



Information Technology Certified Professional

NZCS ITCP Certification Model



NZ Computer Society Inc. (NZCS)

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Paul Matthews

BACKGROUND INFORMATION

This paper assumes the reader has an understanding of the NZCS Certification background, including general familiarity with the *NZCS Certification Discussion Document* and *NZCS Certification Update 1* documents available at www.nzcs.org.nz/certification

This document follows and replaces the Draft Certification Model previously released publicly for feedback. A high level of feedback was received, and much has been incorporated into this Certification Model.

This document uses the terms “IT” and “ICT” interchangeably. Where either term is used it is synonymous with the other.

CONTRIBUTORS

A large number of people from right around New Zealand (and, in fact, the world) have contributed and collaborated to create this model including the NZCS Certification Working Group, National Councilors, a large number of ICT professionals, individuals throughout industry, government and academia, and many others.

This NZCS ITCP Certification Model was designed and developed by **Paul Matthews** with assistance from the NZCS Certification Working Group:

- **Don Robertson** MNZCS, NZCS President
- **David Cowman** MNZCS, NZCS Deputy President
- **Paul Matthews** MNZCS, NZCS Chief Executive
- **Prof Steve MacDonell** MNZCS, AUT University
- **Peter Cornelius** MNZCS, Hewlett-Packard

The Working Group also seconded a number of individuals to assist in various facets of the project. Whilst too numerous to name here, their contribution is significantly appreciated.

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FOREWORD FROM NZCS PRESIDENT

As some will know, NZCS has for some years now discussed providing an internationally-recognised independent professional certification programme for senior ICT professionals.

Thanks to a concerted effort by a large number of ICT professionals, 2009 is the year we deliver on this promise. The timing is now right for New Zealand to take our place in the international ICT community, and with renewed energy and vigour, and against a backdrop of necessity, we are proud to present this draft model for consultation.

Professional Certification is essential for ICT professionals, the ICT profession and the economic development and recognition of New Zealand as a whole and is essential if we want Kiwis to have the opportunity to be recognised using the same or similar international independent standards as those practicing in many other parts of the world.

The world is becoming more and more dependent on ICT and this includes critical safety and security systems as well as the ability of organisations to survive – not to mention just for basic communication between individuals and family members in a global community.

This dependence requires those of us who practice in ICT at a senior level (whether in the vendor community, in-house, consulting, or within the user community) to subscribe to a minimum acceptable standard, and be held professionally accountable to this standard.

NZCS has carried out considerable research into the options available for implementing a sustainable framework for truly defining the ICT profession including a set of standards based on international best practice. This has culminated in this certification model.

This initiative is no small task and we certainly don't underestimate the size and effort required to implement it. However as New Zealanders that has never stopped us from rising to the challenge and achieving great things, and frankly, we have no choice if we wish New Zealand and New Zealanders to continue to be recognised as global innovators.

Together we can make this work and complete the task of defining and recognising exactly what it is to be an ICT Professional in New Zealand in the 21st century.



Don Robertson
NZCS President

1. EXECUTIVE SUMMARY

The New Zealand Computer Society Inc (NZCS) is the professional body of the ICT sector and works to improve the professional delivery of ICT in New Zealand.

The major objectives of the Professional Certification Programme are to recognise and define what it is to be an ICT Professional in New Zealand, as well as recognise those that have reached this level of competence, to provide recognition of excellence, ensure international respectability of New Zealand, and to provide assurance to the public.

Without this New Zealand ICT professionals are automatically at a disadvantage to those of many other countries (which have implemented professional recognition), and New Zealand's ICT profession runs the risk of being considered second-class on the world stage.

The NZCS Certification Programme has been designed to meet specific international standards, and to align with the Certification Programmes of most other countries.

The programme is **not mandatory**, nor intended as a barrier to ICT professionals. NZCS have no current plans to seek legal backing for the Certification Programme to make it compulsory for ICT professionals. It is also NOT intended to replace NZCS membership classes or become a pre-requisite.

Professional Certification is for senior ICT professionals, and does not intend to address the whole profession at every level.

The process is not seeking to replace existing technical or academic qualifications, rather, it is seeking to provide an umbrella, or framework, around existing certifications and help raise awareness of the importance of professional development.

Professional certification involves assessing against a number of criteria, including ICT Skills and Knowledge, Professional Knowledge (ethics, legal, organisational context), plus professional competency and responsibility.

NZCS intends to implement the *EUCIP Core Syllabus* as the New Zealand *Core Body of Knowledge*, defining the base-level knowledge requirements for ICT professionals, and the *SFIA Skills and Competency Framework* to base Certification on.

Whilst there is one single list of accreditation standards, there are 7 Certification “Routes” to assess professionals from different backgrounds against the standard. This includes those with Education Plus Experience, Established Academics, Established ICT Professionals, an Exam Route, IT Industry Leaders, Cross-Recognition of Other Certifications Route and a temporary fast-track process for members of recognised ICT professional bodies.

Those who are members of a recognised ICT professional body on the date of the launch of the programme will have the opportunity of participating in the Fast-track process.

2. INTRODUCTION

The New Zealand Computer Society Inc (NZCS) is the professional body of the ICT sector and works to improve the professional delivery of ICT in New Zealand.

An important aspect of any profession is definition and recognition - defining what the profession is, defining the *Body of Knowledge* for that profession, recognising those that have achieved a professional level of *competency* and helping practitioners reach that level.

The NZCS ICT Professional Certification Programme is a comprehensive and independent ICT competency accreditation process for senior ICT Professionals.

This certification will:

- Help **recognise and reward** those that are senior in the field of ICT.
- Provide a **valuable, and internationally recognised, progression roadmap and professional development pathway** for those in, or seeking to join, the profession.
- Enhance **career opportunities for New Zealanders seeking recognition for their skills and competencies internationally**. NZ ICT professionals deserve the same opportunity of professional accreditation as those in other countries.
- **Embed the concept of professional practice**, an important step in defining ICT as a true profession.
- Provide opportunities to **more accurately match particular skills shortages of concern to employers, with clearer information on the skills and competencies of New Zealand IT professionals, and potential immigrants**.

WHAT IS AN ICT PROFESSIONAL?

There are many definition of “ICT” and “ICT Professional”, and part of the purpose and intent of this project is to define an ICT Professional in the eyes of the public.

This definition is not one of words, in much the same way people understand “what an Accountant is” without necessarily knowing or agreeing on a formal definition.

Nevertheless, as a working and non-formal definition, for the purpose of this programme only, we have defined an ICT Professional as:

An individual working at a senior level within an ICT domain, who operates on a base of ethics and professionalism, and possesses specialised knowledge plus the influence and capability to use this knowledge to the benefit of an organisation or client

DEFINING AND RECOGNISING ICT PROFESSIONALISM

The major objectives of the programme are to recognise and define what it is to be an ICT Professional in New Zealand, as well as recognise those that have reached this level of competence. Such a definition is essential if New Zealand is to face and deal with the numerous issues our sector faces.

The programme is also designed to help raise the image, and improve how the profession is perceived by others including students seeking a career path. It is also essential to ensure the public at large have confidence and trust in the ICT sector by knowing that an ICT professional has been independently accredited by their professional body. Certified Professionals will be listed in a public, searchable database, meaning it will be easy to identify true ICT professionals.

DEFICIENCIES IN THE ICT SECTOR

Before continuing it is necessary to define the following sectoral deficiencies. These are consequences of the lack of definition, recognition and hence vision in our profession:

- **Skills Shortage:** a shortfall in the number of workers with the skills needed to fill the jobs currently available¹;
- **Gap:** a competence shortfall between the current and needed competence levels of individual staff within organisations;
- **Mismatch:** a mismatch between the competence of the trainee or graduating student/learner and the expected competence needs of the employers;
- **Fill Rate:** These provide evidence about the relative difficulty employers are having in filling vacancies. Fill rate data in New Zealand is available from the NZ Department of Labour's Job Vacancy Monitor Programme and is a key result from the programme's *Extensive Survey of Employers who have Recently Advertised (SERA)*.

These deficiencies are a direct result of the lack of definition and recognition in the ICT sector. There are a number of other consequences as well;

- How do we set educational standards at school or tertiary level with no defined *Body of Knowledge*?
- How can we market a profession we haven't defined?
- How can the public have confidence in a profession that doesn't define itself?

¹ <http://dictionary.bnet.com/definition/skills+shortage.html>

- How can we promote *Good Practice* when the profession doesn't provide recognition for those that subscribe to the philosophy?
- How do we provide congruence and consistency throughout the education system without professional standards?
- Why would professionals treat ethics and professionalism as more than just marketing words if there are no professional consequences?

In short, the ICT profession in New Zealand and elsewhere is experiencing a multitude of problems culminating in a prolonged, serious and significant skills shortage. Previous attempts to address many of these problems have been unsuccessful as they have addressed the symptoms rather than the cause.

This programme addresses the very structure and foundations of the ICT profession as a whole. Once the foundations are set we can set about redefining what it means to be an ICT Professional.

Without this programme our sector will continue to be a sector of individuals (a mish-mash of professionals and non-professionals) rather than a profession in its own right. Only when we have defined what it means to be an ICT Professional, and begun the process of independently recognising ICT Professionals through this programme, can the raft of secondary issues be dealt with in a productive, consistent and sustainable manner.

THE INTERNATIONAL IMPERATIVE

New Zealand and New Zealanders increasingly compete on the global stage as individuals, organisations, and as a country. To be on a similar standing to those of other countries, New Zealand ICT professionals must have the same opportunity to obtain internationally-recognised professional recognition as those around the world.

Without this New Zealand ICT professionals are automatically at a disadvantage to those of many other countries (which have implemented professional recognition), and New Zealand's ICT profession runs the risk of being considered second-class on the world stage.

The NZCS Certification Programme has been designed to meet the standards of the IFIP IP3 Programme. This is an international accreditation programme acting as an umbrella over the ICT professional certification programmes of participant countries.

As New Zealand's representative on IFIP, NZCS is the only organisation that can deliver a truly internationally recognised professional certification programme in New Zealand.

3. WHAT IS PROFESSIONAL CERTIFICATION?

Although operating in many other countries for some time, Professional Certification is new to the New Zealand ICT sector and there have been many misconceptions recently.

Many believe it is an alternative or replacement for vendor- or technology-based certification. This is **not** the case – in fact NZCS will be working with partnered training and course providers throughout New Zealand to map ICT-related courses and technical certifications to the framework and recognise them as part of the accreditation process.

Professional Certification is an **independent accreditation of the skills and competence of senior ICT professionals** – recognition of those that are operating professionally, ethically, and with the right basis of skills and knowledge in their specialist area.

As well as being vendor- and technology-independent, one of the key differentials between professional and technical certification is that professional certification is focused on a far wider picture than just technical ability. ICT practitioners need to have professional skills as well as technical skills to be a success, and this is recognised in this programme.

Certification is not mandatory and not intended to replace NZCS membership classes or become a pre-requisite for membership. Whilst a scheduled review of membership classes will occur within the next 12 months, this is independent of this programme.

It should be noted, however, that in most other countries the independent Professional Certification Programme has become the "de facto" standard for the industry and is increasing becoming necessary that a certified professional "signs off" on critical systems.

It is expected that certified professionals, especially early adopters, will gain considerable competitive advantage over those that have not been accredited, and that the take-up of the Certification Programme should be based on need, not compulsion.

It is **not, for the most part, about courses or exams**, but an assessment in many cases of the qualifications and experience that professionals are already demonstrating.

Professional Certification is not intended to address the whole profession at every level. The process is not seeking to replace existing technical or academic qualifications, rather, it is seeking to provide an umbrella, or framework, around existing certifications and help raise awareness of the importance of professional development.

Initially there will be a single "gold standard" professional certification for **senior ICT practitioners, provided for professionals certified at SFIA Level 5 and above.** This effectively means a professional fully accountable for their own work, having significant responsibility for the work of others and the allocation of resources, and with sufficient business skills and acumen to design, plan and execute to time, cost, and quality targets.

PRACTITIONER/TECHNICIAN-LEVEL CERTIFICATION

ITCP is intended to be the “Gold Standard” of ICT professionalism in New Zealand mapped to standards around the world. However it is very deliberately targeted at those regarded as senior ICT professionals.

It is clear that many view a “Technician” or “Para-Professional” Certification as being equally important to sit alongside this “Professional” certification. NZCS intends to investigate the implementation of a SFIA Level 3 Certification at the Technician or Para-Professional level and has considered carefully implementing both simultaneously.

Whilst the Society views both as very important, from a resource and practicality perspective, NZCS will be delaying implementation of Technician-level accreditation until after the implementation of Professional Certification, however is committed to investigating the need and practicalities of this in due course.

4. PROFESSIONAL CERTIFICATION VS TECHNICAL CERTIFICATION

NZCS Professional Certification is NOT a technical certification (such as Microsoft MCSE or Cisco Certification) or a competitor to such. If we are to use Accountancy as an example, NZCS Professional Certification is the equivalent of the "Chartered Accountant" certification rather than a technical (or product-based) certification.

Professional certification involves assessment of the following:

AREA 1: SKILLS AND KNOWLEDGE

This is the core technical or specific skills. A successful applicant will show an understanding of both a "wide and shallow" and "narrow and tall" component of the Body of Knowledge (so a specialty and a broad understanding).

AREA 2: PROFESSIONAL KNOWLEDGE

Professional Knowledge covers the non-technical aspects of being a professional which help define the fundamental difference between a professional and a practitioner. This includes an understanding of, and adherence to, Ethics and Professional Practice, knowledge of ICT Legal Issues, and Organisational context and awareness.

AREA 3: COMPETENCY AND RESPONSIBILITY

The applicant must be operating at SFIA Level 5 or above, and have done so for at least 1000 hours in the previous 12 months (ie essentially at least 6 months working at this level each year).

5. BENEFITS OF PROFESSIONAL CERTIFICATION

There are a range of benefits of professional certification for all stakeholders in the ICT environment: ICT Professionals, employers, ICT vendors and the industry, Government, and the country as a whole.

BENEFIT TO ICT PROFESSIONALS

Independent recognition of professional standing is paramount in terms of career advancement, and provides a significant advantage.

NZCS Professional Certification will independently accredit ICT professionals as operating at a high level of competence, understanding standards, and will show that recipients are serious about professionalism and professional practice.

Additionally, the Certification Programme will form the nucleus of a number of other projects, all designed to assist in guiding ICT professionals through their professional development and career.

From an "employability" perspective, it is expected that those that hold professional accreditation will have a significant advantage in the job market and will likely command a higher level of remuneration than those without.

Please see Appendix 5 (FAQ) for a list of other benefits to ICT Professionals.

BENEFITS TO EMPLOYERS

There are three key benefits for employers and contracting companies: Recognition, Development of staff, and Marketing.

The Programme will become a fundamental component of the professional development of ICT professionals within an organisation, and will make a tangible difference to the willingness and opportunity staff have to continue developing themselves professionally.

In terms of recognition and marketing, the fact a company has Certified Professionals on staff will provide a significant competitive advantage over those companies without, by showing that senior staff have been independently accredited as professionals.

Certification also provides an organization with the ability to demonstrate the calibre of their staff, an essential requirement for exporting to many other countries.

6. LINKS TO TERTIARY DEGREE ACCREDITATION

NZCS has indicated an intention to implement Tertiary Degree Accreditation for Computer Science, Information Systems, Software Engineering, ICT, and related tertiary degree programmes in New Zealand.

Note that this is NOT the same of the training and course mapping to SFIA that will occur as a future phase of the Professional Certification Project – Degree Accreditation is a separate, distinct, and significantly more comprehensive assessment and accreditation programme.

The full scope of this project has not been finalised, although it is expected that this will cover Bachelor-level degrees only in the first instance, potentially expanding to others in future. Some or all of this will be in conjunction with the Institute of Professional Engineers New Zealand (IPENZ), with the intention of offering institutions joint accreditation options.

While Degree Accreditation and Professional Certification are linked, they are seen to be two distinct projects (one feeding into the other).

Much consideration has been given to launching Degree Accreditation simultaneously with Professional Certification, and there have been calls by some within the tertiary community to do this. However given that they are distinct projects, and to ensure the appropriate utilisation of NZCS resources, NZCS will be delaying implementation of Degree Accreditation until after the launch of Professional Certification.

NZCS fully understands the urgency of Degree Accreditation in New Zealand and the importance to the Tertiary sector however must ensure that the professional programmes and accreditations put in place are of a very high quality, scalable, robust, and sustainable.

The society is committed to bringing Degree Accreditation to New Zealand, and will work with the Tertiary Community to ensure an appropriate quality accreditation programme is implemented in due course.

PROFESSIONAL CERTIFICATION DEGREE REQUIREMENTS

The “Education Plus Experience” route makes reference to the requirement to have completed a tertiary degree at Level 7 of the NZQA Framework and also mentioned NZCS’s upcoming Degree Accreditation Programme.

For the purposes of Professional Certification, any recognised Computer Science, Information Systems, ICT or equivalent degree at Level 7 of the NZQA Framework and conferred before the implementation of NZCS Degree Accreditation, and up to 3 years after the implementation of Degree Accreditation, will qualify.

Note that other routes do not require a tertiary ICT degree.

7. GENERAL STRUCTURE OF NZCS CERTIFICATION

Following considerable research and consultation, NZCS believes it is essential that the NZCS Professional Certification Programme cover a broad range of backgrounds and professional areas to ensure the requirements are not unnecessarily cumbersome.

Consequently, NZCS has identified **7 “Routes” to Certification** to cater for a number of different combinations of experience, expertise, education and backgrounds. All 7 routes will result in assessment against the same set of standards, however the entry requirements and method of assessment varies across these routes.

The **three areas of primary assessment** include *Skills and Knowledge* (assessment of prior learning, knowledge and skills), *Professional Knowledge* (demonstrable understanding of the concept and requirements of the Code of Conduct and Ethical Behaviour, Legal issues relating to ICT, and Organisational Requirements of ICT Professionals), plus *Competency and Responsibility* (ensuring that the applicant is operating at a defined level of competency, accountability and responsibility).

The Certification will also require demonstration of **character suitability**. This will include confidential confirmation from referees, plus publishing of the applicant names to the ICT community.

KEY STEPS FOR CERTIFICATION

NZCS Professional Certification will involve the following steps:

1. Candidate Selection of Assessment Route
2. Self or Assisted Pre-assessment against Route Entry Requirements
3. Submission of full Application for Certification
4. Assessment against the 3 key Assessment Areas:
 - a. Skills and Knowledge (ICT Knowledge and Skills in own area)
 - b. Professional Knowledge (Legal, Ethics, Organisational)
 - c. Competency and Responsibility (Operating at SFIA Level 5 or above)
5. Assessment of Character Suitability
 - a. Reference from Referees (including interviews)
 - b. Publication of applicant’s name to ICT community
6. Final assessment by Assessment Team
7. Awarding of Professional Certification

An appeals process will be available for those that believe they have been disqualified unfairly.

8. BACKGROUND RESEARCH

This Draft Model is a result of considerable research and investigation completed by NZCS staff and the Certification Working Group.

This has included full investigation and analysis of:

- Existing ICT Professional Certification Programmes operating around the world, including:
 - **United Kingdom**, British Computer Society, Chartered IT Professional
 - **Australia**, Australian Computer Society, CPEP Programme
 - **Canada**, Canadian Information Processing Society, ISP Certification
 - **Europe**, Council of European Professional Informatics Societies, EUCIP
- The work of the IFIP IP3 Taskforce, working to create a set of international standards for ICT Professional Certification Programmes
- The resultant IP3 standard (previously IITP, but may change) requirements
- Internationally accepted ICT Skills and Competency Frameworks, with a focus on the *Skills Framework for the Information Age (SFIA)*
- ICT Core Bodies of Knowledge (CBoK) in place around the world
- International Best Practice in regards to Professionalism and Certification Programmes
- Generally accepted concepts of what defines a “Profession”

This has also included significant discussions with international partner organisations to ensure that New Zealand’s ICT Professional Certification Programme is world-class and of a high quality and integrity.

9. SFIA ICT COMPETENCY AND SKILLS FRAMEWORK

It is essential that Certification is built upon an accepted formal, broad, quality and dynamic Competency and Skills Framework. A Skills Framework defines the core skill areas and levels of responsibility and competency for professionals.

After considerable investigation of the available options NZCS has chosen the internationally recognised *SFIA Framework*² as the underlying framework for professional Certification in New Zealand.

OUTLINE OF SFIA

SFIA has been created by a consortium of 30 organisations over 22 years, spearheaded by the *British Computer Society*. Participating organisations include representatives from the UK government, multinational corporations such as IBM and Microsoft, and educational and representative organisations such as BCS, IET, Intellect UK, and many others.



SFIA underwent a considerable review and wide-ranging consultation process during 2008, culminating in the release of SFIA Version 4.

SFIA was created to provide a method of mapping an individual's professional skill level to a set of internationally-relevant standard levels. Adopted within a number of countries around the world, it defines both the competencies of an individual and the competencies required for a standard job specification in agreed terminology.

The *SFIA Framework* is the skills framework underlying most international ICT certification programmes being implemented around the world by the Society's kindred partners. This also provides a standard measuring regime to ensure true international recognition of a country's certification programme.

² Skills Framework for the Information Age (SFIA): See www.sfia.org.uk

SFIA CONCEPT

The framework provides a clear model for describing what ICT practitioners and users do and is constructed as a two-dimensional matrix:

SKILLS

One axis divides the whole of ICT into "skills". Skills are grouped for convenience into subcategories or "professional roles". Subcategories are grouped into six categories or work areas - Strategy & Planning, Management & Administration, Development and Implementation, Service Delivery, Sales & Marketing, and Use. The SFIA structure allows a consistent approach to ICT skills across the organisation.

LEVELS

The other axis defines the level of responsibility and accountability exercised by ICT practitioners and users.

Each of seven levels - from new entrant to strategist level - is defined in terms of autonomy, influence, complexity and business skills.

NZCS professional certification will require professionals operating at Level 5 or above of the SFIA Framework (Ensure/Advise).

SFIA levels

7	Set strategy/inspire/mobilise
6	Initiate/influence
5	Ensure/advise
4	Enable
3	Apply
2	Assist
1	Follow

DESCRIPTORS

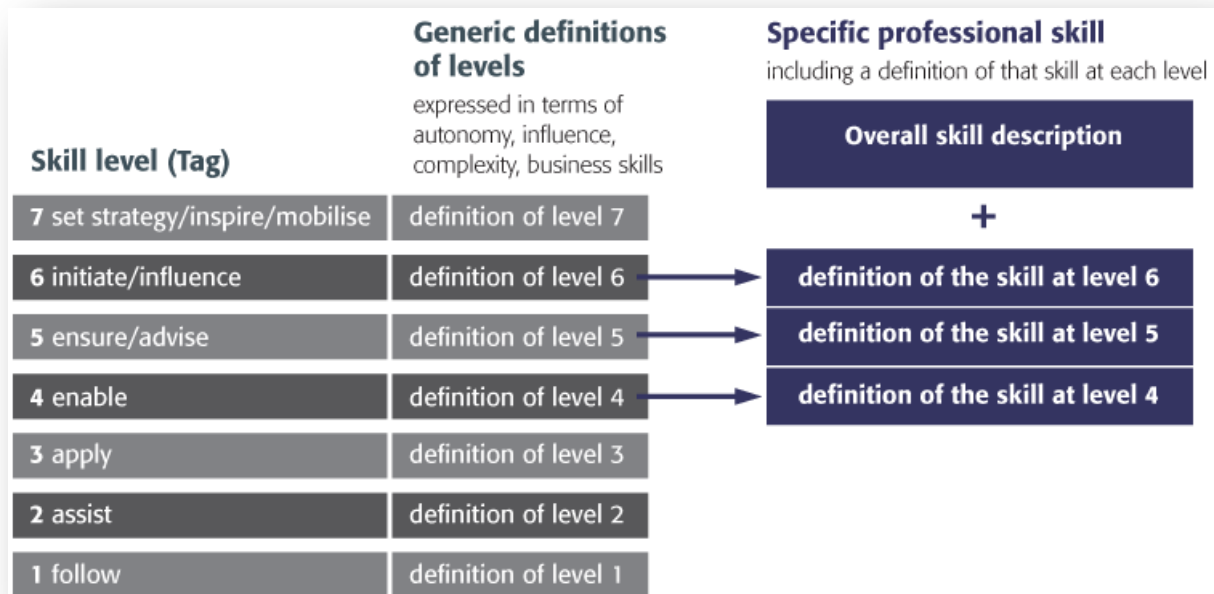
The matrix described above shows the complete set of skills used by ICT practitioners and users. For each skill at each level, "descriptors" provide examples of typical tasks undertaken. A typical task for systems design at level 5 is "review others' system design to ensure selection of appropriate technology, efficient use of resources, and integration of multiple systems and technology".

The matrix is not fully populated, as most roles do not require people at every level of responsibility.

SKILL DEFINITIONS

The Framework provides a generic definition of the competency and responsibility of a professional working at each of the seven levels, expressed in terms of Autonomy, Influence, Complexity, and Business Skills.

Each skill has a specific description for applicable levels, and combined, these provide a profile for an ICT Professional working within a specific skill at the specified level:



OTHER APPLICATIONS OF SFIA

In future NZCS will provide independent accreditation of additional Skill Areas, to allow ICT Professionals to demonstrate competence in a wider range of areas.

Whilst SFIA as a framework is freely available to any end-user, NZCS will package the framework into a structure suitable for New Zealand, including providing (or accrediting) formal assessments of ICT Professionals, mapping of courses and training opportunities, providing ICT Professionals with career pathways and guidance to grow as professionals, and the overarching NZCS Professional Certification.

Other related NZCS projects will provide strong benefits in establishing job or position descriptions and facilitate either training or recruitment by highlighting skills and needs, as well as the courses and training available through third-party providers to bridge the gaps.

Accreditation of training and courses in conjunction with, or shortly after, this initial implementation will be paramount. Ideally, every IT course offered in New Zealand should be mapped to SFIA so that all educational effort provides the best return for students.

10. CORE BODY OF KNOWLEDGE

As a professional body, it is essential NZCS adopts a Core Body of Knowledge (CBok) as the basis of learning and knowledge. This is also a requirement of the IITP (international accreditation of ICT certification programmes) process, making implementation in parallel with professional certification essential.

CBOK REVIEW

A full review has been conducted of existing Core Bodies of Knowledge in use or proposed around the world. The following Criterion were used during this review:

STRUCTURE

<i>Criterion:</i>	<i>Priority:</i>
Adheres to IP3 requirements/expectations <i>(Core, leveled, continually current)</i>	Crucial
Easily mapped to SFIA framework <i>(Both skill type and level of autonomy)</i>	Crucial
Simple to use <i>(To inform/assess professional development)</i>	Crucial
Simple to maintain <i>(To ensure it is always current)</i>	Crucial
Means of assessing depth of understanding <i>(From factual recall to informed judgement)</i>	Beneficial

SOURCE

<i>Criterion:</i>	<i>Priority:</i>
Leverages material from other places/sources <i>(No need to build/maintain our own BoK)</i>	Beneficial*

*May assume Crucial status if wider issues considered e.g. provision of an associated education programme, accreditation of curricula and similar

SCOPE

<i>Criterion:</i>	<i>Priority:</i>
Core rather than specialist <i>(Focus on breadth, depth covered elsewhere)</i>	Crucial
Relevant scope: IT, ICT, Computing... <i>(Relevant to all ICT professionals in NZ)</i>	Crucial
Relevant to both industry and academia <i>(Top-down, not (just) curriculum-oriented)</i>	Crucial
Fits well with NZ context <i>(Useful for SMEs as well as larger entities)</i>	Crucial
Broader than business <i>(Also considers public sector, NGO, NFP)</i>	Crucial

CURRENT STATUS OF CBOKS INTERNATIONALLY

The timing of this review was very unfortunate, as both the British Computer Society (BCS) and the Australian Computer Society (ACS) are currently undergoing work to create and/or update their own Bodies of Knowledge.

Whilst the current international approach is rather fragmented and not well coordinated, NZCS remains dedicated to assisting the international ICT community in the creation of a globally adopted CBoK.

Given the international developments, the selection of the “EUCIP Core Syllabus” is considered an interim CBoK. A full review will take place in early 2010 and it is highly likely that a different CBoK will be adopted at that stage.

RECOMMENDED INTERIM CORE BODY OF KNOWLEDGE: EUCIP CORE SYLLABUS

The CBoK Focus Group has made the following recommendations:

1. That NZCS considers adopting the Australian Computer Society’s Computing BOK as it emerges during 2009.
2. That as a contingency the Working Group consider adopting the Council of European Professional Informatics Societies’ EUCIP Core Syllabus Parts A through C.
3. That the Working Group maintain an active watching brief on development being undertaken by the British Computer Society in regard to a core BOK.

Hence, for the purposes of the Certification Programme and subject to appropriate licensing terms, under this draft model NZCS will:

- 1. Adopt the EUCIP Core Syllabus Parts A through C as a CBoK³**
- 2. Conduct a further full review of the options, including the ACS and BCS developments, in early 2010.**

Full details of the criteria and recommendation for the CBoK are contained in *Appendix 4*.

³ For more details of the EUCIP Syllabus, see <http://www.eucip.com/index.jsp?1nID=104&pID=390&nID=411>

OUTLINE OF EUCIP CORE SYLLABUS

The latest version of the EUCIP core syllabus (version 2.6) was produced in 2006. This is the most current core BoK available, one of the principal reasons for its interim selection. The core syllabus is considered to represent foundation knowledge for all ICT professionals, to be augmented by specialist knowledge depending on the domain in which each professional operates.

The core syllabus is made up of three knowledge areas (KAs), supporting ICT professionals to “Plan”, “Build” and “Operate” information systems. Each is structured in the same way, comprising module goals, major knowledge categories, topics within each category, and specific knowledge items. An ICT professional who is able to demonstrate sound and sufficient knowledge of the items within a module can be considered to have mastered that core knowledge area.

An understanding of the structure can be best gained with an example. The following is taken from the Core Syllabus A “Plan” Knowledge Area.

Module Goals – EUCIP CORE: Plan Knowledge Area

Module A, Plan, looks at organisations and their use of IT, both as an enabler for effective Information Systems and as a platform for innovation. The module requires the candidate to have a thorough understanding of organisations, their strategies and their business processes, as well as the global trends and opportunities which are involved. The candidate shall recognise the main issues related to the management of IT, such as selecting the appropriate technology, or choosing between in-house systems development or outsourcing. The candidate shall also be able to justify IT investments and know about some of the legal and ethical aspects of IT. He / She shall be aware of the requirement for a professional approach to project management and quality assurance. The candidate shall also appreciate the importance of team building and effective communication when presenting the case for change within the organisation.

The above module comprises seven major knowledge categories: Organisations and their Use of IT; Management of IT; Measuring the Value of IT; The Global Networked Economy; Project Management; Collaboration and Communication; Legal and Ethical Issues.

Within the category “Measuring the Value of IT” are the following five topics: The Concept of the Client; Business Plans and Feasibility Studies; Costs and Benefits; Intellectual Capital; Evaluations of IT Solutions.

At the next level are knowledge items for each topic, essentially questions or requirements that an applicant for certification must answer or satisfy.

The following items fall within the “Costs and Benefits” topic area:

- Describe the main approaches used to determine the business value of IT (e.g. Return on Investment)
- Describe the business value of information
- Describe how the benefits of IS/IT might be evaluated
- Define and differentiate between capital costs and operational (current) costs

The goal statements for the other two components of the core syllabus – “Build” and “Operate” – are as follows.

Module Goals – EUCIP CORE: Build Knowledge Area

Module B, Build, encompasses the traditional technical aspects of design, specification, development, testing, integration and deployment of IT systems. It requires the candidate to understand the systems development lifecycle, to know about the typical development process and be aware of recent software development trends. The Candidate shall also be able to apply relevant methodologies and tools. He / She shall appreciate the design principles associated with user interfaces, web pages and hypermedia, as well as those used in relational databases and data warehouses. The candidate will also gain a rudimentary knowledge of query languages and be aware of some important database administration issues. In addition, the candidate shall be able to apply typical data structures and algorithms, to recognise different programming languages and constructs, to evaluate the issues in maintaining, and know about documenting and testing software systems.

Module Goals – EUCIP CORE: Operate Knowledge Area

Module C, Operate, deals with networks and related communication services of an IT Infrastructure, as well as the maintenance and usage issues in terms of service provision. The module requires the candidate to know about hardware components, computing architectures and different operating systems. The candidate shall also distinguish between the various levels of communication protocols, and their application both to wired and wireless network technologies. In addition, he/she shall understand the simple network management protocol (SNMP), e-mail and web services, and the related security threats and remedies. The candidate shall appreciate the importance of a client-oriented approach to IT support, and apply some of the basic principles of IT service delivery.

Further information on the core syllabus, as well as other elements of the EUCIP programme, can be found here: <http://www.eucip.com/>

11. THE 7 NZCS CERTIFICATION ROUTES

There are **seven defined routes** through the Certification Programme, each selected to cover professionals who have obtained the prescribed level of competency via a particular route (be it tertiary education, industry training, experience, or a combination).

EDUCATION PLUS EXPERIENCE ROUTE

The Education plus Experience Route is for those with a formal Computing/ICT degree plus ICT experience at a supervisory or senior level.

ESTABLISHED ACADEMIC ROUTE

The Established Academic Route is for full-time career academics, working at Senior Lecturer level or above.

ESTABLISHED ICT PROFESSIONAL ROUTE

This route is designed for ICT Professionals who have reached the defined level of competence through informal, or ICT industry-based advancement, and will require a formal assessment against the Core Body of Knowledge and/or SFIA Framework.

EXAM ROUTE

NZCS will recognise and potentially provide (or facilitate the provision of) professional examinations such as BCS, ISEB and ACS CPeP Professional Examinations. Professionals can choose to advance through the Certification process via recognised examinations.

IT INDUSTRY LEADER ROUTE

The IT Industry Leader Route is for those that have a notable career in IT, are recognised leaders in the field, and operate at the strategic level.

CROSS-RECOGNITION OF OTHER CERTIFICATIONS ROUTE

For those that hold an equivalent accreditation or certification recognised by NZCS and based on similar standards and requirements, or that partially meet the requirements.

INITIAL FAST-TRACK ROUTE

For a period of 6 months from the launch of the Certification Programme, those that were a full professional Member of a recognised ICT professional body at launch will have access to a fast-track process. The standards will be the same however the assessment mechanism will be streamlined.

12. ASSESSMENT REQUIREMENTS

The Assessment Process varies based on which of 7 defined “Certification Routes” is chosen by the applicant.

To successfully enter the Certification Assessment process, applicants must show that they meet the Entry Requirements for their chosen route.

ASSESSMENT BY PEERS

A fundamental principle of the Certification Programme is that this shall be an independent assessment by one’s peers.

This means that those that have progressed via the Academic Route should be assessed by other Academics, and those that have progressed via the Industry Routes should be assessed via other practicing professionals.

Consistency between the different routes is achieved by combining a subject expert with an Assessor, who completes assessments across all routes.

GENERAL ENTRY REQUIREMENTS

The following core entry requirements apply to all applicants applying to enter the Assessment Process, regardless of route.

Applicants must:

- Not be an undischarged bankrupt;
- Not be in prison or serving Home Detention;
- Be of sound character in the determination of the New Zealand Computer Society;
- Be a full member (MNZCS) or above of the NZCS (note that an applicant may apply for both membership and Certification simultaneously, however the MNZCS application will be processed first);
- Have two supporters of sound standing prepared to act as Referees and confirm that the requirements of Certification have been met;
- Meet the Entry Requirements for the applicant’s chosen Certification Route.

Further Entry Requirements for each of the Routes are outlined in the following pages.

AREAS OF ASSESSMENT

Following assessment of Entry Requirements, there are three areas of primary assessment plus a Good Character requirement.

Whilst the actual **assessment** of these vary slightly depending on the Certification Route chosen, the **standard** is the same for all Certification applicants.

The three areas are:

- **Area 1: Skills and Knowledge**
This includes both a broad knowledge of the Core Body of Knowledge, plus a specialist level of knowledge in two or more “skills”
(note that SFIA skills are very granular – almost all professionals will have skills in at least two areas, and likely more).
- **Area 2: Professional Knowledge**
Professional Knowledge covers the non-technical aspects of being a professional, such as ethics, legal, and organisational context.
- **Area 3: Competency and Responsibility**
Competency and Responsibility relates to the level of responsibility, accountability influence and autonomy an applicant demonstrates.

The following pages outline the standards in each of these areas. The method of assessment for each of the Certification Routes is outlined in the following section.

REFEREES AND TELECONFERENCE INTERVIEWS

Most of the Certification Routes require a phone interview of the applicant and/or Referees.

Where the Applicant or Referees are based outside New Zealand:

- Referees must be a member of their country’s Professional Body (to ensure that sufficient standing can be confirmed)
- Additional cost recovery fees may be required to cover the additional costs of the interview

REQUIREMENTS OF AREA 1: SKILLS AND KNOWLEDGE

Applicants must demonstrably possess suitable Skills and Knowledge to competently and successfully carry on work as a senior ICT Professional.

This includes both:

- A “broad” knowledge of the skills related to their ICT area of expertise; plus
- A “specialist” knowledge in two or more defined specialist skill areas.

This requirement is similar to all other professions, where a “broad” knowledge of a wide subject area is necessary as well as a “specialist” knowledge in specialty areas.

A full list of SFIA Categories, Sub-categories, and Skills is contained in Appendix 3, or visit www.sfia.org.uk for full details.

1. UNDERSTANDING OF THE CORE BODY OF KNOWLEDGE

Applicants must possess a core, or base level, understanding of relevant areas of the *Core Body of Knowledge (CBoK)*. The Core Body of Knowledge outlines the base-level knowledge requirements for all ICT Professionals.

The areas required will depend on an ongoing mapping of the Category of Specific Areas selected below in SFIA to the Core Body of Knowledge.

This is core knowledge only. Applicants do NOT need an in-depth knowledge of these areas to satisfy this requirement; they must simply show an understanding of the core concepts of the relevant sections.

NOTE: During the interim period until the further review of Core Bodies of Knowledge in late 2009 or early 2010, the CBoK component will rely on self-assessment only.

2. A HIGH LEVEL OF SKILL AND KNOWLEDGE IN TWO OR MORE SPECIFIC AREAS

To demonstrate specialist skills and knowledge, applicants must:

- Demonstrate a high level of knowledge and current understanding of two or more specific “SFIA skills” as outlined in the SFIA Framework;
- Be currently operating at SFIA Level 5 or above in their chosen specialty and have been operated at Level 5 or above for at least 1000 hours (ie 6 months) of each of the previous 2 years⁴; (*Some exceptions apply to those that don’t meet this. Please see the “Exemption from Working Requirements” section*).

⁴ The “6 month per year” provision is to allow for brief periods of unemployment

REQUIREMENTS OF AREA 2: PROFESSIONAL KNOWLEDGE

Professional Knowledge covers the non-technical aspects of being a professional which help define the fundamental difference between a professional and a non-professional.

The detailed curriculum for this Area will be developed and maintained independently from the Certification Programme, however will include the following 3 Professional Areas:

1: ETHICS AND CODE OF PRACTICE

This includes knowledge and understanding of the Codes of Ethics, Conduct, and Professional Behaviour in place and published by NZCS from time to time.

2: KNOWLEDGE OF ICT LEGAL ISSUES

This covers relevant laws applicable to the New Zealand environment, including international laws and conventions.

Typically this would include knowledge of general issues related to security, privacy, human rights, health and safety, contract law, and issues related to the Treaty of Waitangi. Note that this is not a detailed knowledge – it will cover the general concepts contained within relevant laws.

3: ICT PROFESSIONALS IN AN ORGANISATIONAL CONTEXT

This includes an understanding of the importance and fundamental principles of:

- the role and responsibility of ICT professionals in the workplace;
- the impact of organisational culture, values and behaviours on the work of ICT Professionals and organisational unit outcomes;
- organisational goals and values, and alignment of IT activities to support these;
- organisational relationships and trust to facilitate the creation of managed expectations and the successful delivery of matched solutions;
- the necessary levels and measures to support superior communications, governance and appropriate compliance regimes;
- personal responsibilities and expected contributions and being personally accountable for those actions.
- business risks associated with ICT operations and implementations including the impacts of quality decisions.

REQUIREMENTS OF AREA 3: COMPETENCY AND RESPONSIBILITY

The applicant must be operating at **SFIA Level 5 or above**, and have done so for at least 6 months of each of the previous 2 years.

The Core Competence Requirements for SFIA Level 5 are:

AUTONOMY

Works under broad direction. Is fully accountable for own technical work and/or project/supervisory responsibilities. Receives assignments in the form of objectives. Establishes own milestones and team objectives, and delegates responsibilities. Work is often self-initiated.

INFLUENCE

Influences organisation, customers, suppliers and peers within industry on the contribution of own specialism. Has significant responsibility for the work of others and for the allocation of resources. Makes decisions which impact on the success of assigned projects i.e. results, deadlines and budget. Develops business relationships with customers.

COMPLEXITY

Performs a challenging range and variety of complex technical or professional work activities. Undertakes work which requires the application of fundamental principles in a wide and often unpredictable range of contexts. Understands the relationship between own specialism and wider customer/organisational requirements.

BUSINESS SKILLS

Advises on the available standards, methods, tools and applications relevant to own specialism and can make correct choices from alternatives. Analyses, diagnoses, designs, plans, executes and evaluates work to time, cost and quality targets. Communicates effectively, formally and informally, with colleagues, subordinates and customers. Demonstrates leadership.

Facilitates collaboration between stakeholders who have diverse objectives. Understands the relevance of own area of responsibility/specialism to the employing organisation. Takes customer requirements into account when making proposals. Takes initiative to keep skills up to date. Mentors more junior colleagues. Maintains an awareness of developments in the industry. Analyses requirements and advises on scope and options for operational improvement. Demonstrates creativity and innovation in applying solutions for the benefit of the customer.

REQUIREMENT OF GOOD AND SOUND CHARACTER

In addition to the Entry Requirements, applicants must be of “Good and Sound Character”.

The assessment of character is at the sole discretion of NZCS, however the assessor must be satisfied that there is nothing to indicate that the applicant is not of sound character and likely to bring themselves, their employer, the ICT profession or the Society into disrepute.

INTERVIEW OF REFEREES

An assessor will conduct a short and confidential telephone interview with the two referees provided by the Applicant (for Routes that provide for an interview, this will be covered in the single interview). The referees must also complete a brief written assessment of the applicant, confirming they are operating at Level 5 or above of the SFIA Framework.

The referee will be asked a number of questions related to how well they know the applicant and whether in their professional opinion the applicant is of a sound character, suitable for the awarding of NZCS Professional Certification.

PUBLICATION OF APPLICANT’S NAME TO ICT COMMUNITY

The applicant’s name will be published to NZCS professional members and certified professionals, with a request that any member knowing of any reason the applicant should not advance to provide this in writing using the appropriate form.

In keeping with the principles of natural justice, the applicant will be advised of the challenge and have the opportunity to respond.

If an allegation of serious misconduct is defended by the Applicant, the Assessment Team may refer the matter to the *Professional Conduct Board* to investigate and make a confidential determination as to whether, in their view, serious misconduct has occurred.

CRIMINAL CONVICTIONS

The applicant must agree to disclose (or allow to be disclosed) prior criminal convictions for the purpose of attaining whether the applicant meets the “sound character” requirements, as well as disclose whether they are currently under investigation by the New Zealand Police, or have charges pending on any matter related to dishonesty or fraud.

It should be noted that criminal conviction(s) **will NOT automatically exclude** the applicant from successfully obtaining Professional Certification, however the conviction(s) will be considered if they amount to Professional Misconduct or raise serious concerns as to the honesty or respectability of the applicant.

Copies of criminal records will be destroyed 30 days following the application decision.

An applicant may be declined for Certification if convictions are of sufficient gravity to be termed "reprehensible" (or "inexcusable", "disgraceful", "deplorable" or "dishonourable")⁵.

This includes:

- Repeated offences related to dishonesty, professional misconduct or fraud;
- Recent offences, within the last 2 years, that relate to dishonesty, professional misconduct or fraud;
- Serious convictions of crimes which have a maximum punishment in law of 2 years imprisonment or greater.

Should the assessor believe the applicant is *not* of good and sound character, NZCS will write to the applicant outlining the reasoning for this draft determination. The applicant may then respond in writing which will be considered in the final determination.

FINAL CONFIRMATION OR REFERRAL TO EXECUTIVE

Following the full Assessment process, the NZCS Assessment Team will confirm whether the requirements have been met and make a recommendation as to whether an application for Professional Certification should be approved or declined.

The application, interview notes and recommendation will then be reviewed by a senior officer not previously involved in the assessment process. If this assessor concurs with the recommendation the application will be formally approved or declined.

If the senior officer disagrees with the recommendation the application will be referred to the NZCS Executive who may request further information and will make the final determination.

UNSUCCESSFUL APPLICATIONS

If a Certification application does not succeed NZCS will write to the applicant advising them of the result and briefly outline what would be required to meet Certification.

This notification must include details of the Appeals Process, including how an appeal may be made and details of the full Appeals process. The applicant may then choose to appeal the decision if they do not believe it is reasonable. Please see the "Appeals Section" for information on the Appeals Process.

An unsuccessful applicant will not receive a refund of the application fee, however may re-apply within 12 months and receive a 50% discount in the Application Fee.

⁵ Terminology provided in *Auckland District Law Society v Atkinson (New Zealand Law Practitioners Disciplinary Tribunal, 15 August 1990)*

13. EXAMPLE REQUIREMENTS

This section contains an example of what Skills and Knowledge would be required for specific applicants. Note that this serves as a generic example only, and should not be used as a guide for those falling into these specific categories.

EXAMPLE REQUIREMENTS – SENIOR WEB DEVELOPER

The following is an example of the skills, knowledge, professional knowledge and Competency and Responsibility level that might be required for a Senior Web Developer:

ENTRY REQUIREMENTS

The applicant will need to demonstrably meet:

- General Entry Requirements
- Specific Entry Requirements for one of the 7 Certification Routes

AREA 1: SKILLS AND KNOWLEDGE – SPECIFIC SKILLS

The applicant must select two specific skill areas where they are currently operating at Level 5 or above as defined in the SFIA Framework, and have been for at least 6 months each of the previous two years.

For the purposes of this example we have chosen the following from the “Solution development and implementation” category:

INFORMATION CONTENT AUTHORIZING (INCA)

The planning, design and creation of textual information, supported where necessary by graphical content. This material may be delivered electronically (for example, as collections of web pages) or otherwise. This skill includes managing the quality assurance and authoring processes for the material being produced.

USABILITY EVALUATION (USEV)

Formal assessment of the usability (including health and safety, and accessibility) of new or existing products or services (including prototypes). Methods include user trials, expert review, survey, and analysis.

Note that these were chosen for this specific applicant - another Senior Web Developer may have a different set of skills.

SKILLS AND KNOWLEDGE REQUIREMENTS

Given the chosen Skill Areas, the following skills and knowledge would be required:

- Working knowledge and recital of the Core Body of Knowledge of all areas mapped to the chosen SFIA Category (“Solution development and implementation”).
- In this case, this is an understanding of the core concepts of:
 - Systems Development
 - Systems development management
 - Data analysis
 - Requirements definition and management
 - Systems design
 - Network design
 - Database/repository design
 - Programming/software development
 - Safety engineering
 - Information content authoring
 - Testing
 - Human Factors
 - Systems ergonomics
 - Usability requirements analysis
 - Usability evaluation
 - Human factors integration
 - Installation and integration
 - Systems integration
 - Porting/software integration
 - Systems installation/decommissioning
- The Applicant must demonstrate they are operating at Level 5 or above of each of these two specific skill areas, specifically:
 - **Information content authoring: Level 5**
 Designs overall support information package plans. Manages small teams of authors, ensuring that they are aware of and work to relevant standards. Advises on appropriate documentation formats and documentation systems to satisfy requirements. Organises reviews of draft material.
 - **Usability evaluation: Level 5**
 Advises on what to evaluate and type of evaluation. Ensures that the results of evaluations are understood by system developers.

(Note that these definitions should be read within the context of the full details of the Skill).

AREA 2: PROFESSIONAL KNOWLEDGE

The applicant must demonstrate they have a solid understanding of the following 3 areas of Professional Knowledge:

Ethics and Code of Practice

Including the proposed new Codes of Ethics, Conduct, and Professional Behaviour in place and published by NZCS from time to time.

Knowledge of ICT Legal Issues

Including relevant laws applicable to the New Zealand environment, including international laws and conventions, plus knowledge of general issues related to security, privacy, human rights, health and safety, and issues related to the Treaty of Waitangi.

Business Congruence (an understanding of ICT within the organisation)

An understanding of the nature of ICT and its importance within the Organisational context.

AREA 3: COMPETENCY AND RESPONSIBILITY

The applicant must demonstrate they are operating at SFIA Level 5 or above using the generic SFIA Level 5 Definition, and have been for at least 1000 hours (ie 6 months) of each of the previous 2 years.

This is defined within the context of Autonomy, Influence, Complexity, and Business Skills.

GOOD AND SOUND CHARACTER REQUIREMENTS

The applicant must be of *Good and Sound Character*.

This will be a subjective measure based on a range of information including an interview of the two supplied Referees.

EXAMPLE REQUIREMENTS – SYSTEMS ANALYST

The following is an example of the skills, knowledge, professional knowledge and Competency and Responsibility level that might be required for a Systems Analyst:

ENTRY REQUIREMENTS

The applicant will need to demonstrably meet:

- General Entry Requirements
- Specific Entry Requirements for one of the 7 Certification Routes

AREA 1: SKILLS AND KNOWLEDGE – SPECIFIC SKILLS

The applicant must select two specific skill areas where they are currently operating at Level 5 or above as defined in the SFIA Framework, and have been for at least 6 months each of the previous two years.

For the purposes of this example we have chosen the following from the “Strategy & Architecture” category:

BUSINESS ANALYSIS (BUAN)

The methodical investigation, analysis, review and documentation of all or part of a business in terms of business functions and processes, the information used and the data on which the information is based. The definition of requirements for improving any aspect of the processes and systems and the quantification of potential business benefits. The creation of viable specifications and acceptance criteria in preparation for the construction of information and communication systems.

BUSINESS MODELLING (BSMO)

The production of abstract or distilled representations of real world/business situations to aid the communication and understanding of existing, conceptual or proposed scenarios. Predominantly focused around the representation of processes, data, organisation and time. Models may be used to represent a subject at varying levels of detail/ decomposition.

Note that these were chosen for this specific applicant - another Systems Analyst may have a different set of skills.

SKILLS AND KNOWLEDGE REQUIREMENTS

Given the chosen Skill Areas, the following skills and knowledge would be required:

- Working knowledge and recital of the Core Body of Knowledge of all areas mapped to the chosen SFIA Category (“Business Change”).
- In this case, this is an understanding of the core BoK concepts of:
 - Business change implementation
 - Portfolio management
 - Programme management
 - Project management
 - Business change management
 - Business analysis
 - Business process testing
 - Change implementation planning and management
 - Organisation design and implementation
 - Benefits management
 - Business modelling
 - Relationship management
 - Stakeholder relationship management
- The Applicant must demonstrate they are operating at Level 5 or above of each of these two specific skill areas, specifically:
 - **Business analysis: Level 5**
Takes responsibility for investigative work to determine business requirements & specify effective business processes, through improvements in information systems, information management, practices, procedures, and organisation change. Applies and monitors the use of required modelling and analysis tools, methods and standards, giving special consideration to business perspectives. Conducts investigations at a high level for strategy studies, business requirements specifications and feasibility studies. Prepares business cases which define potential benefits, options for achieving these benefits through development of new or changed processes, and associated business risks. Identifies stakeholders and their business needs.
 - **Business modelling: Level 5**
Produces models in support of business strategy. Has in-depth knowledge of a broad range of industry-wide modelling techniques. Advises on the choice of techniques and approach and influences customers accordingly. Capable of developing bespoke models for unusual contexts. Responsible for planning and co-ordinating team modelling activities and for ensuring the quality of their work.

AREA 2: PROFESSIONAL KNOWLEDGE

The applicant must demonstrate they have a solid understanding of the following 3 areas of Professional Knowledge:

Ethics and Code of Practice

Including the proposed new Codes of Ethics, Conduct, and Professional Behaviour in place and published by NZCS from time to time.

Knowledge of ICT Legal Issues

Including relevant laws applicable to the New Zealand environment, including international laws and conventions, plus knowledge of general issues related to security, privacy, human rights, health and safety, and issues related to the Treaty of Waitangi.

ICT in an Organisational Context

An understanding of the nature of ICT and its importance within the Organisational context.

AREA 3: COMPETENCY AND RESPONSIBILITY

The applicant must demonstrate they are operating at SFIA Level 5 using the generic SFIA Level 5 Definition, and have been for at least 1000 hours (ie 6 months) each of the previous 2 years.

This is defined within the context of Autonomy, Influence, Complexity, and Business Skills.

GOOD AND SOUND CHARACTER REQUIREMENTS

The applicant must be of *Good and Sound Character*.

This will be a subjective measure decided by a combination of reputation, criminal convictions, and an interview of the two supplied Referees.

14. ENTRY REQUIREMENTS AND ASSESSMENT BY ROUTE

There are a total of seven Certification Routes, each with their own set of Entry Requirements and Assessment methods.

Each of the 7 Certification Routes outlined below contain the following sections:

- **Guidelines to Applicants**
This section contains a brief guideline or description of the types of professionals this Route is designed for. This is a guide only – it is for Applicants to choose which Route they will use to apply.
- **Entry Requirements**
This section outlines the Entry Requirements for this Certification Route.
- **Assessment of Entry Requirements**
This section outlines how the Entry Requirements for this Certification Route are assessed.
- **Assessment of Core Assessment Areas**
This section outlines how the Core Assessment Areas are assessed in this Route.

It should be noted that the standards being assessed are the same across all Routes. The different Routes each outline a different assessment mechanism only – assessing against the same standards.

EDUCATION PLUS EXPERIENCE ROUTE

The Education plus Experience Route is for those with a formal Computing/ICT degree plus experience at a supervisory or senior level.

GUIDELINES OF APPLICANTS

- Applicants for this route will generally be senior ICT professionals with a solid combination of formal education and experience.

ENTRY REQUIREMENTS

- Meet the General Entry Requirements of the NZCS Certification Programme;
- Have completed a computing/IS/ICT degree⁶ recognised at the New Zealand *National Qualifications Framework* level 7, or an overseas equivalent qualification; *and*
- Have accumulated at least 3 years of professional experience at a senior or supervisory level; *and*
- The total accumulated time spent in tertiary education and industry/professional experience being 9 years or higher.

ASSESSMENT OF ENTRY REQUIREMENTS

- Applicants will submit an application and CV demonstrating that they meet the Entry Requirements. The NZCS Assessment Team may contact previous employers and/or the Tertiary Institution awarding the qualification to confirm these details.
- The NZCS Assessment Team will finally determine whether the applicant meets the stated criteria.

⁶ NZCS will be implementing a Degree Accreditation Process in 2009/2010. Once this is in place, only degree programmes accredited by NZCS will qualify for this requirement

ASSESSMENT OF 3 ASSESSMENT AREAS (EDUCATION PLUS EXPERIENCE)

The following method is used to assess against the 3 Assessment Areas for NZCS Professional Certification:

AREA 1: SKILLS AND KNOWLEDGE

- The applicant's accredited degree is regarded as evidence of knowledge of the Core Body of Knowledge;
- Applicants will submit an application outlining their knowledge within two specific pre-selected Skill Areas of the SFIA Framework, including confirmation that they meet the stated requirements for Level 5 in these areas.
- An independent subject expert will be assigned to the application, and together with a member of the NZCS Certification Assessment Team will conduct a detailed teleconference interview of the applicant, discussing their work in the chosen skill areas. Following this interview both interviewers must agree that the applicant meets the requirements defined within SFIA for the application to succeed.

AREA 2: PROFESSIONAL KNOWLEDGE

- The applicant must either:
 - Have completed a tertiary degree programme which has been Accredited by NZCS to cover the NZCS Professional Knowledge curriculum, **or**
 - Have completed the NZCS Professional Knowledge Course and subsequent assessment, or another training option or course approved by NZCS for the assessment of the NZCS Professional Knowledge Curriculum.
- Applicants must sign a full copy of the NZCS Code of Ethics, as well as a formal statement declaring comprehensive understanding of the Code and dedication to upholding all provisions of it.

AREA 3: COMPETENCY AND RESPONSIBILITY

- Applicants will submit an application outlining how they meet the generic requirements of SFIA Level 5.
- Applicants will supply the contact details of two senior ICT Professionals, Managers, or senior staff of significant clients who have worked with the applicant for at least 6 months within the last 3 years, and while the applicant was operating at SFIA Level 5. Members of the NZCS Assessment Team will conduct an interview with these Referees to ascertain whether the applicant is meeting the required standard.
- The Area 1 interview will also cover the generic SFIA Level 5 requirements and must show that the applicant is demonstrably operating at SFIA Level 5.

ESTABLISHED ACADEMIC ROUTE

The Established Academic Route is for full-time career academics, working at Senior Lecturer level or above at a recognised NZ tertiary institution.

GUIDELINES OF APPLICANTS

- Applicants will be a senior academic currently based in New Zealand.

ENTRY REQUIREMENTS

Applicants must:

- Meet the General Entry Requirements of the NZCS Certification Programme;
- Hold an academic position in a Computer Science (CS) or Information Systems (IS) department or equivalent at a New Zealand Tertiary Institution and hold the position of Senior Lecturer or above (or equivalent); *and*
- Be established in their field, and contributing significantly in 2 out of 3 of:
 1. Teaching, including course design;
 2. As a peer-reviewed published researcher; *or*
 3. Significant service to their discipline and/or profession over a reasonable period of time;

ASSESSMENT OF ENTRY REQUIREMENTS

- Applicants will submit a 2-3 page written document outlining how they are established and contributing significantly to the academic and/or professional communities in at least 2 of the 3 areas outlined, to be assessed by the NZCS Assessment Team and an independent tertiary advisor from a different tertiary institution to that of the applicant.
- The NZCS Assessment Team will finally determine whether the applicant meets the stated criteria.

ASSESSMENT OF 3 ASSESSMENT AREAS (ESTABLISHED ACADEMIC)

The following method is used to assess against the 3 Assessment Areas for NZCS Professional Certification:

AREA 1: SKILLS AND KNOWLEDGE

- It is assumed that an academic operating at Senior Lecturer level or above will have an acceptable working understanding of the Core Body of Knowledge.
- Applicants will submit an application outlining their knowledge within two specific pre-selected Skill Areas of the SFIA Framework, including research and/or teaching these areas which would demonstrate an understanding to SFIA Level 5.
- An independent academic from a different tertiary institution will be assigned to the application, and together with a member of the NZCS Certification Assessment Team will conduct a detailed teleconference interview with the applicant discussing their work in the chosen skill areas. Both interviewers must agree that the applicant has an understanding and knowledge to Level 5 of the SFIA Framework.

AREA 2: PROFESSIONAL KNOWLEDGE

- The applicant must either:
 - Complete the NZCS Professional Knowledge Course and subsequent assessment, or another training option or course approved by NZCS for the assessment of Professional Knowledge, or
 - Demonstrably possess detailed knowledge of all areas of the NZCS Professional Knowledge Curriculum as demonstrated in teaching or research.
- Show a commitment to the teaching of Ethics, either integrated or discrete, as an essential component of course delivery (*"a professional teaches professionalism"*)
- Applicants must sign a full copy of the NZCS Code of Ethics, as well as a formal statement declaring comprehensive understanding of the Code and dedication to upholding all provisions of it.

AREA 3: COMPETENCY AND RESPONSIBILITY

- Applicants will submit an application outlining how they meet the generic requirements of SFIA Level 5 or higher in their teaching or research.
- The application must be supported by two academics of Associate Professor level or higher, at least one from a different institution, formally stating that the applicant meets the criteria. Members of the NZCS Assessment Team will conduct an interview with the Referees to ascertain whether the applicant is operating at SFIA Level 5.
- The Area 1 interview will also cover the generic SFIA Level 5 requirements, and must show that the applicant is demonstrably knowledgeable at SFIA Level 5.

ESTABLISHED ICT PROFESSIONAL ROUTE

This route is designed for ICT Professionals who have reached the defined level of competence through informal, or industry-based advancement.

GUIDELINES OF APPLICANTS

- Applicants for this route will generally have a minimum of 10 years of ICT experience, at least 5 in a supervisory or senior position.

ENTRY REQUIREMENTS

- Meet the General Entry Requirements of the NZCS Certification Programme;
- Demonstrate a prior ongoing commitment to professional development, including training, courses, and continual learning.

The overarching principles will be assessed using the SFIA framework and the NZCS CBoK;

ASSESSMENT OF ENTRY REQUIREMENTS

Applicants will be required to submit a 2-3 page written outline of how they meet the professional development and seniority requirements, which will be assessed by the NZCS Assessments team.

The NZCS Assessment Team will finally determine whether the applicant meets the stated criteria.

ASSESSMENT OF 3 ASSESSMENT AREAS (ESTABLISHED ICT PROFESSIONAL)

The following method is used to assess against the 3 Assessment Areas:

AREA 1: SKILLS AND KNOWLEDGE

- Applicants must undergo a formal assessment against the Core Body of Knowledge. This will take the form of a core examination, with a pass mark of 75%, **or: [NOTE: In the interim until the review of the CBoK in 2010, this will require a self-assessment against the EUCIP Core Syllabus rather than a formal assessment]**
- Applicants must show that they have completed sufficient NZCS-accredited industry courses or training to cover core aspects of the Core Body of Knowledge. The requisite level will be determined and published from time to time by NZCS.
- Applicants will submit an application outlining their knowledge within two specific pre-selected Skill Areas of the SFIA Framework, including confirmation that they meet the stated requirements for Level 5 in these areas.
- An independent subject expert will be assigned to the application, and together with a member of the NZCS Certification Assessment Team will conduct a detailed teleconference interview of the applicant, discussing their work in the chosen skill areas. Following this interview, both interviewers must agree that the applicant meets the requirements defined within SFIA for the application to succeed.

AREA 2: PROFESSIONAL KNOWLEDGE

- The applicant must complete the NZCS Professional Knowledge Course and subsequent assessment, or another training option or course approved by NZCS for the assessment of the NZCS Professional Knowledge Curriculum.
- Applicants must sign a full copy of the NZCS Code of Ethics, as well as a formal statement declaring comprehensive understanding of the Code and dedication to upholding all provisions of it.

AREA 3: COMPETENCY AND RESPONSIBILITY

- Applicants will submit an application outlining how they meet the generic requirements of SFIA Level 5.
- Applicants will supply the contact details of two senior ICT Professionals, Managers, or senior staff of significant clients who have worked with the applicant for at least 6 months within the last 4 years, and while the applicant was operating at SFIA Level 5. Members of the NZCS Assessment Team will conduct an interview with these Referees to ascertain whether the applicant is meeting the required standard.
- The interview assessing Area 1 will also cover the generic SFIA Level 5 requirements, and must show that the applicant is demonstrably operating at SFIA Level 5.

EXAM ROUTE

NZCS will recognise and potentially provide professional examinations such as BCS Professional Examinations, ISEB and ACS CPeP. Professionals can choose to advance through the Certification process via these formal examinations.

GUIDELINES OF APPLICANTS

- Applicants will have completed a recognised professional examinations regime plus completed a specified number of years experience as an ICT professional.

ENTRY REQUIREMENTS

Applicants must:

- Meet the General Entry Requirements of the NZCS Certification Programme;
- Have completed one of the following:
 - BCS Diploma level pass plus 5 years ICT experience; or
 - BCS Graduate level pass plus 4 years ICT experience; or
 - ACS CPeP level pass plus 4 years ICT experience; or
 - ISEB Professional Level plus 5 years ICT experience; or
 - Any other professional examination as may be recognised from time to time and published by NZCS.

ASSESSMENT OF ENTRY REQUIREMENTS

- Applicants will show they have completed a professional examination regime which is recognised by NZCS.
- Applicants will produce documentation showing they have completed the requisite years of experience in ICT.

ASSESSMENT OF 3 ASSESSMENT AREAS (EXAM ROUTE)

The following method is used to assess against the 3 Assessment Areas for NZCS Professional Certification:

AREA 1: SKILLS AND KNOWLEDGE

- Completion of the recognised Professional Examination Regime will show the applicant meets the Skills and Knowledge requirement.

AREA 2: PROFESSIONAL KNOWLEDGE

- Completion of the recognised Professional Examination Regime will show the applicant meets the Professional Knowledge requirement.
- Applicants must sign a full copy of the NZCS Code of Ethics, as well as a formal statement declaring comprehensive understanding of the Code and dedication to upholding all provisions of it.

AREA 3: COMPETENCY AND RESPONSIBILITY

- Applicants will submit an application outlining how they meet the generic requirements of SFIA Level 5.
- Applicants will supply the contact details of two senior ICT Professionals, Managers, or senior staff of significant clients who have worked with the applicant for at least 6 months within the last 4 years, and while the applicant was operating at SFIA Level 5. Members of the NZCS Assessment Team will conduct an interview with these Referees to ascertain whether the applicant meets the requirements of SFIA Level 5.

IT INDUSTRY LEADER ROUTE

The IT Industry Leader Route is for those that have a notable career in ICT, are recognised leaders in the field, advocate for the profession, and operate at the strategic level.

GUIDELINES OF APPLICANTS

- Applicants will generally be widely recognised as significant leaders within the discipline of IT. These would generally include CEOs, CIOs and senior managers who demonstrably contribute to or advocate for the profession.
- Applicants will generally have overall responsibility for a mid-to large-sized team of ICT professionals.

ENTRY REQUIREMENTS

Applicants must:

- Meet the General Entry Requirements of the NZCS Certification Programme;
- Have an established and notable career in IT including significant achievement;
- Be recognised as a leader in ICT organisational management;
- Be demonstrably operating at SFIA level 7;
- Have an ICT technical background or history which would be sufficient to achieve full NZCS Member level (MNZCS);
- Be responsible for IT strategies and resources at the organisational strategic level.

ASSESSMENT OF ENTRY REQUIREMENTS

Applicants will be required to submit a 2-3 page written outline of how they meet the professional development and leader requirements, which will be assessed by the NZCS Assessments team.

If the NZCS Assessment Team believe the application meets the requirements they will make a recommendation to the NZCS Executive.

A member or members of the NZCS Executive will conduct a telephone interview with the applicant. The Executive will then determine whether the application can progress. All members of the Executive must agree to advance the application for it to succeed.

ASSESSMENT OF 3 ASSESSMENT AREAS (IT INDUSTRY LEADER)

The following method is used to assess against the 3 Assessment Areas for NZCS Professional Certification:

AREA 1: SKILLS AND KNOWLEDGE

- Applicants operating at this level will be assumed to have a clear knowledge of the Core Body of Knowledge.
- Applicants will submit an application outlining their knowledge within two specific pre-selected Skill Areas of the SFIA Framework, including confirmation that they meet the stated requirements for Level 5 in these areas.
- An independent subject expert will be assigned to the application, and together with a member of the NZCS Certification Assessment Team will conduct a detailed teleconference interview of the applicant, discussing their work in the chosen skill areas. Following this interview, both interviewers must agree that the applicant meets the requirements defined within SFIA for the application to succeed.

AREA 2: PROFESSIONAL KNOWLEDGE

- Applicants operating at this level will be assumed to have a clear knowledge of the NZCS Professional Knowledge Curriculum, but must complete a signed declaration of such.
- Applicants must sign a full copy of the NZCS Code of Ethics, as well as a formal statement declaring comprehensive understanding of the Code and dedication to upholding all provisions of it.

AREA 3: COMPETENCY AND RESPONSIBILITY

- Applicants will submit an application outlining how they meet the generic requirements of SFIA Level 5.
- Applicants will supply the contact details of two senior ICT Professionals, Managers, or senior staff of significant clients who have worked with the applicant for at least 6 months within the last 4 years and while the applicant was operating at SFIA Level 5. Members of the NZCS Assessment Team will conduct an interview with these Referees to ascertain whether the applicant is meeting the required standard.
- The Area 1 interview will also cover the generic SFIA Level 5 requirements, and must show that the applicant is demonstrably operating at SFIA Level 5.

CROSS-RECOGNITION OF OTHER PROFESSIONAL CERTIFICATIONS ROUTE

This route is for those who hold an equivalent accreditation or certification recognised by NZCS and based on similar standards and requirements, and accrediting to SFIA Level 5 or above. Examples may include BCS CITP or ACS CP.

GUIDELINES OF APPLICANTS

- Applicants will generally be those that have travelled to New Zealand from a different country and have undergone a full accreditation through a recognised professional certification programme. Examples might include BCS CITP or ACS CP.

ENTRY REQUIREMENTS

Applicants must:

- Meet the General Entry Requirements of the NZCS Certification Programme;
- Have successfully completed a NZCS-recognised alternative professional certification programme and that their certification is current at the time of application.

ASSESSMENT OF ENTRY REQUIREMENTS

- Applicants will provide evidence that they have been certified via a NZCS-recognised Professional Certification Programme, and that their certification is current at the time of application.

PARTIAL CROSS-RECOGNITION

NZCS may also partially recognise other Certifications that are not aligned to SFIA Level 5 and set additional requirements for applicants who possess these Certifications.

For instance if another Certification Programme is found to meet *most* of the requirements of ITCP Certification, NZCS may formally recognise the Programme for the purpose of this Route but require additional requirements to cover any areas not covered.

ASSESSMENT OF 3 ASSESSMENT AREAS (CROSS-RECOGNITION OF CERTIFICATIONS)

The following method is used to assess against the 3 Assessment Areas for NZCS Professional Certification:

AREA 1: SKILLS AND KNOWLEDGE

- Holding a current recognised Professional Certification will be sufficient evidence of Skills and Knowledge.
- In the case of a partially-recognised certification programme, additional requirements may be set by NZCS.

AREA 2: PROFESSIONAL KNOWLEDGE

- Holding a current recognised Professional Certification will be sufficient evidence of Professional Knowledge.
- In the case of a partially-recognised certification programme, additional requirements may be set by NZCS.
- Applicants must sign a full copy of the NZCS Code of Ethics, as well as a formal statement declaring comprehensive understanding of the Code and dedication to upholding all provisions of it.

AREA 3: COMPETENCY AND RESPONSIBILITY

- Holding a current recognised Professional Certification will be sufficient evidence of Competency and Responsibility.
- In the case of a partially-recognised certification programme, additional requirements may be set by NZCS.

INITIAL FAST-TRACK ROUTE

There is a recognised need to insure a widespread initial take-up of the Certification Programme as well as providing a streamlined process for those that have shown a dedication to professionalism via membership of NZCS or a kindred partner organisation.

For a period of 6 months from the launch of the Certification Programme those that were **full professional Members** of one of the following bodies at launch will have access to the fast-track Route:

- New Zealand Computer Society
- Australian Computer Society
- British Computer Society
- Canadian Information Processing Society

Other countries' ICT professional body may be considered on a case by case basis provided they have a Full Member option with similar professional requirements to NZCS.

It should be noted that membership of NZCS as the administering body is required for ITCP Certified Professionals, regardless of membership of other bodies.

The standards for the Fast-track Process will be the same, however the assessment mechanism will be streamlined.

GUIDELINES OF APPLICANTS

- Applicants will be full Members of one of a selection of ICT Professional bodies at the time of launch of the Certification Programme, and meet the required standards and competency level of the Certification Programme.

ENTRY REQUIREMENTS

Applicants must:

- Meet the General Entry Requirements of the NZCS Certification Programme;
- Be a member of one of the listed professional bodies at the launch of the programme, and be a member of NZCS (may join at the same time as applying)
- Apply within the designated time frame (6 months from launch).

ASSESSMENT OF ENTRY REQUIREMENTS

- Applicants will show they were a full Professional Member of one of the listed professional bodies at the specified date of the launch of the Certification Programme.

ASSESSMENT OF 3 ASSESSMENT AREAS (FAST-TRACK ROUTE)

The following method is used to assess against the 3 Assessment Areas for ITCP Professional Certification:

AREA 1: SKILLS AND KNOWLEDGE

- Applicants will submit an application outlining their knowledge within two specific pre-selected Skill Areas of the SFIA Framework, including confirmation that they meet the stated requirements for Level 5 in these areas.
- Members will conduct a self-assessment against relevant areas of the Core Body of Knowledge and confirm their knowledge.
- The application must be supported in writing by two senior ICT Professionals, Managers, or senior staff of significant clients (if a practicing professional), or two academics of Associate Professor level or higher (if an academic) who have worked with the applicant for at least 6 months and while the applicant was operating at SFIA Level 5 in one or more of the SFIA Skill areas.
- A member of the NZCS Assessment Team will conduct an interview with these Referees to ascertain whether the applicant is meeting the required standard.

AREA 2: PROFESSIONAL KNOWLEDGE

- For the purposes of the Fast-track Process, Professional Membership of one of the listed ICT professional bodies shall be acceptable confirmation of knowledge of the NZCS Professional Knowledge Curriculum.
- Applicants must sign a full copy of the NZCS Code of Ethics, as well as a formal statement declaring comprehensive understanding of the Code and dedication to upholding all provisions of it.

AREA 3: COMPETENCY AND RESPONSIBILITY

- Applicants will submit an application outlining how they meet generic requirements of SFIA Level 5.
- The interview process from Area 1 will also cover the generic requirements of SFIA Level 5.
- A member of the NZCS Assessment Team may conduct a phone interview with the applicant, discussing their current role and how this is operating at SFIA Level 5.

15. ONGOING REQUIREMENTS AND RE-ACCREDITATION

Certified Professionals must maintain a continual level of professional development and behave appropriately and professionally on an ongoing basis. This includes Continued Professional Development, Service to the Community, Professional Conduct, Payment of Accreditation Fees, plus a Re-Accreditation Process.

RE-ACCREDITATION

To ensure a high ongoing standard all Certified Professionals will require re-accreditation **every three years**.

Much consideration has been given to the timeframe for re-accreditation, with suggestions being 3 years, 4 years or 5 years. The shorter the re-accreditation period, the more robust the process and hence certification, however this comes with increased logistical demands plus more strenuous requirements on participants.

After careful consideration NZCS believes the robustness and perceived quality of the programme must outweigh other considerations, and hence is implementing a 3-year re-accreditation requirement, **however is intending to review this in 2011**.

Re-accreditation will involve submitting a re-accreditation application demonstrating that all entry and ongoing requirements of the Certification Programme are still met, followed by a teleconference interview by the NZCS Certification Team.

Certification shall lapse if 39 months has passed since the last full Accreditation process.

PROFESSIONAL CONDUCT

Certified Professionals must maintain a high standard of Professional Conduct at all times. NZCS will produce and publish a Code of Ethics and/or Code of Professional Conduct from time to time and the member must adhere to all provisions of these codes at all times.

One principal ethical consideration is that of confidentiality of client information. ICT Professionals are entrusted with access to all kinds of sensitive information, from trade secrets and commercially sensitive data through to personal emails. A true professional does not abuse this trust.

The Certified Professional must notify NZCS immediately where any legal action is taken against them, whether criminal or civil, alleging professional misconduct, theft, fraud, or any other matter of dishonesty.

NZCS may, by order of the NZCS Executive, suspend the Certification of any member while a review is conducted to ascertain whether a breach of Professional Conduct has occurred.

CONTINUED PROFESSIONAL DEVELOPMENT

Certified Professionals are required to complete a minimum of **30 hours** of Continued Professional Development (CPD) per year, of a type as defined in the NZCS Bylaws.

This will be formally recorded on an annual basis, and all courses and training registered with a contactable referee (e.g. an individual who can confirm attendance if required, such as the person holding the course).

SERVICE TO THE PROFESSIONAL COMMUNITY

A requirement of all professionals, regardless of profession, is that they give back to the professional community thereby improving the profession and helping pave the way for those entering the profession in the future.

Certified Professionals will contribute at least **5 hours/year** of “pro bono” or unpaid service to the professional community. This service will need to meet the following requirements:

- May be in any of a number of areas and include any other NZCS-accredited activity;
- May not be completed as part of paid employment or contracting, nor as a publicity or marketing exercise for any person or organisation;
- Must be for the good of the ICT professional community or public at large.

Enough options will be made available through NZCS and third parties to ensure there are suitable options for all professionals.

ASSISTANCE WITH ACCREDITATION OF OTHER PROFESSIONALS

NZCS Professional Certification has a strong focus towards “Peer Assessment”, across both the academic and practicing professional routes. To ensure the quality of the programme it is an expectation that ITCP Professionals will assist in the assessment of future Applicants.

Certified Professionals will be expected to contribute to the assessment of 3-4 other Applicants per year, each involving approximately 30-45 minutes (including a phone interview in some cases). This CAN be used to count towards the “Service to the Professional Community” requirements.

PAYMENT OF ACCREDITATION FEES

Annual Accreditation Fees and Membership Dues must be paid on time to maintain NZCS Professional Certification.

Failure to pay these Fees and Dues by the due date may result in NZCS temporarily withdrawing Certification, or, if Fees remain unpaid, cancelling the member’s Certification.

16. PLACING CERTIFICATION ON HOLD

Several of the Certification Requirements make reference to a minimum of 6 months per year operating at the requisite level.

ITCP may be put on “hold” for a period up to 2 years, upon application and approval in advance and only for the period related to the reason for the hold, where an applicant cannot meet this requirement as a direct result of:

- Employment Redundancy;
- Pregnancy, Maternity or Parental Leave;
- A severe medical condition preventing work;
- Extended Military Service;
- Jury Service preventing work for over 3 months;
- Any other significant reason outside the control of the Certified Professional.

During the time of formalised “hold” the Certified Professional may not use the ITCP Post-nominals or claim to be Certified (although may state that they achieved Certification, but that this is on Hold). The Public Register will also state that the Certification is on hold.

Placing Certification on Hold does NOT affect or extend the re-accreditation requirement. Where re-accreditation requirements fall during a period of “hold”, re-accreditation will be necessary within 3 months following the conclusion of the “hold”.

17. APPEALS PROCESS

If an applicant disagrees with a decision to decline an application for Certification they may enter an *Appeals Process*.

An Applicant may appeal a decision in the following manner. Note that appeals must be completed in the following order and lodged within 90 days of the decision being appealed.

1. Request a Review of the decision.

An Applicant may request a decision is reviewed. The application will be reviewed by a senior Officer or Assessor to ascertain whether a mistake has been made.

2. Formally Appeal the decision to the NZCS Executive.

If this is unsuccessful the decision may be appealed to the NZCS Executive.

3. Request the NZCS National Council review the decision.

Should the NZCS Executive not overturn the decision, a request may be made for 2 randomly selected members of the National Council to review the decision.

All appeal steps incur a fee which must be paid before the appeal can commence (see the Schedule of Fees). This will be refunded only upon a successful appeal.

18. NZCS PROFESSIONAL KNOWLEDGE CURRICULUM

NZCS will define a *Professional Knowledge Curriculum (PKC)*, covering the core “professional” knowledge required of all ICT professionals (non-specialist knowledge). A Professional Knowledge Course and Assessment will also be created.

The detailed curriculum for this area will be developed and maintained independently from the Certification Programme, however will include the following 3 Professional Areas:

1: ETHICS AND CODE OF PRACTICE

This includes knowledge and understanding of the Codes of Ethics, Conduct, and Professional Behaviour in place and published by NZCS from time to time.

2: KNOWLEDGE OF ICT LEGAL ISSUES

This covers relevant laws applicable to the New Zealand environment, including international laws and conventions.

Typically this would include knowledge of general issues related to security, privacy, human rights, health and safety, contract law, and the Treaty of Waitangi. Note that this is not a detailed knowledge – it will cover the general concepts contained within relevant laws.

3: ICT PROFESSIONALS IN AN ORGANISATIONAL CONTEXT

This includes an understanding of the importance and fundamental principles of:

- the role and responsibility of ICT professionals in the workplace;
- the impact of organisational culture, values and behaviours on the work of ICT Professionals and organisational unit outcomes;
- organisational goals and values, and alignment of IT activities to support these;
- organisational relationships and trust to facilitate the creation of managed expectations and the successful delivery of matched solutions;
- the necessary levels and measures to support superior communications, governance and appropriate compliance regimes;
- personal responsibilities and expected contributions and being personally accountable for those actions.
- business risks associated with ICT operations and implementations including the impacts of quality decisions.

19. GOVERNANCE OF NZCS CERTIFICATION

To ensure the long-term sustainability of the NZCS Professional Certification Programme it is essential that a good governance and oversight structure is implemented.

Three Boards will be created:

- **Certification Governance Board (CGB)**

This Board will have overall responsibility for:

- Evaluating the overall performance of the Certification Programme;
- Making recommendations to National Council for structural changes;
- At a minimum, completing an annual report to Council.

- **Professional Standards Board (PSB)**

The PSB will have responsibility for:

- Reviewing the professional requirements and standards of the Certification Programme on an ongoing basis;
- Making recommendations to National Council for any changes in this area.

- **Professional Conduct Board (PCB)**

The Professional Conduct Board will have responsibility for:

- Recommending conduct and ethics-related policy to National Council;
- Investigating allegations of breaches of professional conduct.

All Board members will be appointed by the National Council following recommendation from the NZCS Executive.

50% of initial appointments to these boards shall be for 12 months, while all other and ongoing appointees will be for a 24 month term to ensure continuity. Further re-appointment of 24 month terms will be possible, and the National Council may fill casual vacancies upon resignation or removal of Board members.

All members of these boards must be Professional Members of the New Zealand Computer Society at MNZCS or FNZCS level.

The operations and mandate of these Boards will be defined by the National Council in the NZCS Bylaws and may change from time to time.

CERTIFICATION GOVERNANCE BOARD (CGB)

OBJECTIVES

- To ensure that the NZCS Professional Certification Programme is structured in a manner that maintains ongoing relevance, continues to be recognised, and maintains a high standard of quality and robustness;
- To ensure that the requirements of the processing of applicants is streamlined and unencumbered whilst maintaining the highest level of ethics and quality;
- To provide an environment where IT skills and professional capability is enhanced and accredited using internationally recognised tools and measures;
- To enable enhanced career opportunities for existing professionals and encourage new entrants into the profession.

COMPOSITION

The scope of the Board's responsibilities suggests a mix of business and academic backgrounds are required. The experience levels of the individuals should be significant and all members should be regarded by Council as being beyond reproach. All Board members shall be full professional members of NZCS at MNZCS or FNZCS level.

SCOPE

The Board implements change by making recommendations to the NZCS National Council, specifically:

- Ensuring that NZCS Certification Programme is at all times aligned with the standard prescribed by relevant international standards.
- Maintaining a watching brief on the actions and offerings of other similar or kindred bodies to take advantage of opportunities and trends.
- Improvements in process requirements defined in the NZCS Bylaws.
- Ensuring the continued validity of NZCS operating practices regarding certification.

OPERATING PRINCIPLES

- The Certification Governance Board has been established to monitor the Certification Programme and make recommendations to the NZCS National Council.
- The Certification Governance Board will have no operational capability, and will not direct or require and matter directly – all changes must be made through Council.
- The operation of the CGB shall be governed by the National Council in the NZCS Bylaws.

PROFESSIONAL STANDARDS BOARD (PSB)

OBJECTIVES

- Responsible for all standards as defined for Certification, and for ensuring that these are in line with international standards.
- Establish and maintain the standards for education, competence and application of IT practices to the highest practical and professional levels.
- Maintain a watching brief of international developments in this area and make recommendations to National Council as appropriate to ensure the NZCS Certification Programme is in line with international standards in this area.

COMPOSITION

The scope of the Board's responsibilities suggests a mix of business and academic backgrounds are required. The experience levels of the individuals should be significant and all members should be regarded by Council as being beyond reproach. All Board members shall be full professional members of NZCS at MNZCS or FNZCS level.

SCOPE

Specifically, the Board shall operate by recommending changes to National Council, specifically in regards to:

- The core Certification standards and requirements;
- The NZCS Core Body of Knowledge;
- NZCS Continued Professional Development (CPD) Requirements and Standards.

OPERATING PRINCIPLES

- The Professional Standards Board is a governance board, established to monitor and make recommendations to the NZCS National Council.
- The PSB will have no operational capability, and no ability to require, direct or implement change directly – all changes must be mandated by Council.
- The operation of the board shall be governed by the National Council and mandated in the NZCS Bylaws.

PROFESSIONAL CONDUCT BOARD

OBJECTIVES

The Professional Conduct Board (PCB) is responsible for the recommendation and oversight of professional conduct standards for Certified Professionals, as well as investigating alleged breaches of professional conduct.

COMPOSITION

The scope of the Board's responsibilities suggests a mix of business and academic backgrounds are required. The experience levels of the individuals should be significant and all members should be regarded by Council as being beyond reproach. All Board members shall be full professional members of NZCS at MNZCS or FNZCS level.

SCOPE

Specifically, the Board has responsibility for:

- Reviewing the NZCS Code of Ethics and Professional Conduct on an ongoing basis, and making recommendations of changes of such to the NZCS National Council.
- Ensuring that NZCS Codes are at all time aligned with international standards.
- Making recommendations to National Council as to the disciplinary actions available for breaches of the Code(s).
- Ensuring there is a transparent and accessible method for the lodging and recording of complaints and alleged breaches of NZCS Codes;
- Periodically providing analysis based on actual complaints, remedies and appeals to enable a review of the Codes and supporting processes, and to recommend any changes to the National Council.
- Investigating complaints and alleged breaches of the Code(s). Provide the opportunity and environment to obtain evidence from the complainant and the Certified Professional, together with any representative of either party or group.
- Recommending disciplinary action for proved breaches to National Council.

OPERATING PRINCIPLES

- The principles of natural justice will be a paramount principle to guide this board.
- The operation of the PCB shall be governed by the National Council in the NZCS Bylaws.
- This Board shall be Chaired by the NZCS Deputy President, but otherwise independent from National Council (i.e. other than the Deputy President, no member shall sit on both the Professional Conduct Board and National Council).

20. PROFESSIONAL CONDUCT AND DISCIPLINE

All members will be expected to adhere to NZCS's Code of Ethics, Code of Professional Conduct, and other such codes which may change from time to time.

All changes to these codes will be formally notified to the last known email address of all members, and will be changed only by Special General Meeting of NZCS Members.

As part of the design and implementation of Certification in New Zealand the NZCS is undergoing a full review of the Code of Ethics, lead by the Deputy President. More information about this review will be available shortly.

CODE OF PROFESSIONAL CONDUCT

The existing NZCS Code of Ethics will be replaced with a full "Code of Professional Conduct", incorporating the existing Code of Ethics as well as an expanded Philosophy section to ensure the Code is aligned with international standards.

The Code will also have a much-expanded section dealing with Conflicts of Interest and the management of such.

CODE OF PRACTICE

NZCS will implement a Code of Practice outlining good practice covering many areas of ICT in New Zealand. The Code of Practice will be maintained and developed on an ongoing basis.

DISCIPLINARY PROCESSES

Part of this review includes defining a robust and fair Disciplinary Process, including the provision of a Complaints Process for ICT Professionals or members of the public.

PROFESSIONAL CONSEQUENCES

There will be a number of consequences for serious breaches of the Codes and standards, which will be provided for in the Bylaws and Codes. These may include:

- Issuing a Formal Warning
- Issuing a fine, within a specified limit
- Publicly censuring the Member
- Cancelling the Member's Certification or NZCS membership
- Other appropriate disciplinary action

21. POST-NOMINAL AND BRAND USE AND MISUSE

NZCS will grant Certified Professionals the right to use the Post Nominal **ITCP** after their name (for example: **John Smith, BSc MNZCS ITCP**), as well as the ITCP Logo on stationary such as Business Cards and Stationary and in a personal profile on Websites.

The logo may not be used in such a way as to imply the professional is a representative of NZCS or as being employed or an officer of NZCS. It also may not be used in such a way as to imply that NZCS has accredited a company or organisation.

Membership post nominals and Certification post nominals should be used in the following manner **MNZCS ITCP**, **FNZCS ITCP** or **HFNZCS ITCP**. However a member may choose to use only one post nominal or the other.

The right to use Post Nominals is granted on the following conditions:

- A professional may NOT use post nominals until they have received their formal notification and Certification certificate;
- If the professional is no longer Certified for any reason, or their Certification is on hold, they must immediately cease using the post nominals;
- Post Nominals may only be used when the professional is current with payment of membership dues or accreditation fees.

Given the significance of this Certification NZCS treats abuse of Post Nominals or falsely claiming Certification very seriously.

Any allegation of a non-Certified professional utilising Certification Post Nominals or passing themselves off as a Certified Professional will be investigated and legal action taken to protect the integrity of the Certification where appropriate.

22. PUBLICATION OF CERTIFIED PROFESSIONALS

NZCS will make the full list of Certified Professionals available in a searchable and public database on the NZCS website.

This will include the full name, Certification number, employer, town or city, Certification status, SFIA Skills used for Certification, and Employment status (ie “Employed / Seeking work / Consultant”) of the Certified Professional. The facility will also allow for a Professional to optionally receive email correspondence from visitors to the site.

Initially the system will also provide the ability to link to a LinkedIn™ Account, however in future the ability to maintain a full profile will be provided within the system.

Additionally, NZCS may publish the names and companies of Certified Professionals in various publications from time to time.

23. INITIAL SCHEDULE OF FEES

NZCS Professional Certification consists of an extensive accreditation process and ongoing review. It is essential that this programme is both of a high standard, and sustainable in the long-term.

NZCS is a charitable organisation and hence are not looking to profit from the certification programme, thus the fees below correspond to the estimated costs of independently operating this programme to a high level of quality.

ACCREDITATION FEES (ONE-OFF, EXCLUDES ANNUAL FEE)

- Fast-track Accreditation Fee: \$ 270 (or)
- Accreditation Fee: \$ 370
- Re-Accreditation Fee: \$ 170

ANNUAL CERTIFICATION FEE (PER YEAR)

- Annual Certification Fee (per year): \$ 125

APPEALS/REVIEWS

- Request for Assessment Team Review of Application \$ 99
- Formal Appeal to NZCS Executive \$ 99
- Request for National Council review \$ 99

TOTAL COST

Hence, the total costs of the Certification Programme would be:

Year	Accreditation Fee	Annual Maintenance	Total (incl GST)
Year 1	\$270 (FT) or \$370	\$ 125	\$395 (FT) or \$495
Year 2	-	\$ 125	\$ 125
Year 3	-	\$ 125	\$ 125
Year 4	\$170	\$ 125	\$ 295
Year 5	-	\$ 125	\$ 125

Prices include GST. Note that these charges are in addition to NZCS Membership Dues.

ASSESSMENT OF ADDITIONAL SFIA SKILLS

NZCS may provide additional assessment of SFIA Skills, over and above those required for Certification, in future. This will allow Professionals to show expertise in a wider range of areas. The costs of this have not been finalised.

APPENDIX 1: GLOSSARY OF TERMS

ACS	The Australian Computer Society
BCS	The British Computer Society
BoK	Body of Knowledge
CBoK	Core Body of Knowledge
CIPS	Canadian Information Processing Society
CITP	Chartered IT Professional (BCS)
CPeP	Computer Professional education Programme (ACS)
DDC	Digital Development Council
EUCIP	European Certification of Informatics Professionals
IEEE	Institute of Electrical and Electronics Engineers INC
IEEE-CS	IEEE Computer Society (US and International)
ICT	Information and Communications Technology
IFIP	International Federation for Information Processing
IITP	International IT Professional (IP3 and IFIP)
IPENZ	Institution of Professional Engineers New Zealand Inc.
IP3	International Professional Practice Partnership
ISEB	Information Systems Examination Board (BCS)
ITCP	Information Technology Certified Professional (NZCS Certification)
MED	Ministry of Economic Development
NZCS	The New Zealand Computer Society Incorporated
PCP	Practicing Computer Professional (ACS)
SFIA	Skills Framework for the Information Age (BCS)
SWEBOK	Software Engineering Body of Knowledge (IEEE)

APPENDIX 2: SFIA LEVELS OF RESPONSIBILITY

This Appendix outlines the SFIA Levels of Responsibility. These can also be found at <http://www.sfia.org.uk/cdv4/busskills/index.html>

SFIA RESPONSIBILITY LEVEL 1 – “FOLLOW”

Autonomy

Works under close supervision. Uses little discretion. Is expected to seek guidance in unexpected situations.

Influence

Interacts with immediate colleagues.

Complexity

Performs routine activities in a structured environment. Requires assistance in resolving unexpected problems.

Business skills

Uses basic information systems and technology functions, applications, and processes. Demonstrates an organised approach to work. Learns new skills and applies newly acquired knowledge. Has basic oral and written communication skills. Contributes to identifying own development opportunities.

SFIA RESPONSIBILITY LEVEL 2 – “ASSIST”

Autonomy

Works under routine supervision. Uses minor discretion in resolving problems or enquiries. Works without frequent reference to others.

Influence

Interacts with and may influence immediate colleagues. May have some external contact with customers and suppliers. May have more influence in own domain.

Complexity

Performs a range of varied work activities in a variety of structured environments.

Business skills

Understands and uses appropriate methods, tools and applications. Demonstrates a rational and organised approach to work. Is aware of health and safety issues. Identifies and negotiates own development opportunities. Has sufficient communication skills for effective dialogue with colleagues. Is able to work in a team. Is able to plan, schedule and monitor own work within short time horizons. Absorbs technical information when it is presented systematically and applies it effectively.

SFIA RESPONSIBILITY LEVEL 3 – “APPLY”

Autonomy

Works under general supervision. Uses discretion in identifying and resolving complex problems and assignments. Usually receives specific instructions and has work reviewed at frequent milestones. Determines when issues should be escalated to a higher level.

Influence

Interacts with and influences department/project team members. May have working level contact with customers and suppliers. In predictable and structured areas may supervise others. Makes decisions which may impact on the work assigned to individuals or phases of projects.

Complexity

Performs a broad range of work, sometimes complex and non routine, in a variety of environments.

Business skills

Understands and uses appropriate methods, tools and applications. Demonstrates an analytical and systematic approach to problem solving. Takes the initiative in identifying and negotiating appropriate development opportunities. Demonstrates effective communication skills. Contributes fully to the work of teams. Plans, schedules and monitors own work (and that of others where applicable) competently within limited deadlines and according to relevant legislation and procedures. Absorbs and applies technical information. Works to required standards. Understands and uses appropriate methods, tools and applications. Appreciates the wider field of information systems, and how own role relates to other roles and to the business of the employer or client.

SFIA RESPONSIBILITY LEVEL 4 – “ENABLE”

Autonomy

Works under general direction within a clear framework of accountability. Exercises substantial personal responsibility and autonomy. Plans own work to meet given objectives and processes.

Influence

Influences team and specialist peers internally. Influences customers at account level and suppliers. Has some responsibility for the work of others and for the allocation of resources. Participates in external activities related to own specialism. Makes decisions which influence the success of projects and team objectives.

Complexity

Performs a broad range of complex technical or professional work activities, in a variety of contexts.

Business skills

Selects appropriately from applicable standards, methods, tools and applications. Demonstrates an analytical and systematic approach to problem solving. Communicates fluently orally and in writing, and can present complex technical information to both technical and non-technical audiences. Facilitates collaboration between stakeholders who share common objectives. Plans, schedules and monitors work to meet time and quality targets and in accordance with relevant legislation and procedures. Rapidly absorbs new technical information and applies it effectively. Has a good appreciation of the wider field of information systems, their use in relevant employment areas and how they relate to the business activities of the employer or client. Maintains an awareness of developing technologies and their application and takes some responsibility for personal development.

SFIA RESPONSIBILITY LEVEL 5 (CERT LEVEL) – “ENSURE, ADVISE”

Autonomy

Works under broad direction. Is fully accountable for own technical work and/or project/supervisory responsibilities. Receives assignments in the form of objectives. Establishes own milestones and team objectives, and delegates responsibilities. Work is often self-initiated.

Influence

Influences organisation, customers, suppliers and peers within industry on the contribution of own specialism. Has significant responsibility for the work of others and for the allocation of resources. Makes decisions which impact on the success of assigned projects i.e. results, deadlines and budget. Develops business relationships with customers.

Complexity

Performs a challenging range and variety of complex technical or professional work activities. Undertakes work which requires the application of fundamental principles in a wide and often unpredictable range of contexts. Understands the relationship between own specialism and wider customer/organisational requirements.

Business skills

Advises on the available standards, methods, tools and applications relevant to own specialism and can make correct choices from alternatives. Analyses, diagnoses, designs, plans, executes and evaluates work to time, cost and quality targets. Communicates effectively, formally and informally, with colleagues, subordinates and customers. Demonstrates leadership. Facilitates collaboration between stakeholders who have diverse objectives. Understands the relevance of own area of responsibility/specialism to the employing organisation. Takes customer requirements into account when making proposals. Takes initiative to keep skills up to date. Mentors more junior colleagues. Maintains an awareness of developments in the industry. Analyses requirements and advises on scope and options for operational improvement. Demonstrates creativity and innovation in applying solutions for the benefit of the customer.

SFIA RESPONSIBILITY LEVEL 6 – “INITIATE, INFLUENCE”

Autonomy

Has defined authority and responsibility for a significant area of work, including technical, financial and quality aspects. Establishes organisational objectives and delegates responsibilities. Is accountable for actions and decisions taken by self and subordinates.

Influence

Influences policy formation on the contribution of own specialism to business objectives. Influences a significant part of own organisation and influences customers/suppliers and industry at senior management level. Makes decisions which impact the work of employing organisations, achievement of organisational objectives and financial performance. Develops high-level relationships with customers, suppliers and industry leaders.

Complexity

Performs highly complex work activities covering technical, financial and quality aspects. Contributes to the formulation of IT strategy. Creatively applies a wide range of technical and/or management principles.

Business skills

Absorbs complex technical information and communicates effectively at all levels to both technical and non-technical audiences. Assesses and evaluates risk. Understands the implications of new technologies. Demonstrates clear leadership and the ability to influence and persuade. Has a broad understanding of all aspects of IT and deep understanding of own specialism(s). Understands and communicates the role and impact of IT in the employing organisation and promotes compliance with relevant legislation. Takes the initiative to keep both own and subordinates' skills up to date and to maintain an awareness of developments in the IT industry.

SFIA RESPONSIBILITY LEVEL 7 - “SET STRATEGY, INSPIRE, MOBILISE”

Autonomy

Has authority and responsibility for all aspects of a significant area of work, including policy formation and application. Is fully accountable for actions taken and decisions made, both by self and subordinates.

Influence

Makes decisions critical to organisational success. Influences developments within the IT industry at the highest levels. Advances the knowledge and/or exploitation of IT within one or more organisations. Develops long-term strategic relationships with customers and industry leaders.

Complexity

Leads on the formulation and application of strategy. Applies the highest level of management and leadership skills. Has a deep understanding of the IT industry and the implications of emerging technologies for the wider business environment.

Business skills

Has a full range of strategic management and leadership skills. Understands, explains and presents complex technical ideas to both technical and non-technical audiences at all levels up to the highest in a persuasive and convincing manner. Has a broad and deep IT knowledge coupled with equivalent knowledge of the activities of those businesses and other organisations that use and exploit IT. Communicates the potential impact of emerging technologies on organisations and individuals and analyses the risks of using or not using such technologies. Assesses the impact of legislation, and actively promotes compliance. Takes the initiative to keep both own and subordinates' skills up to date and to maintain an awareness of developments in IT in own area(s) of expertise.

APPENDIX 3: SFIA CATEGORIES, SUB-CATEGORIES, AND SKILLS

Category	Sub-Category	Skills
Strategy and architecture	Information Strategy	Corporate Governance of IT
		Information Management
		Information Systems Coordination
		Information Policy Formation
		Information Security
		Information Assurance
		Information Analysis
		Information Content Publishing
	Advice and Guidance	Consultancy
		Technical Specialism
	Business/IS Strategy and Planning	Research
		Innovation
		Business Process Improvement
		Enterprise Architecture
		Business Risk Management
	Technical Strategy and Planning	Solution Architecture
		Emerging Technology Monitoring

		Continuity Management
		Software Development Process Improvement
		Network Planning
		Methods and Tools
Business change	Business Change Implementation	Portfolio Management
		Programme Management
		Project Management
	Business Change Management	Business Analysis
		Business Process Testing
		Change Implementation Planning and Management
		Organisation Design and Implementation
		Benefits Management
		Business Modelling
	Relationship Management	Stakeholder Relationship Management
Solution development and implementation	Systems Development	Systems Development Management
		Data Analysis
		Requirements Definition and Management
		Systems Design
		Network Design

		Database/Repository Design	
		Programming/Software Development	
		Safety Engineering	
		Information Content Authoring	
		Testing	
	Human Factors	Systems Ergonomics	
		Usability Requirements Analysis	
		Usability Evaluation	
		Human Factors Integration	
	Installation and Integration	Systems Integration	
		Porting/Software Integration	
		Systems Installations/Decommissioning	
	Service Management	Service Strategy	IT Management
			Financial Management for IT
Service Design		Capacity Management	
		Availability Management	
		Service Level Management	
Service Transition		Configuration Management	
		Change Management	
		Release Management	

	Service Operation	System Software
		Security Administration
		Radio Frequency Engineering
		Application Support
		IT Operations
		Network Control and Operation
		Database Administration
		Network Support
		Problem Management
		Service Desk and Incident Management
Procurement and Management Support	Supply Management	Procurement
		Supplier Relationship Management
	Quality Management	Quality Management
		Quality Assurance
		Quality Standards
		Compliance Review
		Safety Assessment
	Resources Management	Technology Audit
		Programme and Project Office Support
		Asset Management

		Client Services Management
		Professional Development
		Resourcing
	Learning and Development	Learning and Development Management
		Learning Resources Creation and Delivery
		Education and Training Delivery
Client Interface	Sales and Marketing	Marketing
		Selling
	Client Support	Account Management
		Sales Support

APPENDIX 4: CBoK CRITERIA AND ASSESSMENT PROCESS

Introduction:

As requested by the Working Group, the convenor of the Body of Knowledge (BoK) Focus Group has considered the following BoK options:

- The Australian Computer Society's Computing BOK (as proposed 2008) [AusCBOK (Proposed)]
- The International Institute of Business Analysis' Guide to the Business Analysis BOK (ver.1.6, published 2006) [BABOK]
- The Canadian Information Processing Society's IT BOK (published 2005, derived from the BCS Diploma syllabus) [Canada CIPS (BCS)]
- The Council of European Professional Informatics Societies' EUCIP Syllabi (ver.2.6, published 2006) [EUCIP]
- The IEEE Computer Society's Guide to the Software Engineering BOK [SWEBOOK].

The review was to follow the process described in *Appendix 4.1: Recommendation for BoK – Process and Criteria*. The Focus Group duly agreed on the process and the criteria to be used in the assessment. However, the review itself was primarily undertaken by the convenor, with a degree of input from group members.

Assessment:

Details of the assessment are shown in *Appendix 4.2: Recommendation for BoK – Assessment*. The colour coding scheme represents the following: green = yes, satisfies criterion; yellow = may satisfy criterion; orange = unlikely to satisfy criterion; red = no, does not satisfy criterion.

Recommendations:

The Focus Group convenor makes the following recommendations:

1. That the Working Group consider adopting the Australian Computer Society's Computing BOK as it emerges during 2009.
2. That as a contingency the Working Group consider adopting the Council of European Professional Informatics Societies' EUCIP Core Syllabus Parts A through C.
3. That the Working Group maintain an active watching brief on development being undertaken by the British Computer Society in regard to a core BOK.

Stephen MacDonell, Focus Group Convenor, February 2009

Appendix 4.1: Recommendation for BoK – Process and Criteria

To make an informed decision regarding the adoption or development of an appropriate Body of Knowledge we have agreed on a defensible process and suitable criteria.

Process:

- The convenor of the Focus Group (SM) produced a draft set of criteria for consideration by the other members (PC, DW). Suggested additions and amendments were received and incorporated. Prioritisation of criteria was also considered (Crucial or Beneficial).
- Members of the Focus Group reviewed the various BoK examples provided, forming an independent assessment of each in relation to the criteria. Examples considered: AusCBOK, BABOK, CanadaCIPS (BCS), EUCIP, SWEBOK.
- The assessments were aggregated, gross disagreements discussed, consensus determined.
- A recommendation was made to the Certification Working Group as to the way forward.

Criteria:

STRUCTURE

Criterion:	Priority:
Adheres to IP3 requirements/expectations <i>(Core, leveled, continually current)</i>	Crucial
Easily mapped to SFIA framework <i>(Both skill type and level of autonomy)</i>	Crucial
Simple to use <i>(To inform/assess professional development)</i>	Crucial
Simple to maintain <i>(To ensure it is always current)</i>	Crucial
Means of assessing depth of understanding <i>(From factual recall to informed judgement)</i>	Beneficial

SOURCE

Criterion:	Priority:
Leverages material from other places/sources <i>(No need to build/maintain our own BoK)</i>	Beneficial*

*May assume Crucial status if wider issues considered e.g. provision of an associated education programme, accreditation of curricula and similar

SCOPE

Criterion:	Priority:
Core rather than specialist <i>(Focus on breadth, depth covered elsewhere)</i>	Crucial
Relevant scope: IT, ICT, Computing... <i>(Relevant to all ICT professionals in NZ)</i>	Crucial
Relevant to both industry and academia <i>(Top-down, not (just) curriculum-oriented)</i>	Crucial
Fits well with NZ context <i>(Useful for SMEs as well as larger entities)</i>	Crucial
Broader than business <i>(Also considers public sector, NGO, NFP)</i>	Crucial

*May assume Crucial status if wider issues considered e.g. provision of an associated education programme, accreditation of curricula and similar