

# Professional Certification of ICT Practitioners in Australia

Brenda Aynsley (Australian Computer Society (ACS), Kent Town, South Australia, Australia)

Ruth Graham (ACS Sydney, New South Wales, Australia)

**Abstract** In 2010 the Australia Computer Society (ACS) introduced its latest Certification Program which has seen membership numbers reach their highest level in decades. The intention of the ACS Certification Program is to demonstrate currency of skills within and to the marketplace through participation in lifelong professional development that bolster the technical and professional skills of a member. The ACS Certification Program has several pathways that lead members to becoming a Certified Technologist (CT) or a Certified Professional (CP) member of ACS and this article describes in some detail how this works, what skills framework and body of knowledge are used and identifies issues that might need to be addressed by an ICT Profession along the way to full maturity as a profession.

## 1. Background and context of the ACS Certification Program

The Australian Computer Society (ACS) was created by an agreement between five state computer societies in the 1960. It will celebrate its 50th birthday on 1 January 2016 [1, page 199]. All states and territories of Australia progressively joined the ACS by January 1983 when the Northern Territory became the last branch to be created.

The ACS is the recognised professional association for those working in Information and Communications Technology, seeking to raise the standing of ICT professionals and represent their views to government, industry and the community. The mission is to advance professional excellence in information technology and its Objects are:

- To promote the development of Australian information and communications technology resources.
- To advance professional excellence in information and communications technology.
- To further the study, science and application of information and communications technology.
- To promote, develop and monitor competence in the practice of information and communications technology by persons and organisations.
- To define and promote the maintenance of standards of knowledge of information and communications technology for members.

- To promote the formulation of effective policies on information and communications technology and related matters.
- To extend the knowledge and understanding of information and communications technology in the community.
- To maintain and promote the observance of a code of ethics for members of the Society.

ACS became a member of the Australian Council of Professions on 1 January 2000 and as such is considered the guardian of professional ethics and standards in the ICT sector and is committed to ensuring the beneficial use of ICT for all Australians. It provides both members and non-members with opportunities for professional education, networking and certification, as well as enabling them to contribute to the development of their profession.

The current certification program replaced the CMACS (Certified Member of the ACS) distance education program which was first started in 2000 and which served members needs until replaced in 2010 with the Computer Professional Education Program leading to Certified Professional (CP) status. In addition to the Certified Professional, members can also become a Certified Technologist (CT).

Issues to be solved by the ACS Certification Program

1. Diverse occupations within the ambit of ICT
2. Form of organisation within workgroups e.g. many practitioners are organised in virtual teams
3. Globalisation impacting both entering the profession

when early and/or low skilled jobs are off shored from Australia and competitive global environment for employment and contracts.

Any Certification Program, to be successful, needs to take these factors into account in its design.

ACS members have always wanted recognition of their professional qualifications and experience. This is evidenced in surveys conducted since the early days in which 88% of members wanted “some form of membership being open to all interested applicants who could then move progressively towards full professional standards ...” [1, page 201] The current Certification Program with its multiple pathways to CP and CT offer the opportunity for this to be realised at all levels of experience.

## 2. Intention of the ACS Certification Program and its outline

The intention of the ACS Certification Program is to demonstrate currency of skills within and to the marketplace.

In each period, which at present is annual, a Certified Professional must undertake and log 30 hours of Professional Development (PD) activity and provide two referees who can

attest to the PD.

For the Certified Technologist the number of hours to be logged is 20. Central to the ACS Certification Program are both a Core Body of Knowledge (CBOK) [2] and the Skills Framework for the Information Age (SFIA) [3]. This framework is reflective of current IT practice and its strength is thus that SFIA stays relevant to the needs of the IT industry.

SFIA allows for assessment of members skills, experience and qualifications at seven different levels for both generic skills and technical skills however the ACS Certification Program assesses only at three: level 3 for the CT applicants, level 5 for the CP applicants and level 6/7 for the Certified Master Practitioner, once introduced in 2012.

### 2.1 Certified Technologist

The pathways available to ACS members to achieve CT status, as shown in Figure 1, are:

- Graduate of an ACS/Seoul Accord Accredited Degree Program
- Graduate of any University Degree Program
- Graduate of an ACS Accredited AQF<sup>1</sup> 5/6 Program in ICT

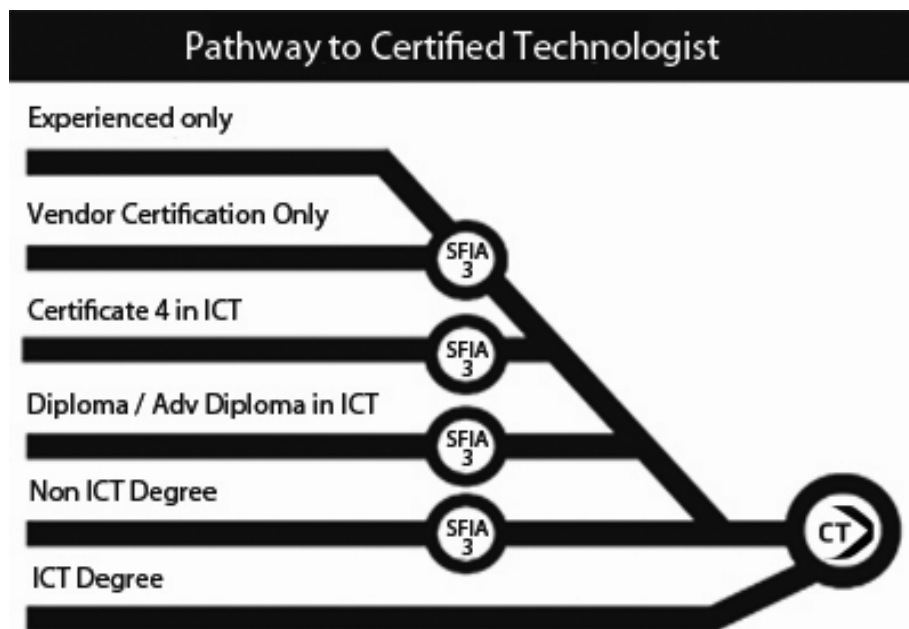


Fig. 1. Pathways to CT status for ACS members

(Source: <http://www.acs.org.au/index.cfm?action=show&conID=pathwayCT>)

<sup>1</sup> AQF – The Australian Qualifications Framework ... is the national policy for regulated qualifications in Australian education and training. It is comprised of 10 levels of training and education. A grade 5/6 level is equivalent to a diploma/advanced diploma or associate degree. Source: <http://www.aqf.edu.au/>

- Vendor Certifications Alone
- Graduate of an AQF 4<sup>2</sup> Program in ICT
- Experience only

Together with experience at SFIA level 3 over relevant periods of time, an applicant can be certified as a technologist.

## 2.2 Certified Professional

The pathways available to ACS members to achieve CP status, as shown in Figure 2, are:

- Normal, ICT Degree
- Senior Manager
- Academic (PhD or Similar)
- Accelerated, ICT Degree (ACS/Seoul Accord Accredited)
- Non- ICT Degree
- ICT Diploma, Advanced Diploma
- Vendor Certifications Alone
- Experience Only

Together with experience at SFIA level 5 over relevant periods of time, an applicant can be certified as a professional.

## 3. Current Status of the ACS Certification Program including its benefits to IT communities

The ACS Certification Program has been in place since mid 2010. Because the ACS had a previous certification scheme, it was possible to implement the new one taking into account the achievement of the former scheme so that all those eligible to be 'grandfathered' into the new Certification Program were classified as either a CT or CP where that was appropriate. Those that were not able to be grandfathered were offered an expedited assessment process to attain CT or CP.

As at October 2011 there have been 1009 applications for certification finalised, and 36 applications are currently in process (7/12/2011). Most of these are as a result of new membership applications by graduates but some are from existing members who have asked to be certified or associate members seeking to be regraded into the professional grade of Member of the ACS (MACS).

The regrade of associates involves the same process as that

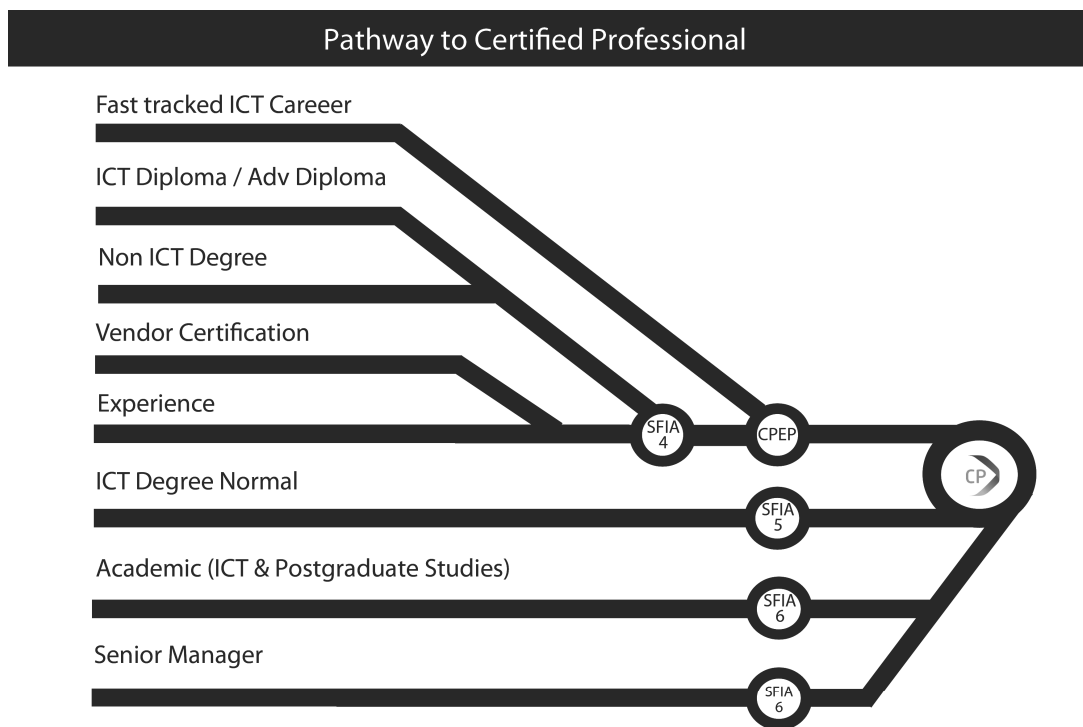


Fig. 2. Pathways to Certified Professional (CP) status for ACS members  
 (Source: <http://www.acs.org.au/index.cfm?action=show&conID=pathwayCP>)

<sup>2</sup> AQF Level 4 is at certificate IV level and is often considered the first of the vocationally appropriate levels for ICT.

used to determine if a member is to be certified.

Presently there are 1974 CP members and 3418 CT members out of a total membership of 20,048 members.

#### 4. Benefits

Large corporate organisations are beginning to recognise the benefits of SFIA and for their ICT staff the ACS' role in contributing to their career management through the SFIA framework and the ACS certification of members. Several articles in the ACS bi-monthly Information Age magazine<sup>3</sup> are explanations of an individual company's use of SFIA and how it is helping the Human Resources department manage their staff's career progression more effectively.

Education programs are mapping their courses and subjects against the SFIA framework which allows a judgement to be made on the professional skills of their workers as demonstrated by understanding what a course contributes within the terms of the SFIA framework. This gives added assurance of professionalism and increases the ability of a company to manage the risks involved.

Similarly the Federal government has built a framework largely based on SFIA and it too is recognising the ACS' contribution to their staff's professional development by being members of ACS. Indeed the Australian Federal Government's Professional Employees Award 2010 specifically defines the qualifications required for a graduate information technology employee against the accreditation regime of the Australian Computer Society.

For small and medium business (SMB) organisations, the results are variable, if a company is willing to embrace the SFIA framework, as one company in South Australia has done, to manage their staff's performance and career advancement, then the pay-off is substantial in terms of reducing the cost of human resource management<sup>4</sup>. Having the ACS independently assess the company's technical and professional IT staff means the company can get on with its core business. If not then the benefits are limited and give credence to the old adage of only getting out of something in proportion to the amount contributed. As an example of this

<sup>3</sup> The current issue Information Age is available online at <http://www.acs.org.au/iage/>

<sup>4</sup> SMBs do not typically have a dedicated HR function in house but rely either on a Manager or HR Partner to provide HR services diverting resources from core business. By utilising the ACS Certification Program for their ICT staff's professional development they can build their own staff career management plans around this program.

suppose a company bought for its employees a gym membership for one year but none of them ever attended any classes what would the pay-off be for the company? None, but if the employer gave employees the equivalent of 30 minutes a day in order to participate in exercise programs in the gym, providing they also put in 30 minutes of their own time each day, then one might expect that the employee would be fitter and healthier and this would be reflected at work in energy and concentration levels.

Members are beginning to derive benefits from being certified. Only Certified Professionals are eligible for inclusion in a scheme under the Australian Professional Standards legislation (PSL)<sup>5</sup> which operates in most States and Territories<sup>6</sup>. In order to meet eligibility an ACS Certified Professional (CP) member, who has the appropriate professional indemnity insurance cover and asset backing can apply to become an ACS certified computer professional which will allow him or her to be protected under the terms of the Professional Standards legislation.

In Australia each State or Territory has the power to implement such legislation recognising one or more professional associations with appropriate schemes that can demonstrate their commitment to the aims of the legislation on behalf of eligible members. In those states and territories in which it operates, it is referred to, in part, as the Australian Computer Society Professional Standards Scheme (ACS PSS).

ACS certified computer professionals have the protections provided under the ACS PSS. These ICT practitioners are typically those who operate as private practitioners working for themselves or in a partnership and seeking the protections provided by the Professional Standards legislation, in particular limitation of liability in the case of law suits. In order to continue to enjoy the protections of the PSL, an ACS member in private practice must continue to be a Certified Professional and undertake the requisite professional

<sup>5</sup> Professional Standards legislation (PSL) acts to provide for the limitation of liability of members of occupational associations in particular circumstances and to help in improving the standards of services provided by the members, and for other purposes

For a more thorough explanation of the PSL see [http://www.lawcouncil.asn.au/shadomx/apps/fms/fmsdownload.cfm?file\\_uid=2CD37858-1E4F-17FA-D2B1-7B82D2BED74C&siteName=lca](http://www.lawcouncil.asn.au/shadomx/apps/fms/fmsdownload.cfm?file_uid=2CD37858-1E4F-17FA-D2B1-7B82D2BED74C&siteName=lca)

<sup>6</sup> The ACS Professional Standards Scheme operates in 6 out of 8 States and Territories as at December 2011.

development to maintain that certification each year<sup>7</sup>.

The ACS PSS is not in and of itself generally a sought out benefit because most of the members of ACS are salaried employees and thus have no need of the protections provided by PSL but its existence signals to the community the maturity of the ICT profession and thus is of great significance to the profession as a step along the road to full maturity.

Membership of the ACS is the highest it has ever been and this is being attributed to the perceived value of the current Certification Program which is only available to members of the ACS.

## 5. Organisational structure of the ACS

The Australian Computer Society, a single incorporated entity with branches based in each of the eight states and territories. However in deference to its early history, there is much autonomy and authority for branches provided for in the Rules of the Society. The ACS is led by a Management Committee as required by the Associations Incorporations Act which is the legislation under which the ACS was incorporated. Management Committee has six office bearers (President, three Vice Presidents, National Treasurer and Immediate Past President) and four National Congressional Representatives elected by Congress from amongst the branch representatives mentioned below, and the Chief Executive Officer. It meets monthly to both manage the Society and provide governance for the organisation. The Management Committee is elected by the ACS Congress.

The Congress is comprised of Board Directors, (these are not Board Directors in the corporate governance sense but rather in the Committee Chairs sense), Branch Congressional Representatives and the Management Committee.

Branch Congressional Representatives are elected by the Branch Executive Committee (BEC) in each Branch. The role of the BEC is to manage and control its Branch as well as providing voluntary services to fellow members. It is elected by the members of the Branch.

There is a National Secretariat where most of the 50+ paid staff are located. In each Branch there is a senior paid official supported by other staff, if the size of the branch

warrants it, or through its volunteer members if not. Staff from the National Secretariat also provide back office support to the branches. The Branch staff are principally engaged in providing services to members in terms of events and PD opportunities and servicing the business plan for the Branch that the BEC prepares each year.

The National Secretariat is responsible for providing shared services such as finance, payroll and HR to the Branches and the entire organisation. It performs the assessment and accreditation roles for the whole Society to ensure consistency across the organisation. It supports the Board Directors and their volunteer elected boards to assist in the implementation of their work plans each year. It provides and manages the corporate affairs portfolio responsibilities as well as national initiatives across the board including the Professional Partnership Program (PPP)<sup>8</sup>, business development initiatives, accreditation visits, auditing function, annual reporting and membership administration.

## 6. Current Issues

Current issues facing ACS and the Certification Program include:

- *Embedding conceptual difference between membership and certification*

For many years the ACS has relied on the grades of membership to denote professional status, this has changed with the introduction of the 2011 Certification Program. It needs an educational program effort to ensure stakeholders can make the distinction in this new environment of professional certification.

- *Differentiating professional certification inherent in the ACS Certification Program from vendor and other training certifications*

It is clear that some of the stakeholders are not yet in a position to understand how the certification offered by the Professional Society differs to that offered as a result of undertaking training.

- *Process management and Quality Assurance*

Assessment of applicants for membership, for certification and standard forms of proof need to be developed and applied consistently. QA is a vital part of

<sup>7</sup> For a complete picture of the ACS see [http://www.acs.org.au/index.cfm?action=show&conID=ccp\\_faqs](http://www.acs.org.au/index.cfm?action=show&conID=ccp_faqs).

<sup>8</sup> The ACS PPP is a means of engaging with companies that employ ICT practitioners and providing assistance to them to manage their staff's professional development. See: <http://www.acs.org.au/index.cfm?action=show&conid=ppp> for more detail.

getting this right and programs need to be developed.

- *Relationship with other societies and organisations*

As a member of IFIP's International Professional Practice Partnership (IP3) with an accredited scheme it is incumbent on ACS to foster the growth of certification programs amongst fellow professional Societies globally. There is also a need to fully document the mutual recognition protocols that will exist with other IP3 Societies.

- *Maturity of the Profession*

As the ICT profession matures, it will change in focus. At present the profession is very wide in terms of the range of jobs included within its portfolio, as represented by the breadth of the SFIA framework [3] where more than 90 different skill sets are identified as falling within the ambit of IT practice. Over time that will need to be managed in some way to provide more clarity on general practice and specialisations as a profession.

## 7. Visions and perspectives in the future

In many respects the vision for the future is contained in the issues mentioned in the previous section.

For the short term, the vision is to broaden the appeal of the ACS Certification Program to its members and their employers as well as the other stakeholders that ACS values including government officers, educational institutions, consumers and politicians.

The benchmark is to have all stakeholders understand the value proposition of having a sound and respected ICT Profession as demonstrated by the insistence on some form of certification particularly that offered to ACS members or registration for professional practitioners.

## 8. Critical success factors

The present ACS Certification Program has relied heavily on champions being on hand to ensure that the program implemented has both rigour and appeal over the fairly lengthy period it has taken to develop and deliver the first phase of the Program. In a volunteer led organisation, whose volunteers change as regularly as every two years, it requires a commitment on the part of both staff and Board (Management Committee) to ensure continuity of program effort to delivery

## 9. The next steps

ACS intends to enhance the current Certification Program in 2012 and onwards in several substantial ways.

- Introducing a senior professional level of certification called the Certified Master Practitioner (CMP) which will operate at levels 6 and 7 of the SFIA Framework.
- In response to market demand provide an indication of specialisations into the Certification Program by assessing Certified Professionals and Certified Technologists against a specialism as an additional service. This will be a progressive implementation and continue to be in response to the marketplace. First specialisations to be tackled includes: software engineering, information security, business analysis and enterprise architecture.

The compelling arguments for this approach to next steps include:

- Create an independent assessment of capability of a member at a more detailed and arguably useful level for capacity planning and career management.
- Enshrine the professional services continuum as that of journeyman >> master which more closely reflects the reality of the professional workplace.
- Enhance the original certification program by adding clarification of specialism capability recognising that specialism at each level, occurs throughout a career.
- Encourage further formal studies at masters level, a hallmark of all professionals in their respective professional practices.
- Make marketing of the ACS Certification Program easier because there is more value in the certification process as assessment becomes both wider and deeper in its examination of candidates.

## References

- 1) Bennett, J.M. et al: Computing in Australia: the Development of a Profession, The Australian Computer Society (1994).
- 2) ACS Core Body of Knowledge.  
<http://www.acs.org.au/attachments/ACSCBOKWorkingPaperV5.0Oct2008.pdf>
- 3) <http://www.sfia.org.uk/>



Brenda Aynsley (nonmember)

E-mail: [bpa@iss.net.au](mailto:bpa@iss.net.au)

Brenda Aynsley, FACS CP and Honorary Life Member, is the 2010-11 ACS Vice President Membership Boards. She has been a member of the Australian Computer Society since 1989 and actively involved in shaping the governance and management of the Society since 1999 at both a Branch level and nationally. In 2010-2011 she was responsible for the introduction of the ACS Certification Program that is described in this article.

Ruth Graham (nonmember)

E-mail: [Ruth.graham@acs.org.au](mailto:Ruth.graham@acs.org.au)

Ruth Graham, the ACS General Manager Professional Standards, Learning and Development, is a professional skilled in a range of disciplines gained from the education and commercial sectors, as well as from specialist training. She has a proven track record in managing change, implementing new initiatives and in providing high value customer service and is the staff member charged with the responsibility for standards for the ACS Certification Program.

Received: December 22, 2011

Accepted: February 21, 2012

Editor in charge: Hiroharu Asahi (Hitachi, Ltd.)