International Professional Practice Partnership

Transforming IT Professional Practice

ifip

Informing and Transforming IT Professional Practice

Partnering for Trust in Digital

IP3 Standards and Accreditation Council Guide for Accrediting Schemes for the Recognition of ICT Professionals

Enquiries may be made with the Standards and Accreditation Council Chairman at IFIP IP3

Email: adrian.schofield@ipthree.org
Telephone: +27 82 5600680

IP3 website: www.ipthree.org

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1. Introduction

The International Professional Practice Partnership (IP3) is an activity of the International Federation for Information Processing (IFIP) focussed on professionalism of ICT practitioners. IFIP comprises approximately 60 member associations around the world, concerned with the role of information and communications technology (ICT) in society and the sharing of knowledge to enhance the application of ICT for the benefit of the global community. IFIP is a non-government, non-profit umbrella organisation for national societies working in the field of information processing. It was established in 1960 under the auspices of UNESCO. IP3 focuses on the role of ICT practitioners as a profession, contributing as do other professions to standards of behaviour and performance that enable stakeholders to trust the work being carried out. IP3 is a partnership to promote professionalism in the ICT profession equal to the older and longer established professions. The partnership works to define international standards and create a global infrastructure that will encourage and support the development of both practitioners and employer organisations in the developed and developing world. It does this through the creation of a worldwide set of professional certification schemes recognised as the hallmark of true ICT professionalism, delivered through independent national member societies and supported by development frameworks for both individuals and organisations.

Active IP3 member societies come from as far afield as Canada, Australia, South Africa and Japan. IP3 is governed by a Board, with a Chair, a Deputy Chair and two Vice Chairs, plus other Directors. The Vice Chair: Standards and Accreditation ensures that the Standards and Accreditation Council (SAC) provides independent advice to the IFIP IP3 Board on standards and the management of the accreditation functions of IP3.

In this Guide, the IP3 SAC aims to set out the process and criteria to enable member societies to implement effective schemes to recognise the professional status of their member practitioners and to have that status accepted globally through mutual recognition.

Those IFIP members who would like to pursue accreditation of their professional recognition schemes should refer to section 11 of this Guide.

2. Why be Accredited?

Many of the IFIP member organisations have implemented certification schemes to demonstrate the ability of their certified practitioners to deliver work output to consistent standards of quality and reliability expected of professional practitioners. These schemes enhance the perceived value and visibility of the association and its members in their territory. Typically, these schemes apply to one or two grades of membership, with practitioners at other grades aspiring to achieve the recognition of certified status.

From an individual perspective, being recognised as a certified professional or certified technologist enhances your personal reputation and promises that your work output and business behaviour will add value to your clients and employers. It also demonstrates your commitment to the standards and development of the knowledge domain in which you practice.

From a client and employer perspective, seeking certified professional practitioners assures them of the quality of the business relationship and offers recourse if there is any failure of performance.

Given these benefits, the next logical step is to demonstrate that the nationally recognised practitioners also meet international standards, enabling their certified status to be accepted in other territories. IP3 accreditation of professional membership schemes offers IFIP member organisations the opportunity to gain the international and mutual recognition, through a robust assessment process.

3. What is a Scheme for Recognition of ICT Professionals?

Typically, member societies and institutes have various grades of practitioner membership. These may include:

- Student
- Affiliate or Associate
- Ordinary
- Certified Technologist
- Professional or Certified Professional
- Honorary
- Fellow
- Corporate

Each of these have certain criteria for admission and all expect the practitioner to subscribe to the core culture of the association.

However, only two of them set specific standards of performance with auditable measurement of the practitioner's education, training and experience, backed by disciplinary processes to deal with any failures of performance or behaviour.

For example, the Australian Computer Society has two grades of membership that fall into this category – Certified Professional (CP) and Certified Technologist (CT). See Figure 1

Figure 1

In South Africa, the Institute for Information Technology Professionals South Africa (IITPSA) currently has one such – Professional Member (PMIITPSA).

Figure 2

The Scheme for Recognition of ICT Professionals is the complete process by which the society/institute accepts applications for certification, the criteria applied, the assessment function, the record-keeping, the quality assurance and the ongoing maintenance.

Each grade of membership that is certified is the subject of a Scheme for Recognition of ICT Professionals, although if more than one scheme is offered within an organisation, they may share common processes and resources with each other.

To be accredited by IP3, the scheme(s) must be proven in operation to meet the criteria of assessment set by the SAC.

4. Institutional Framework

Of course, IP3 recognises that all IFIP member associations are organisations of substance, serving the interests of their practitioners and their communities.

To demonstrate their ability to manage a sustainable Scheme for Recognition of ICT Professionals, each association must comprise a minimum institutional framework.

Usually, this will include premises, technology, staff and other resources. The scale of these resources will be proportional to the size of the membership and the volume of activities undertaken by the association.

IP3 recognises that technology enables virtual organisations to exist in sustainable form and therefore understands that “premises” may not be present in physical form. There must still be a method of keeping records in a form that allows verifiable inspection and for conducting interviews with verifiably identified persons.

It is expected that the association will be financially viable, generating income from membership subscriptions, events and other services.

There will be a governance framework in place, to oversee the functions of the association by means of a Board and other committees. There will be a documented Constitution or equivalent Memorandum of Association, supported by relevant codes of ethics and conduct.

These elements are explained in the following sections of this Guide.

Figure 3 shows a representation of the elements.

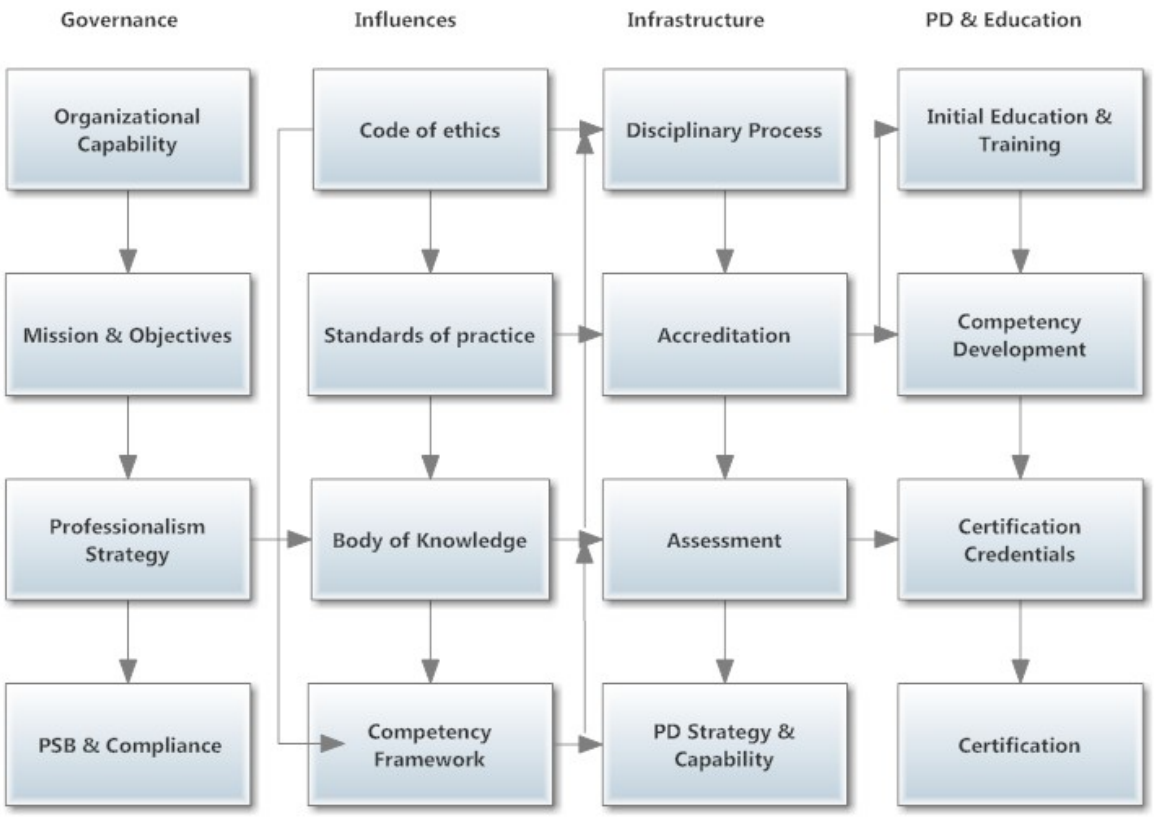

Governance
Influences
Infrastructure
PD & Education
Organizational Capability
Code of ethics
Disciplinary Process
Initial Education & Training
Mission & Objectives
Standards of practice
Accreditation
Competency Development
Professionalism Strategy
Body of Knowledge
Assessment
Certification Credentials
PSB & Compliance
Competency Framework
PD Strategy & Capability
Certification

Figure 3

5. Classes of Membership

We have listed some typical classes or grades of membership of practitioner bodies in section 3 of this Guide.

These are usually based on levels of qualification, years of experience and contribution to the academic or business worlds of ICTs. Not all classes of membership are appropriate for a Scheme of Recognition of ICT Professionals.

At this stage (2017), IP3 will accredit schemes covering two levels of membership – one at SFIA level 3 and one at SFIA level 5. SFIA is the Skills Framework for the Information Age, in use in many territories to gauge the appropriate level of employment for practitioners in the ICT sectors. Information about SFIA may be found at **https://www.sfia-online.org/en.** Although SFIA is the framework that IP3 uses, many other frameworks can be mapped to it such as the e-CF.

At SFIA level 3, the Scheme is for Certified Technologist and at level 5 for Certified Professional.

The Certified Technologist may not have achieved a higher-level degree academically but has been recognised for achieving technical competence through education and training outcomes that equip him or her to perform consistently at tasks usually requiring supervision. Or alternatively are higher education graduates practising in ICT in the early career stage demonstrating their commitment to professionalism by gaining this certification.

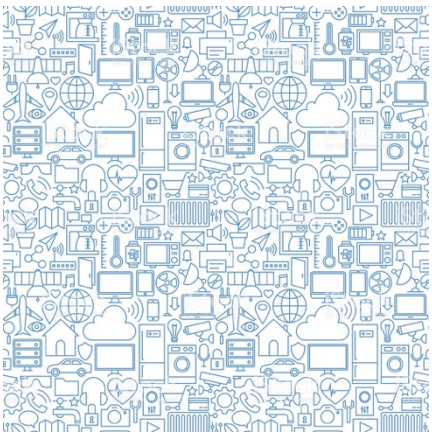
The Certified Professional will prove professional competence and usually will have attained a Bachelor level degree (or higher) and will have sufficient years of experience to show he or she can fully comprehend the business requirements, can work independently and is able to supervise others if necessary.

IP3 is considering whether to allow for Schemes at a higher grade of membership, to encompass Certified CIOs and CTOs, but this will require member associations to implement such certifications and to apply for their recognition.

6. The Work of Certified Practitioners

"Computing" has evolved from relatively few centralised, securely housed machines serviced by data capturers, programmers and engineers to ubiquitous mobile devices connected by a massive global network to myriad data centres and each other. Digital devices are embedded in most modern appliances, machines, buildings and vehicles. Robots, self-driving vehicles and artificial intelligence are commonplace terms.

The role of computers has moved from data analysis and reporting within an enterprise to data gathering, analysis, prediction and decision-making on a global scale. As ICTs make an ever-greater contribution to social and economic value for billions of people, so the risk of catastrophe through negligence or malfeasance increases.



It is the duty of the practitioners who design, create and maintain the digital systems that pervade our lives to ensure that those systems do not risk the health and well-being of those who encounter them, either directly as users or simply sharing the same environment.

IP3, though the activities of its Global Industry Council and its Standards and Accreditation Council, seeks to instil the standard of "trustworthy computing" in the hearts and minds of its members' certified practitioners, aspiring professionals and the decision-makers who employ their services.

Figure 4

All ICT roles, from installation and maintenance technician to CIO, can benefit from meeting the standards required of a certified practitioner. These benefits are passed on to employers, clients and community in the form of better quality systems delivered on time and within budget that are trusted to perform as expected by their users.

7. Expertise

A major component of achieving certification is demonstration of the individual's competence to perform the tasks required.

There are many pathways to acquiring the desired level of expertise. Although most communities would recognise the familiar progression through primary and secondary school to tertiary education – the academic path – there are also valid vocational pathways through technical institutions and vendor training programmes together with experience alone over many years.

At least one IFIP member has published the pathways that apply to their membership grades. See the chart at https://www.acs.org.au/content/dam/acs/ACSimages/ACS%20Certified%20Professional%20Pathway%20Chart.pdf

There are also many fields of expertise, requiring familiarity with certain protocols, methodologies, languages and techniques. Some require scientific approaches to solution design; others need a business focus on information management and application.

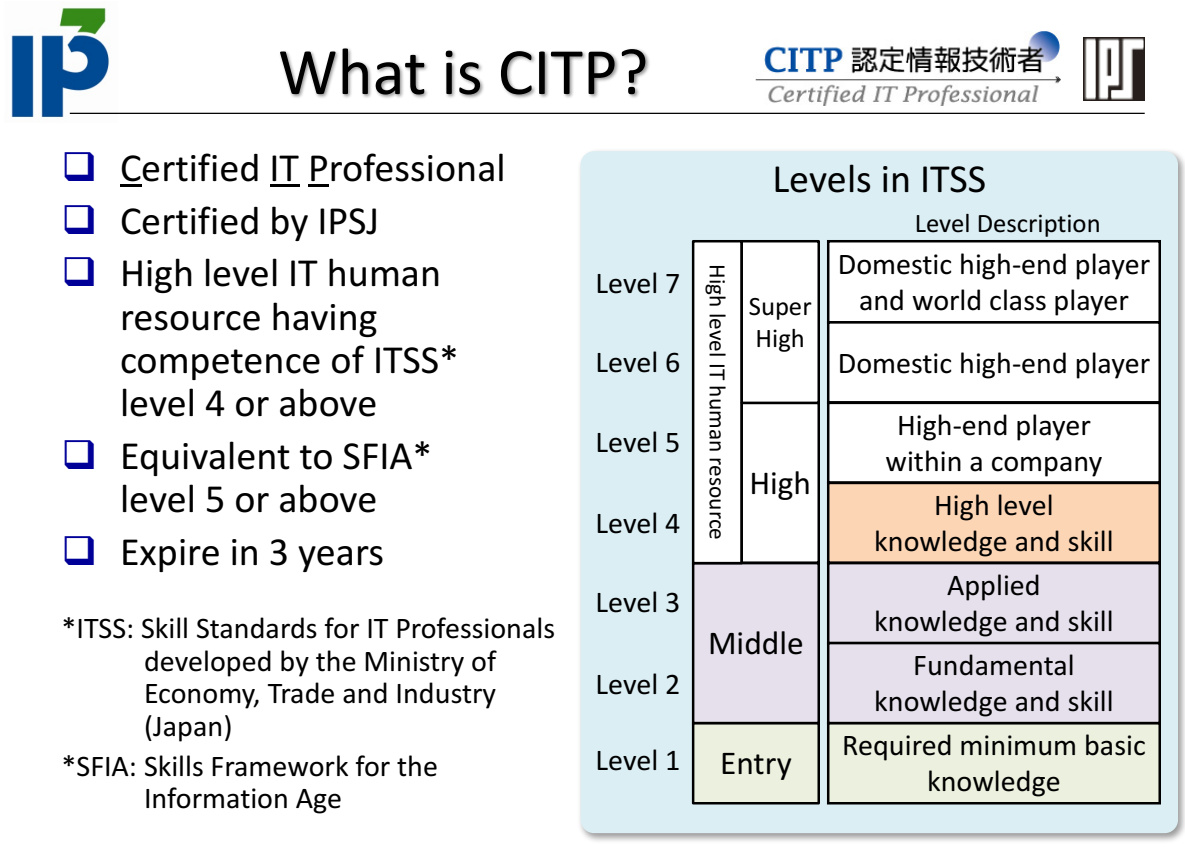


Figure 5

To become certified, the practitioner must show how they acquired their knowledge, how that acquisition was measured and how they apply their knowledge in practice. In demonstrating their technical competence, practitioners will also show they are aware of the limitations of their abilities. The practitioner will be able to produce original documents showing academic and industry qualifications achieved, verifiable by reference to the issuing institution.

It is a core principle that the certified practitioner never stops learning. A certified practitioner will undertake a series of activities that constitute a continuing professional development (CPD) process, throughout their career. This process can include personal knowledge improvement from further studies, knowledge sharing through teaching and conference presentations and community growth through volunteer activities.

To maintain their certified status, the practitioner must show evidence-based participation in appropriate CPD activities on a sustained basis.

IP3 expects that the member association will subscribe to a Core Body of Knowledge (CBOK) and expect all its practitioners but especially its certified practitioners to demonstrate comprehension of the knowledge areas contained therein. The association does not have to create its own CBOK but must identify a relevant CBOK to which it subscribes. The core knowledge areas will include:

- IT Infrastructure and platforms
- Data and information management
- Networking/communications
- Programming
- Software and system engineering lifecycle
- Systems architecture
- Human/computer interaction
- Software, system and services procurement
- Security
- ICT Governance
- Change management
- ICT programme and project management
- Quality assurance
- Risk management
- Social, legal and ethical implications of ICT

8. Behaviour

Given that the practitioners have the technical competence to carry out the tasks assigned to them, the next ingredient of commitment to professionalism is how they behave in the execution of their work.

The member association is expected to publish a Code of Ethics supported by explanatory notes and Code of Conduct**, to which practitioners agree to be bound**. Adherence to the Code should be inherent in the belief system of the practitioners, guiding their business and community behaviour.

The following illustrates the ideal content of such a Code:

1. Describe not only minimum standards, but also ideals: in so doing they should include not only guiding principles, but also virtues and desirable attitudes

2. Contain a statement that minimum standards ought not to be compromised, even in the face of internal pressure from the organisation (s) to which one belongs or external pressure from outside the organisation

3. Contain a statement to the effect that members ought to obey the just and reasonable laws of the community

4. Contain a statement expressing a commitment to the principle of individual autonomy (comprising freedom of action, speech, to work etc.)

5. Contain a statement expressing commitment to non-discrimination based on gender, religion, race, sexual preference, etc.

6. Contain a statement that members ought to obey the just and reasonable rules and regulations of the association

7. Contain a statement that members ought to avoid telling lies (tell the truth) and do what they say they will do (keep their promises)

8. Set out the fundamental goals or ends of the ICT profession, as well as the constraints on the pursuit of those ends, for example, systems should be secure and individual privacy is assured)

9. Contain a statement or statements committing members to respect the relevant rights of customers and clients (for example informed consent in relation to the work being undertaken, fees and charges to be charged, privacy and confidentiality)

10. Contain a statement that complaints and disciplinary processes ought to conform to natural justice principles of independence, reasonableness and fairness

11. Contain a statement that members ought only to undertake work that they are competent to perform

12. Contain a statement that members ought to undertake their work conscientiously, and with efficiency and effectiveness

13. Contain a statement regarding adequate initial and ongoing professional competence

14. Contain a statement committing members to compete fairly in the market

15. Contain a statement expressing the principle that one should build one's professional reputation based on merit

16. Address issues of inappropriate organisational culture (for example, secrecy and closing ranks in relation to wrongdoing or incompetence)

17. Address problematical issues that members are likely to confront (for example, conflicts of interest, vapourware, privacy, piracy and intellectual property)

18. Contain a statement in relation to the collective responsibility of members to report any failure of their peers to meet minimum standards and

19. Contain a statement that members will do what is necessary and appropriate to advance the goals and ideals of the profession and do it no harm.

Behaviour in breach of the Code must result in appropriate disciplinary procedures. The applicability of the Code must be subject to regular review.

9. Quality Assurance

At the heart of the accreditation of certified practitioner schemes is the adherence to common standards.

The member association must be able to demonstrate to the IP3 assessors that it maintains and monitors compliance with its own criteria for membership and its rules.

If the member association is currently certified under ISO 17024:2003, IP3 will accept that its quality assurance processes are compliant with IP3 standards.

In continuing or advancing their practitioners' membership status the member association must demonstrate the procedures for ensuring compliance with:

- Membership standards and policies
- Continuing professional development
- Directed professional development
- Reference requirements
- Disciplinary requirements
- Legislative requirements

It is recommended that the member association has an internal compliance audit committee overseeing compliance with these standards.

10. Administration

IP3 must be satisfied the association is capable of properly administering the Scheme.

If the member association is currently certified under ISO 17024:2003, IP3 will accept that its administration processes are compliant with IP3 standards.

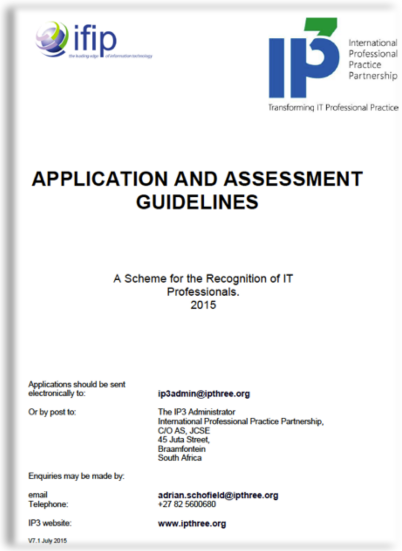
IP3 assessors will wish to examine the following:

- Organisational structure
- Persons responsible for the Scheme(s)
- Corporate governance framework and processes
- Resources and processes to administer the Scheme(s) in the context of overall membership management
    - Documented policies and procedures
    - Financial management
    - Secure and effective records management
    - Compliance with reporting requirements
- Succession planning to ensure skills transfer and continued commitment to the IP3 relationship

11. IP3 Accreditation and Re-accreditation

Any IFIP member association wishing to seek IP3 accreditation for its certified practitioner scheme(s) should join IP3 and open discussions with the Vice Chair/Chief Assessor of SAC and with other IP3 members which have already been accredited.

If this Guide has given sufficient encouragement that the association can achieve the required standards of compliance, they should set up a task team that will work through the requirements set out in the IP3 Application and Assessment Guidelines (current version 7.2), available on request from the Chief Assessor. A flowchart is shown in Figure 6.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International Professional Practice Partnership

Transforming IT Professional Practice

APPLICATION AND ASSESSMENT GUIDELINES

A Scheme for the Recognition of IT Professionals.
2015

Applications should be sent electronically to: ip3admin@ipthree.org

Or by post to: The IP3 Administrator, International Professional Practice Partnership, C/O AS, JCSE, 45 Juta Street, Braamfontein, South Africa

Enquiries may be made by:

email: adrian.schofield@ipthree.org
Telephone: +27 82 5600680

IP3 website: www.ipthree.org

V7.1 July 2015

It is anticipated that a first application will entail several weeks, if not a few months, of preparation within the member association. Assistance is available from the SAC and previously accredited associations are willing to supply model documents and other support.

On completion of the application, it is submitted to IP3 for review. If the IP3 Board is satisfied with the quality of the application, the Board will instruct the Chief Assessor to appoint an assessment team and arrange for an assessment visit to the applicant association.

The cost of transporting, accommodating and feeding the assessment team is met by the applicant association (economy class flights, where appropriate). An initial visit usually requires 3 assessors and the work is conducted over a maximum of 3 working days.

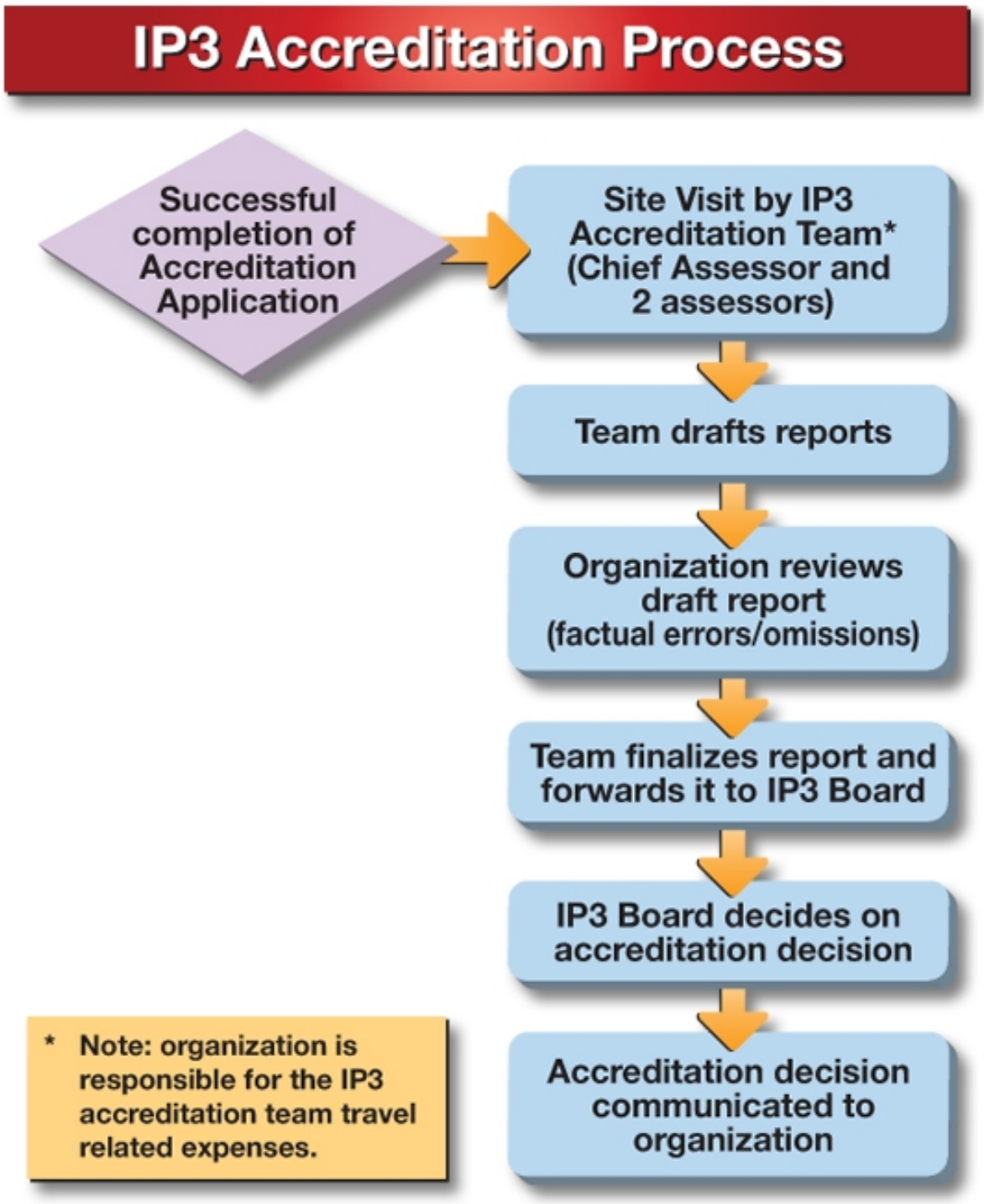

Figure 6

After the assessment visit, the assessors make a report and recommendation to the IP3 Board. The Board will decide accordingly.

One of the following outcomes is possible:

- Full accreditation of the Scheme(s), unconditional for 5 years

- Provisional accreditation of the Scheme(s), subject to compliance with specific conditions for a lesser period, during which full compliance is achieved and full accreditation granted
- Delayed accreditation, with recommendations for achieving a higher level of compliance to reapply at some future date

Figure 7

At the expiry of the full or provisional accreditation period, the member association must apply for re-accreditation by supplying an updated application and requesting an assessment visit.

Similarly, an association wishing to add a new Scheme to an existing one must supply an appropriate application and request an assessment visit.

Re-accreditation and additional scheme assessments will usually require only 2 assessors and the visit can be completed in 2 working days.