

IT Sectoral Committee

Certification of IT Specialists

Normative Document

Version 2.0 of July 31, 2003

Preamble

The normative document governs the certification of IT specialists pursuant to the “Agreement on Specialist Profiles as part of the IT Training Regulations“ of February 14, 2002, published in the Bundesanzeiger (Federal Gazette) No. 105a of June 12, 2002 (Description of Professional Roles). The document was developed by the members of the sectoral committee and initially authorized by the TGA Central Committee on October 8, 2002.

The certification of IT specialists based on internationally mandatory standards guarantees transparency and quality with regard to professional competence in the IT sector. The core of an individual’s certification is represented by the qualification acquired in the context of corporate activities (corporate projects). This qualification is documented and accompanies the qualifying process. A reference procedure that makes an important contribution to transparency in the IT sector is described for each of the above-mentioned specialist profiles.

This document defines the requirements, tasks and access prerequisites for the persons and institutions involved in the certification process. These standards serve the purpose of safeguarding the quality of the IT specialist certification pursuant to ISO/IEC 17024. The examination regulations for the IT specialist certification procedure as part of this IT training system represent part of the normative document. Any documents that also apply are listed at the end of each numbered section and are also available in the appendix.

While the normative documents and all other applicable documents consistently use the masculine form of address, they are also meant to address all female readers.

All documents and changes to these documents will be published

- On the Internet site of the IT Sectoral Committee at www.it-sektorkomitee.de and the TGA at www.tga-gmbh.de
- As a written notification to the accredited IT certification authorities.

The IT Sectoral Committee is a panel of Trägergemeinschaft für Akkreditierung (TGA – Sponsoring Organization for Accreditation), which safeguards TGA’s expert competence in the field of personnel certification for IT specialists.

The IT Sectoral Committee consists of a maximum of 16 individual members, representatives of the task forces (one person with guest status each) and two individuals from the sub-sectoral committees (with voting privileges). Both the representatives of the sub-sectoral committees and the individual members form the panel of ordinary members. Pursuant to its bylaws, the IT Sectoral Committee is comprised of representatives from the following areas:

- Companies representing various business areas and corporate sizes;
- Training providers;
- Accredited certification bodies;
- Bundesanstalt für Arbeit (German labor agency);
- Certified IT specialists;
- IT research & development;
- Science & academia;
- Professional / vocational education.

The nominations for the IT Sectoral Committee will be made by the following institutions:

- Bundesverband Informationswirtschaft, Telekommunikation und neue Medien e.V. (BITKOM) (German Association for Information Technology, Telecommunications and New Media);
- Deutscher Industrie- und Handelskammertag (DIHK) (Association of German Chambers of Industry and Commerce);
- Bundesvereinigung der Deutschen Arbeitgeberverbände (BDA) (German Federation of Employers' Associations);
- Industriegewerkschaft Metall (IGM) (Industrial Union of Metal Workers);
- nVereinigte Dienstleistungsgewerkschaft (ver.di) (Associated Service Providers Union);
- Zentralverband Elektrotechnik- und Elektronikindustrie e.V. (ZVEI) (Central Association for the Electrical Engineering and Electronics Industry).

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1. Requirements for the candidate

1.1. Term definition

The candidate is a person whose application for certification was accepted by an accredited certification body.

1.2. Tasks

1.2.1. General tasks

The general task of the candidate is to prove to the certification body that he has fulfilled the admission prerequisites. This is done by submitting the corresponding documents to the certification body that prove the admission prerequisites for candidates as IT specialists in accordance with one of the valid versions of the specialist profiles mentioned in the "Agreement on Specialist Profiles as part of the IT Training Regulations" of February 14, 2002, published in the Bundesanzeiger (Federal Gazette) No. 105a, set 54, of June 12, 2002, pp. 25 to 69.

1.2.2. Special tasks

- In the documentation to be submitted, the candidate must prove his technical qualifications based on the subprocesses from the associated reference process (level 2). In doing so, it must become clear that the candidate himself has performed all subprocesses, most of them in corporate projects (see examination regulations).
- The candidate must be able to answer the examiners' questions and provide the necessary explanations regarding the documentation.
- During the technical discussion, the candidate must also be able to explain decision-making processes from key situations (reflection on professional activities).

1.3. Admission prerequisites for candidates

The following prerequisites apply to admission to the certification procedure:¹
The candidate has completed a qualifying professional training program in an IT profession;²
or

¹When subsequently mentioning *practical professional experience*, the authors are referring to permanent employment with at least 35 work hours per week.

²This includes especially the IT professions known in the Federal Republic of Germany but also bachelor's and master's degrees from the IT sector.

A professionally qualifying training program in a different profession and at least one year of practical professional experience in the IT sector; or

At least four years of practical professional experience in the IT sector. In this case, the required professional experience can be credited (with a maximum of 12 months) for attending a professional training course sponsored pursuant to the German Social Security Code III whose contents are oriented toward at least one of the IT specialist profiles.

Furthermore, anybody can be admitted, who can prove by submitting certificates or other evidence that he obtained qualifications justifying his admission to certification.

1.4. Other applicable documents

“Agreement on Specialist Profiles as part of the IT Training Regulations“ of February 14, 2002, published in the Bundesanzeiger (Federal Gazette) No. 105a, set 54, of June 12, 2002, pp. 25 to 27

Profile descriptions for IT specialists of the IT Sectoral Committee (level 2 descriptions)

2. Requirements for the individual to be certified

2.1. Term definition

A certified individual is a candidate, who is in possession of a valid certificate.

2.2. Tasks

To maintain the certificate, the certified individual must undergo a recertification procedure after three years. The recertification procedure must be initiated by application to the certification body no later than one month before the existing certificate expires and must be concluded three months after the expiration of the validity period.

The certified individual must take his own measures to ensure maintenance of his specialist competence. In accordance with the stipulated recertification procedure, these measures must be appropriately documented and communicated to the certification body.

2.3. Admission prerequisites

Pursuant to the rules of the recertification procedure, the certified individual must have worked in the specialist function.

3. Requirements for the TGA technical assessors

3.1. Definition

TGA technical assessors are individuals who are responsible for technical compliance with the rules and regulations of the TGA when making their assessments (branch audits, witness examinations).

3.2. Tasks

3.2.1. General tasks

The general task of the TGA technical assessor is to evaluate the working order of certification bodies including their committees and associated offices with regard to the requirements of ISO/IEC 17024 and the technical regulations of the IT Sectoral Committee.

3.2.2 Special tasks

Assessment of the rules and regulations of the certification body with regard to the technical requirements of the IT Sectoral Committee (especially concerning the examination regulations, examination rooms, pricing, monitoring procedures, etc.).

Assessment of examinations (witness examination) in the corresponding profile groups of the specialist profiles.

Assessment of the technical competence of examiners at the certification body.

Assessment of the technical expertise of the individuals responsible for the certification decision.

3.3. Admission prerequisites

To be appointed as a TGA technical assessor, an individual must meet the following prerequisites:

- A degree from a university or technical college in the field of science, engineering or economics or proof of a comparable technical qualification (individual consideration by the IT Sectoral Committee).
- At least four years of business experience in permanent employment with at least 35 work hours per week in one or several activity fields of the IT specialist profiles.
- It is expected that each individual TGA technical assessor be able to technically represent at least one of the six profile groups of the specialist profiles.

Appointments are made for a period of three years by the IT Sectoral Committee. A renewal of the appointment is possible.

If the individual does not work in the activity field in question for one year, he will lose his appointment as TGA technical assessor.

Technical assessors must

- Be familiar with the examination model for workplace- and process-oriented qualification;
- Prove knowledge of the objectives, intentions and perspectives of the IT training system with its interfaces to the professional profiles tested by the professional associations and its opportunities for people entering the field from other professions;
- Conclude an agreement with TGA regarding their work as technical assessors;
- Declare their willingness to regularly participate in the meetings of the IT Sectoral Committee and the professional training events of the TGA.

3.4. Other applicable documents

Rules and regulations of the TGA

DIN EN 45013 and ISO/IEC 17024

Normative document of the IT Sectoral Committee

Contract of TGA GmbH with technical assessors

4. Requirements for the examiners

4.1. Definition

An examiner is a person appointed by the certification body who administers examinations in accordance with the rules of the IT Sectoral Committee.

An examiner can work for several certification bodies and is in charge of one or several profiles. Examiners are reconfirmed every three years.

4.2. Tasks

The work of the examiner is based on the examination regulations as described in Chapter 6 and 7 or the recertification rules.

The examiner assesses whether the activities described in the candidate's process documentation are in line with the reference processes.

The examiner conducts a technical discussion with the candidate and informs the candidate of the result.

The examiner generates a record of the administered examination, makes a certification recommendation, obtains a signature from the present witness and routes the recommendation to the certification body.

4.3. Admission prerequisites

The examiner must be at least 25 years old.

In addition, he must meet the following prerequisites:

- The examiner knows the concepts of workplace-oriented learning;
- He must have technical expertise regarding the relevant standards and profiles of which he is in charge;
- In addition, he has sufficient technical knowledge with regard to the other specialist profiles from his profile group.

The examiner is familiar with oral examination techniques. He must be able to derive relevant technical questions from the documentation for the technical discussion. He must also be able to analyze key situations and to examine the personal and social competence of the candidate during the technical discussion.

He must be able to assess whether the procedural approach is appropriate with regard to the complexity and the demands of the task on the one hand and the profile on the other hand. He must be able to recognize and assign the areas of expertise typical of the profile as they are described.

If any important admission prerequisites are no longer met over the course of an examiner's work, the examiner's authorization shall be rescinded.

4.4. Other applicable documents

Rules and regulations of the certification body regarding the examiners' personal aptitude.

5. Requirements for the certification body

5.1. Term definition

The business purpose of the certification body is the certification of candidates, recertification and monitoring of certified individuals, and other directly related activities.

5.2. Tasks

5.2.1 General tasks

The individual tasks of the certification body include the following:

- To inform candidates of the requirements;
- To evaluate candidate applications with regard to their admission prerequisites as part of the professional IT training system;
- To correctly organize examinations and ensure their implementation;
- To issue certificates that are valid for a limited period of time for a specialist profile of the IT training system;
- To verify the aptitude of learning process mentors and technical advisors;
- To correctly implement the monitoring of certified individuals;
- To correctly implement the recertification of certified individuals;
- To nominate, qualify and monitor examiners based on the general ISO/IEC 17024;
- To develop and implement a qualification procedure for examiners.

5.2.2 Special tasks

The certification body develops its own examination regulations in line with the general framework stated here (compare Chapter 6 and 7). It develops evaluation instruments for the examination.

It verifies and ensures compliance with the timeframe of the certification procedure and compliance with the examination regulations stipulated by this normative document.

The certification body develops documentation templates and/or guidelines that correspond to the process structure of the profile description (level 2 description) and makes them available to the candidates or certified individuals.

Participation in the revision or redesign of specialist profiles in coordination with the IT Sectoral Committee.

The certification procedure must take into account the following special requirements:

From the outset, the certification procedure will be related to a specialist profile.

The language in which both documentation and examination are to be conducted must be stipulated from the outset.

5.3. Admission prerequisites

The certification body has the competence to examine the profiles of a profile group and is obligated to have the expertise for the certification of all profiles belonging to this profile group.

This competence may be established during an initial phase – within one year – following accreditation.

6. Examination regulations

6.1. General information

The examination consists of three parts:

- Verification of registration prerequisites;
- Examination of the accompanying documentation;
- Technical discussion.

6.2. Examination of the registration prerequisites

The certification body verifies the completeness of the registration materials and the correctness of the content of the submitted project outline.

The registration materials are complete, if

- The companies have assured that an appropriate framework supporting the learning experience is in place at the location where the workplace- and process-oriented training will be conducted;
- A learning process mentor has been named; and
- At least one technical advisor (who provides expert support to the candidate during the qualifying and independent learning phase) has been named.

The roles of *learning process* mentor and *technical advisor* need not necessarily be assumed by different individuals.

The content of the submitted project outline is considered correct, if the depicted subprocesses are based on the profile descriptions (level 2 description) for the corresponding profile as stipulated by the IT Sectoral Committee.

If positive, the certification body determines the framework for the certification process and notifies the candidate in writing of his admission to the examination and certification procedure. If negative, the candidate is informed in writing about the reasons preventing his admission.

6.3. Examination of the accompanying documentation

The examiner of the certification body evaluates the accompanying documentation. This evaluation includes the following criteria:

- Completeness of the materials submitted;
- Correct content of the materials submitted.

The duration of the time period from admission to the certification procedure to the submission of the documentation must not exceed 24 months.

Counted from the time of submission, none of the professional competencies shown in the documentation must be older than 24 months. In certain well-founded exceptions, the candidate may apply in writing for a maximum extension of 6 months.

The materials are complete, if

- An accompanying documentation package was submitted in which each implementation of subprocesses was confirmed with the signature of the technical advisors, and
- A letter of confirmation is submitted that shows that the candidate has met with his learning process mentor at least quarterly to conduct the so-called reflection discussions, for which the time and subject were documented.

The content of the submitted materials is correct, if the documentation contains the following components:

- A project planning overview;
- A description of the work environment in which the project or project parts are implemented (this includes e.g. integration into the team, company/educational institution, work location, media, etc.);
- -A description of the training context and the accompanying roles (especially the learning process mentor, the technical advisor, the corporate framework, seminars, etc.)
- -A description of the work process steps of the selected profile that were performed;
- -A reflection on the work process steps of the selected profile that were performed (especially a documentation of the activities in light of social and personal challenges, documentation of key situation and decisions, etc.).

The candidate must enclose a statutory declaration stating that he himself has performed all of the described processes and generated the documentation. For a random in-depth examination of the documentation, the candidate must be prepared to provide additional documents upon request by the examiner of the certification body.

From the time of submission until the notification of the candidate, the evaluation may normally take no longer than 8 weeks.

Subsequent to the positive examination, the certification body will determine the time and location as well as the examiner for the technical discussion and notify the candidate of this information. Usually, the technical discussion must be conducted no later than 12 weeks following the submission of the documentation. The examiner, who verifies the submitted accompanying documentation, will also conduct the technical discussion

In a negative scenario, the candidate will be informed of the reasons for rejection. The candidate then usually has a time period of up to three months following the notice of rejection to submit a revised documentation for re-examination. This also includes an expansion of the accompanying documentation based on subprocesses that were performed again. If a resubmitted documentation package is again assessed as insufficient, the certification procedure shall be terminated.

6.4. Presentation and technical discussion

The presentation and technical discussion are public. The candidate and/or the company may request the exclusion of the public.

During the presentation, the candidate provides a coherent representation of his business operations and expertise to demonstrate his understanding of all the subprocesses in a given profile.

The technical discussion has the following objectives:

To examine the completeness and complexity of the subprocesses demonstrated by the candidate by means of the accompanying documentation.

To verify the candidate's expertise based on the subprocesses described in the accompanying documentation.

The following individuals participate in the technical discussion: the candidate, the examiner and at least one independent witness. The technical discussion is held under the leadership of the examiner appointed by the certification body. A standardized examination record is signed by the examiner and the witness.

The technical discussion is held under the leadership of the examiner appointed by the certification body. It takes approx. 60 minutes, with the first 30 minutes being devoted to the candidate's presentation of his project work. The questions and the resulting technical discussion take place directly after the presentation. A standardized record must be generated on the result of the technical discussion. At the end of the technical discussion, the examiner will inform the candidate whether he conducted the technical discussion successfully.

The content of the technical discussion consists of three subprocesses that the examiner needs to announce to the certification body beforehand. The candidate's presentation and these three subprocesses must be evaluated with regard to technical expertise, learning success and the ability to view matters within a larger context. All components must confirm the profile-specific expertise of the candidate.

The examiner sends the result of the technical discussion and the record to the certification body. For a positive outcome, the certification body decides to grant the certificate within 2 weeks.

In a negative scenario, the candidate can petition for another technical discussion. As a rule, the second technical discussion should be held no later than 4 weeks after the first technical discussion.

6.5. Other applicable documents

Statutory declaration

Instruction leaflet describing the role of the learning process mentor

Instruction leaflet describing the role of the technical advisor

Evaluation criteria of the certification body for the technical discussion

7. Maintenance of certification

7.1. Validity

The certification is valid for three years, counting from the day the certificate is issued.

Upon expiration, the certification may be renewed for another three years by an accredited certification body.

For a renewal, the following prerequisites must be met by the candidate:

If the reference process descriptions passed by the IT Sectoral Committee have changed in between the date the certificate was issued to the candidate and the renewal date of the certification, the candidate must undergo an examination procedure analogous to the certification process for the changed subprocesses.

If the reference process descriptions passed by the IT Sectoral Committee have not changed in between the date the certificate was issued to the candidate and the renewal date of the certification and the candidate had to conduct a technical discussion for the last certificate issued, the candidate must present a copy of his certificate as well as a letter of confirmation from his company that states that the candidate predominantly performed the profile-specific subprocesses and made an active effort to maintain his expertise.

After six years, an accompanying documentation, a presentation and a technical discussion will be required to have another certificate issued.

8. Other applicable documents

8.1. Instruction leaflet describing the role of the learning process mentor

The learning process mentor is an individual who is permanently assigned to the candidate to accompany him through the qualification process. The learning process mentor has the following tasks:

He supports the candidate in the selection of qualification projects and advises him with regard to the achievement of a meaningful qualification and compliance with the certification criteria.

In collaboration with the candidate, he plans the implementation of the project(s), the project schedule, the training focus, the reflection discussions and the learning steps.

Together with the candidate, he conducts regular discussions to reflect on the work involved in the qualification project, the achieved learning success, the qualification process and the status of his individual expertise in particular.

- He advises the candidate with regard to the planning and implementation of appropriate projects to close any gaps in the candidate's expertise, he supports the development of independent learning competence and provides suggestions regarding the selection of study materials.
- In principle, he serves as a contact for all non-technical problem situations that obstruct the learning process or training course. Together with the candidate, the learning process mentor identifies and analyzes personal learning difficulties and advises him on learning strategies and on his situation in the work environment.
- The learning process mentor advises the candidate during the generation of the accompanying documentation.

The collaboration between the learning process mentor and the technical advisor, e.g. during a qualification agreement, is recommended. The roles of learning process mentor and technical advisor may be assumed by a single individual.

8.2. Instruction leaflet describing the role of the technical advisor

The technical advisor has extensive qualifications in the profile in question and at least three years of professional experience.

The technical advisor has the following tasks:

- He assists the candidate in the careful selection of qualification projects.
- He makes himself available to the candidate during the various work stages / processes for technical assistance. He supports the candidate in finding solutions and solving problems during the qualification project. As a rule, the candidate will independently find and implement solutions. Upon request, the technical advisor provides advice on sources of information and study materials and advises the candidate with regard to his interactions with colleagues, collaborators and clients (professional conduct, expectations, needs and positions).
- The technical advisor monitors the candidate's work on the corporate project. If necessary, he points out critical developments and offers assistance for the successful and technically correct execution of the project.

The technical advisor should be selected from the circle of colleagues and internal experts. The collaboration between the learning process mentor and the technical advisor, e.g. during a qualification agreement, is recommended. The roles of *learning process mentor* and *technical advisor* may be assumed by a single individual.