of the scheme by an accreditation body.

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1) ISO/IEC 17024 indicates that a given certification scheme shall be focused on a set of (similar) candidates working in a certain domain in a role/job, and performing tasks/activities related to the role/job. The certification scheme shall identify the set of certificants for which it is targeted, and describe the job role or function which typically applies.

2) ISO/IEC 17024:2012, 8.4 contains requirements for documenting competence requirements measured by a certification scheme and the tasks which candidates perform (and for which the certification applies).

A professional is assessed by a certification body along the dimensions defined by the scheme (e.g. for various skills, proficiencies and capabilities covered by the scheme) in order to be certified. This means schemes can utilize a number of different assessment and verification methods.

These methods can include:

— examination;

— inspection of work products or deliverables;

— interview;

— direct monitoring and observation of work performance;

— records of past experience, achievements, deliverables;

— referee reports and/or references from knowledgeable qualified colleagues; and

— employer assessment.

A certification scheme can utilize any combination of these methods as long as the validity of the evaluation is demonstrated. ISO/IEC 17024 contains requirements concerning the assessment methods used by certification bodies and requirements concerning the validation of those assessment methods.

6 General requirements

6.1 General

This clause contains general requirements of the certification of Software and Systems Engineering professionals.

The following requirements and associated criteria may also be used to compare certification and qualification schemes.

6.2 Conformance to ISO/IEC 17024

A scheme for a certification, and the certification body offering that certification, shall conform to ISO/IEC 17024.

6.3 Fundamental components

6.3.1 The certification body produces a certification scheme (the Scheme). The Scheme shall contain a description of the software/systems engineering professionals to be certified. The Scheme shall include the components specified in 6.3.2 to 6.3.8.

6.3.2 A job title (or role name) that expresses and reflects the knowledge and skills that are covered by the scheme and that is recognized in the relevant professional community. The Scheme should also list any alternate titles that may be included with the title and any alternate titles that are explicitly excluded from the certification.

6.3.3 A list of the tasks that the certified persons of the Scheme are expected to undertake (See 6.5).

NOTE   The task description is a requirement already imposed in ISO/IEC 17024:2012, 8.2.b. The tasks defined in life cycle process standards (see ISO/IEC/IEEE 12207, ISO/IEC/IEEE 15288, ISO/IEC 16085, ISO/IEC 16326 and ISO/IEC/IEEE 29148) can be used to define the tasks required in this clause.

6.3.4 A description of the level of accountability, responsibility, autonomy, authority and complexity of the work associated with the title.

6.3.5   A description of the BOK, cognitive levels, skills and performance levels appropriate for the title (See 6.4).

6.3.6   Any minimum educational qualification or experience required for a candidate.

6.3.7   A description of the code of ethics and professional practices required (See 6.6).

6.3.8   Any other information (if existing) that may assist the relevant professional community in identifying the systems or software engineering professionals to whom the certification applies.

6.4   Knowledge and skill

6.4.1   General

This subclause contains requirements for the Scheme related to knowledge and skill. The requirements in this clause apply to all certification schemes within the scope of this document. In addition to the requirements contained in this subclause, additional requirements in other parts of the series may apply.

6.4.2   Identification of a BOK

6.4.2.1   General

The necessary knowledge and knowledge areas required by the certification scheme shall be based on a BOK. The scheme documentation shall identify the source and authority of that BOK.

6.4.2.2   BOK mapping to the reference BOK

If the scheme contains another BOK other than the reference BOK contained in the appropriate part of the ISO/IEC 24773 series, the contents of that other BOK shall be identified and mapped to the contents of the reference BOK.

6.4.2.3   Other technical knowledge

If the certification body has determined that the statement of job capabilities/requirements warrants the inclusion of technical knowledge not listed in 6.4.2.2, the Scheme shall also identify such technical knowledge items.

6.4.2.4   Knowledge of appropriate standards

The identification of work capabilities/requirements referred to in 6.3.4 identifies standards that may be applicable. The Scheme shall include these standards.

6.4.2.5   Domain knowledge

If the engineering professional is to operate in a particular industry or product domain, the Scheme shall identify any appropriate knowledge requirements.

6.4.3   Cognitive level

For each knowledge component of the BOK associated with the Scheme (6.4.2.1), the depth of the knowledge required shall be expressed in terms of taxonomy of cognitive levels.