Schedule 15 -Information Technology Officers (including Senior Information Technology Officer)

INFORMATION TECHNOLOGY OFFICER CLASSES 1 AND 2
SENIOR INFORMATION TECHNOLOGY OFFICER GRADES C, B AND A

GROUP DESCRIPTION

Definition

The work of positions in this stream involves the application of knowledge of information technology and information technology techniques and principles to the development or maintenance of information systems. It includes the associated systems analysis, systems design, programming and specialist activities. It also includes the direction, control, management and co-ordination of this work.

Features

The work of Information Technology Officers is undertaken in a wide range of administrative, scientific and technical areas of the Australian Public Service. They are involved in the planning, design, acquisition, development, installation and maintenance of information systems used for the achievement of corporate objectives.

The greater proportion of the work is directly concerned with the development (ie investigation, design and construction) and maintenance of computer systems; the remainder of the work, which is substantial, takes the form of specialist activities. Information Technology Officers have, in recent times, been required to develop greater business knowledge in order to meet the corporate requirements of an organisation.

Information technology work is performed by persons who have obtained a knowledge of information technology and information technology techniques and principles by a variety of means, including formal education, private studies, special training courses and on-the-job training. In recent years it has become usual for this knowledge to be acquired through formal courses at tertiary institutions, especially for theoretical aspects. No academic qualifications are prescribed for entry to this structure although evidence of appropriate knowledge and ability to undertake the work is required.

Terms Used

Communications systems comprise:

- transmission media - include wire, optical fibre, satellite links and all forms of electromagnetic radiation; and
- information types - include analog and digital, and include voice, data and video.

A computer system is an organised combination of processes and technology comprising:

- hardware - the physical representation of a computer;
- software - includes operating systems and application packages necessary to ensure that a computer system is capable of being used; and

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- communications interfaces - the software and hardware necessary to connect computer systems together (including all forms of networks) for the dissemination of information.

Computing services means all services involved in the development, operation, maintenance and support of computer systems. It includes the services provided by the Information Technology Officers and groups responsible for ancillary functions such as data preparation and computer operations. These services include the associated systems analysis, systems design, development, implementation, training, documentation, programming, strategic planning, business needs analysis and other specialist activities.

Direction

Routine direction means that a person:

- receives instructions on what is required, on unusual or difficult features and, when new techniques are involved, on the method of approach;
- is normally subject to progress checks but these are usually confined to the unusual or difficult aspects; has assignments reviewed at discrete phases and/or on completion; and
- has the technical knowledge and experience to enable duties to be performed usually without technical instructions.

General direction means that a person:

- receives general instructions, usually covering only the broader technical aspects of the work;
- may be subject to progress checks but where these are made they are usually confined to ensuring that, in broad terms, satisfactory progress is being made, has assignments reviewed on completion; and
- although technically competent and well experienced, there may be occasions on which the person will receive more detailed instructions.

Limited direction means that a person:

- receives limited instructions normally comprising a clear statement of objectives;
- has work measured usually in terms of the achievement of stated objectives; and
- is fully competent and very experienced in a technical sense and requires little guidance during the performance of work.

Broad direction means that a person:

- receives direction in terms of broadly stated objectives, missions or functions;

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- has the authority to plan, design and carry out programs, projects or assignments independently and exercises discretion on how to achieve end results;

- has work reviewed only in relation to such matters as fulfilment of program objectives, effect of advice and influence on the overall program; results of the person's work therefore would be considered as technically authoritative and normally accepted without significant change;

- may receive guidance on work which involves new and sophisticated techniques or which relates to areas outside the person's normal span of activity.

Information systems are the application of systematic methods and techniques to the collection, handling, storage, dissemination and use of information which involves the use of computers. These systems include decision support systems, management information systems, communications systems and data processing systems and may also include the control of work processes and the solution of mathematically expressed problems.

Information technology is the technology used in the application of information systems.

Knowledge of information technology and information technology techniques and principles consists of:

- basic knowledge - an understanding of the range of information technology fields, including business needs analysis, systems analysis, systems implementation and system design; and

- additional knowledge - provides some specialist or generalist competencies through, for example, studies in fields such as computer engineering, high level technologies and communications.

Programming is the process of determining the sequence of logical steps and instructions to produce a specified result and of translating them into a form capable of being interpreted by a computer as machine readable instructions.

Specialist activities involve the provision of in-depth specialist technical support for the development, implementation and maintenance of computer systems and include:

- software - systems software development, including design and programming;

- strategic information technology planning - investigation of long-term needs of an organisation and formulation of long-term strategies for information technology developments;

- capacity planning - investigation of existing information technology facilities to assess their adequacy for the long-term information technology requirements for an organisation;

- data base administration - design of data base (identification of requirements), specification of use and sharing of data, formulation of integrity and security requirements and maintenance of a fully integrated data base; and

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- communications - systems design, development and implementation of communication networks employing appropriate communication standards for exchange of information incorporating data and voice.

System analysis is the examination of problems and procedures, or the determination of requirements, for the collection, collation and evaluation of information about an organisation, activity or process and the specification of objectives which a computer system is required to achieve.

System design is the devising of combinations of procedures and processes for data handling which can be effectively integrated in a computer system to achieve the objectives specified by systems analysis.

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INFORMATION TECHNOLOGY OFFICER CLASS 1

WORK LEVEL DESCRIPTION

Definition

Persons at this level undertake programming under general direction and a variety of information technology work under routine direction. The work at this level involves the application of knowledge of information technology and information technology techniques and principles and requires initiative and judgement.

Features

This level includes persons who have relevant tertiary training but little or no practical experience in information technology work. It also includes persons who have significant relevant experience. As persons at this level become more experienced their work will require progressively less review and direction and they would be expected to exercise more individual initiative and judgement.

Persons at this level may be required to supervise ancillary staff.

Typical Duties

The duties listed below are typical of this work level.

- Undertake programming and/or elements of systems analysis and systems design.
- Investigate and implement requirements to rectify or enhance existing computer systems.
- Provide technical advice to subject matter staff undertaking their own programming.
- Examine and report on systems software and communications systems.
- Monitor performance of, and investigate failure in, computer systems and systems software.

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INFORMATION TECHNOLOGY OFFICER CLASS 2

WORK LEVEL DESCRIPTION

Definition

Persons at this level undertake programming under limited direction or systems analysis, systems design or specialist activities under general direction.

Features

Persons at this level are expected to be experienced and capable of performing a wide range of information technology work. The direction received varies according to an individual's experience and the type of work performed. They may work as individuals, as members of a team or as team leaders depending on the size and complexity of projects.

Persons at this level are required to be technically competent at systems analysis, systems design or specialist activities and are expected to demonstrate originality and resourcefulness. They have sound liaison and communication skills which would be expected to develop with experience at this level. The ability to supervise staff or lead a team may be required.

A person at this level would be expected to set work priorities and develop work procedures and practices.

Typical Duties

The duties listed below are typical of this work level.

- Provide technical support to operational computer systems.
- Undertake systems analysis and/or systems design and more complex programming tasks.
- Liaise with users/clients and provide advice on a range of information technology problems.
- Evaluate and report on the operating efficiency of computer systems and communications systems.
- Supervise staff undertaking the development or maintenance of computer systems.
- Investigate and report on the application of new information technology and information technology techniques.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE C

WORK LEVEL DESCRIPTION

Definition

Persons at this level undertake information technology work requiring considerable originality, independence, initiative and judgement under limited direction.

Features

The work at this level includes directing the development, modification and/or maintenance of computer systems and/or providing advice on specialist activities. persons occupying these positions have wide experience and may be the highest level of reference for information technology specialist advice in an organisation. They are expected to have well developed liaison and communication skills and the capacity to undertake high level investigations.

A common role performed is that of a team leader who actively participates in the work of the team. The team leader would manage the team's work, allocate resources and resolve complex technical problems requiring, in some instances, a high degree of knowledge of specialist activities. A specialist at this level would provide advice on technical issues and/or provide technical direction which is significant to programs or functions.

Decisions taken at this level may have a major impact on the operations of the work area.

Persons at this level may be required to represent the organisation on specialist information technology issues.

Typical Duties

The duties listed below are typical of this work level.

- Lead a team developing computer systems or undertaking specialist activities, including technical activities and provide associated advice.
- Examine long term information technology requirements, suggest alternative plans and strategies and report on their feasibility.
- Liaise with subject matter staff undertaking their own programming and provide advice on complex information technology problems.
- Manage computing services for an organisation where these are limited in size, scope and/or complexity.
- Implement complex and leading edge solutions with significant impact on the organisation's information technology work.

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- Undertake information technology work requiring technical skills, the use of advanced information technology methods and techniques and the exercise of considerable judgement.

- Direct the maintenance and modification of computer systems.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE B

WORK LEVEL DESCRIPTION

Definition

Persons at this level undertake information technology work which involves a high level of management skill or a high level of specialist activities under broad direction.

Persons at this level may co-ordinate the overall development and maintenance of computer systems and computing services exercising a high degree of independence in the formulation of plans, objectives and policies. They may perform very high level specialist activities.

Features

Work at this level commonly involves managing a number of teams and management responsibilities would include allocation of resources, formulation of work programs, setting standards and priorities, clarification of policy issues and evaluating results. Specialists at this level would undertake and/or direct investigations in an area of specialist activities and would be expected to make a substantial contribution to the technical aspects of the investigations. The advice on technical issues and technical direction provided by persons at this level would be of major importance to programs and functions.

Persons at this level exercise a high degree of independence and judgement in formulating priorities or resolving complex information technology issues and are accountable for outcomes within their area of responsibility and within constraints and objectives agreed with senior management. Decisions taken may have a significant impact on the operations of the work area and elsewhere within the organisation.

A high order of liaison and communication skills would be expected of persons at this level. They may be required to represent and negotiate on behalf of the organisation on complex information technology issues.

Typical Duties

The duties listed below are typical of this work level.

- Direct two or more teams undertaking specialist activities.
- Manage two or more teams engaged in developing and maintaining computer systems or engaged in a large scale computer systems project.
- Initiate research and direct investigations in a number of specialist activities or a complex specialist activity and provide high level advice.
- Co-ordinate the development of objectives and strategies for meeting and integrating long-term information technology requirements.
- Formulate and implement complex information technology policies, strategic plans or service delivery projects.

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- Co-ordinate and recommend policies for the development and maintenance of computer systems.
- Control computing services for an organisation where these are of large scale, scope and/or complexity.
- Investigate and suggest solutions to highly complex information technology issues.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

WORK LEVEL DESCRIPTION

Definition

Persons at this level work under broad direction and would be required to:

- manage a major information technology function/work area involving activities of considerable variety or complexity, extensive co-ordination and unusually significant responsibilities for human/financial resources; OR
- co-ordinate information technology projects involving unusually large numbers of Information Technology Officers and significant information technology requirements; OR
- initiate, plan and conduct information technology projects of considerable breadth which contribute significantly to the development of agency or Service-wide policy or require resolution of highly complex information technology issues; OR
- undertake particular complex specialist activities which require expert knowledge of information technology and information technology techniques and principles in a specialised field and a high degree of originality and independent judgement in the constant adaptation of existing information technology principles to new and unusual problems. This work would involve frequent changes in policy, program or technological requirements.

Features

Persons at this level would be expected to provide overall direction on information technology and computing services to the organisation and make a significant contribution to corporate strategic planning and information technology policies.

Persons at this level are expected to demonstrate, in varying degrees:

- management skills of a high order together with considerable knowledge of significant aspects of information technology;
- "technical" competencies of the highest level in a field or fields of information technology critical to the organisation requiring a high degree of originality and analytical and conceptual skills in the resolution of highly complex issues; and
- highly developed liaison and communication skills and the ability to negotiate significant contracts.

Benchmark Job Descriptions

The benchmark job descriptions which follow this Work Level Description are useful illustrative examples of the work undertaken at this level and should be read and applied in conjunction with the Work Level Description.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY	:	Department of Administrative Services
LOCAL TITLE	:	Director, Mainframe Services

Background

The principal function of the Mainframe Services Section is one of a computing services provider of systems solutions to clients as a separate business entity within a corporatised Department. It covers both mainframe and mini-computer facilities at either the central or remote client sites. It operates on a fee for service basis with a number of clients who can choose to use other facilities if they so desire.

The Section is responsible for the management and control of three large integrated IBM compatible mainframes, remote and desktop processors, principally personal computers and networked terminals, using the N-gen operating system and large scale databases which support approximately 16,000 staff in many different regions. It also has responsibility for the provision, maintenance and upgrading of the systems accommodation, a purpose built facility with specialised environmental, power and security needs.

Role

The position is responsible for the management of four functional units covering the following areas:

- Mainframe Facilities;
- Database and Application Services;
- Mainframe Software; and
- Software Installation and Maintenance.

Accountability

Direction for this position is broadly stated in the Branch business plan which details the objectives, missions and functions the occupant has the responsibility to achieve. The occupant receives broad direction from the Assistant General Management (upper SES Band 1) in the Information Technology Services Branch.

The occupant has responsibility for 44 staff, including 40 Computer Operators and Information Technology Officers. Four Senior Information Technology Officers Grade B, each heading up a functional unit, report directly to this position.

This position is responsible for financial expenditure of $6.5M in 1990/91 of which $1.4M is spent on equipment purchases. The position holds the delegation for up to $22,000 on administrative expenditure.

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The occupant provides technically authoritative advice to the Assistant General Manager, General Manager and the Information Technology Advisory Committee on technical issues and their impact on the Department and clients. These include equipment, acquisition, capacity, reliability and life cycle, software enhancements, system operating changes, database enhancements/changes, as well as the operation and development of new systems. Decisions on technical procedures, techniques and standards for mainframe facilities are made by this position.

Judgement

Technical judgements required of the position, such as prioritising mainframe and other resource usage, systems analysis and the formulation of acquisition policy have major strategic and operational significance. This is particularly so in view of the requirement to maintain a very high level of reliability as the system is used by many fee paying clients within the Department of Administrative Services and throughout the Australian Public Service. These include the Department of Immigration, Local Government and Ethnic Affairs, the National Library of Australia and the Australian Electoral Commission. The position requires extensive co-ordination between the occupant, staff within the Branch, manufacturers, vendors and a large number of client representatives.

Given the number of clients, including outside users of the bureau service, any ongoing problems in this area will impact heavily on the efficient functioning of the Section and Department. The continued patronage of clients, to a large extent, depends on the smooth running of the bureau. The requirement to maintain a viable business position also serves to increase the pressure on the occupant to alleviate any problems quickly.

Within the Department of Administrative Services alone, there are a large number of diverse business entities or groups, each with their own priorities. Decisions of any particular manager may immediately affect those of another. For example, a manager or client may at any time decide to transfer their patronage to another computing service provider. Thus, the occupant must:

- ensure the protection of the bureau service;
- provide identified and approved solutions effectively; and
- keep pace with the dynamic computer environment.

While there are established industry procedures for dealing with complex problems, judgement and discretion for action rests with this position. The occupant must determine whether it is possible to fix the problem "in-house" or whether the problem can be bypassed and what level of service that can be maintained in the meantime. If the error can be rectified "in-house" then it is the occupant's responsibility to direct and manage the correction. There is an ongoing need for contact and negotiation with industry representatives to consider requirements for addressing problems, including minor equipment or software upgrades as the industry develops in response to technological change and shifting priorities.

Competencies

In addition to in-depth knowledge and experience in mainframe operations, the occupant must have a substantial knowledge of all interrelated information technology areas. A good understanding of existing and emerging mainframe related software

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technologies and the capacity to relate those technological opportunities to the agencies and clients needs are important requirements of this position.

Management skills of a high order are required to undertake strategic and operational planning and deal with a sizeable team of professional staff engaged in the implementation and support of computer systems.

Negotiation and liaison skills of a high order are also required to deal with a wide range of clients and outside support areas in an environment of intense competition.

Summary

Classification of this position at Grade A is justified because it manages a major information technology function which:

- involves activities of considerable complexity;
- necessitates extensive co-ordination; and
- has responsibility for unusually significant human resources.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY	:	Australian Taxation Office
LOCAL TITLE	:	Manager, Distributed Computer Services

Background

There are in excess of 5,000 PC's in the Office, the majority of which are networked. The Australian Taxation Office is implementing a program which will raise the number of networked PC's to 14,000 by 1994. This equipment is located throughout the 110 buildings which comprise the seventeen Australian Taxation Office Branch Offices.

Role

The Distributed Computer Services Section (DCS) is responsible for the acquisition, installation, acceptance testing, asset registration and maintenance of stand along PC's, mini-computers, proprietary/special purpose systems (eg optical character recognition and cash receipting), local area networks and mainframe terminals and controllers. There is a very large variety of types and models of technology involved reflecting both the diversity of the uses of the technology in the Australian Taxation Office and the overlap occurring as old technology is phased out and newer technology introduced.

DCS is responsible for the specification of requirements for the provision of computer accommodation for both mainframes and distributed systems and for the maintenance and continual monitoring of the specialised environments and accommodation required by computer systems.

The Section is currently required to design and provide a new type of infrastructure where there is a networked computer on almost every desk.

The Section provides a service to a range of areas in the Australian Taxation Office. While it is itself a user of technology in order to achieve objectives, it is also required to understand a wide variety of different technologies and enough of the actual operation (of both hardware and software involved) to be able to get the combination of technology involved installed and operating correctly for the user area.

The occupant is required to plan, direct and control the work of the Section, prepare recommendations and advice on ADP policy matters and participate actively in the staff development and training activities of the area and take steps to meet the training needs of subordinate staff.

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Accountability

The occupant is subject to broad direction from the Assistant Commissioner Band 1. The occupant reports on major projects on an exceptional basis. The Facilities Provision Branch Head and other Systems Group Branch heads review the work of this position once or twice each year in terms of achievement of major objectives. Wide discretion is given in terms of the achievement of objectives within approved work programs.

The DCS has 34 staff of which 15 are Information Technology Officers and 8 are Administrative Service Officers with technical qualifications. The occupant has direct responsibility for two Senior Information Technology Officer Grade B staff as well as the overall responsibility for all staff in the Section.

The position has direct responsibility for an annual resource budget of $21M comprising $9M for maintenance and repairs to equipment, $3M for site works, $3M for relocation of equipment and $1.5M for salaries.

The occupant is responsible for the analysis and acceptance of quotes from service providers and the installation of appropriate solutions. The occupant will be responsible for the installation and acceptance of $60M of distributed equipment over the next 5 year period. During the twelve months ending November 1990, $20.6M of mainframe equipment was also installed.

On maintenance expenditure, the maintenance philosophy (which has to cover many areas' requirements and many different types of technology) is decided by the occupant and the resultant contracts let and reviewed as required.

The position is responsible for building user requirements and functional aspects of the Australian Taxation Office's new Purpose Built Computer Centre and is a member of the Project Steering Committee.

Decision making is constrained by budget and Australian Taxation Office policy guidelines. However, the occupant develops policies in conjunction with the Corporate Planning process. This involves providing advice and recommendations on Australian Taxation Office policy aspects which relate to equipment procurement, installation methodologies, maintenance contracts, computing components of the decentralisation program, equipment decommissioning and disposal and day to day operation of distributed systems.

Judgement

The position exercises substantial judgement and discretion in the preparation of policy recommendations for:

- the determination of computer facility standards;
- systems design;
- installation and acceptance testing methodologies; and
- maintenance philosophies.

This excludes communications equipment and maintenance of mainframe equipment.

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The position exercises a high level of judgement in the prioritisation of limited financial resources to meet the Australian Taxation Office's corporate goals, future budget planning and determination of "value for money" in the expenditure of allocated funds.

Competencies

The position requires a high level of knowledge and expertise in:

- resource planning to manage the activities of the Section, which is working at a very fast pace to meet the requirements of a rapid expansion (of both quantity and complexity) of technology;

- contract negotiation given the very large responsibilities the position has in this regard;

- the functional and physical integration of computer systems into Australian Taxation Office Branch offices; and

- people management.

Summary

Classification of this position at Grade A is warranted because the position is responsible for managing a major information technology work area which involves:

- activities of considerable variety;
- extensive co-ordination; and
- unusually significant responsibilities for financial resources.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY	:	Australian Taxation Office
LOCAL TITLE	:	Director, Software Engineering and Architecture

Background

The function of the Development and production Support Branch is to provide computing support services for taxpayers and staff, by meeting the needs of other Australian Taxation Office Groups. The Software Engineering and Architecture Section is responsible for the successful introduction of new concepts and approaches evolving within the computing industry.

Role

The position has responsibility for the management of a Section which is providing:

- a Common User Interface;
- co-ordination of data and functional architecture and implementation of functional architecture;
- integration of project architectures;
- development of systems development techniques and methods;
- provision of an automated development environment;
- management of the Australian Taxation Office's quality and standards programs and development of the metrics program; and
- tools implementation and support, including Telon and Information Engineering Workbench.

The position also has responsibility for research and provision of advice and recommendations on strategic development of the Australian Taxation Office's systems engineering and architecture.

With complex computing environments to support and a wide range of products (such as the CASE and Code Generation tools) with high capability, the effects of them being misused are considerable due to the heavy reliance on them. The Systems Engineering and Architecture Section has a critical role in avoiding and recovering from these situations.

Accountability

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The position is subject to broad direction through the approved ADP strategic plan with performance against objectives (eg in terms of quality and service to Australian Taxation Office Groups) being periodically reviewed by the Assistant Commissioner Band 1, Development and Production Support Branch. Broad project direction is provided by various steering committees. The position has responsibility for 27 staff (including 25 Information Technology Officers) and 16 contractors. 5 Senior Information Technology Officers Grade B report directly to this position.

Within an annual budget of $2.7M, the position has authority to commit funds in relation to administrative expenditure.

The occupant is accountable for the management of changes that are being undertaken within the systems development environment and in particular the evaluation and introduction of CASE tools, code generators, common user interfaces, testing and debugging tools.

Decision making is constrained by Australian Taxation Office budget and policy guidelines. The occupant develops and advises on policies in conjunction with the corporate planning process for the development and implementation of computing applications nationally.

Advice/recommendations are given to the Branch Head and Modernisation and On-Going Project Managers who will act on these recommendations or submit them for decision to the Senior Executive. Advice/recommendations are also given directly to project teams as appropriate.

Advice/recommendations are given on Australian Taxation Office policy aspects such as applications development tools, techniques and methods, systems architecture and quality assurance.

Judgement

The most difficult aspect of the job is the management of change across a large scale organisation with 17 semiautonomous Branch offices and complex computing environments.

Communication and negotiation present particular difficulties. High level judgement is exercised by the occupant in determining priorities in an area which is dealing with leading edge technology.

The work is unique within the Australian Taxation Office and particularly technically complex because of the need to co-ordinate and integrate a wide variety of software components and user demands.

The occupant liaises extensively with Australian Taxation Office staff, other Government agencies and national and international user groups. In addition, the occupant must also negotiate regularly with vendors on operational and supply matters.

Competencies

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Given the position's key role in originating, developing and implementing new concepts and approaches, expert knowledge and a strategic view of directions in the computing industry is essential.

The position requires substantial knowledge of a wide range of information technology, with particular emphasis on the Australian Taxation Office's applications and technical development environment.

The position also requires a high order or people management, presentation skills and negotiation skills.

Summary

Classification of this position at Grade A is justified because it undertakes particularly complex specialist activities which require expert knowledge of information technology and information technology techniques and principles in a specialised field and a high degree of originality and independent judgement in the constant adaptation of existing information technology principles to new and unusual problems.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY	:	Department of Defence
LOCAL TITLE	:	Director, Computer Operations Logistics

Background

The Computer Operations Logistics Directorate provides computer operations from two geographically separate mainframe sites in Canberra, the associated communications networks and user facilities. Management and support elements are undertaken from a third site. Approximately fifty mini-computers and seven hundred terminals are installed nationwide.

Role

The occupant of this position manages all the activities of the Computer Operations Logistics Directorate of the Logistics Computer Centre.

The activities the position is responsible for include:

- mainframe operations;
- network operations and control;
- contingency planning;
- data processing, including production set-up and control;
- performance monitoring and capacity planning;
- machine resource usage accounting;
- computer access security and control;
- fault, asset and storage management;
- evaluation and purchase of new technology for mainframe operations;
- oversight and monitoring of significant maintenance contractual arrangements to ensure compliance and value for money; and
- support for major information technology logistics projects.

In managing the above activities in support of the Logistics organisation, the occupant is expected to:

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- provide high level specialist technical advice to client areas relating to these activities; and

- provide timely and professional services to client agencies to agreed levels. These services will have a significant impact on the effectiveness of the work of these agencies.

Accountability

The occupant reports to, and is subject to broad direction from, the Assistant Secretary, Logistics Computer Centre and has a high degree of independence in the management of the Computer Operations Logistics Directorate. In addition, there is authority to decide on the manner in which technical difficulties are overcome and for project scheduling.

The occupant has responsibility for the management and administration of significant human and financial resources:

- an operational staff of approximately 85-95 comprising Information Technology Officers, Senior Information Technology Officers and Administrative Service Officers as well as 5 senior non commissioned officers; and

- planning, administration and expenditure of some $6M in minor capital and computer support funds annually in support of the Directorate's activities.

Judgement

The primary role of this position is the management of a large and complex, multi-vendor, distribution information technology facility. Judgement exercised in this job is mainly associated with the management of both the human and financial resources. Activities managed have considerable variety. In addition there are highly complex decisions required to be taken in the technical environment for which the occupant takes responsibility.

The occupant of this position is expected to participate in and contribute to various consultative and planning processes within the Division on the technical matters emanating from the Directorate.

Competencies

The occupant of this position is expected to demonstrate exceptional managerial skills and have particularly strong administrative and technical competence in order to manage the large and complex facility effectively.

A high level of technical knowledge and extensive experience with mainframe operations is required combined with a high level of understanding of the interrelated information technology areas.

The scope of activities undertaken within the Directorate requires the occupant to be highly attuned to the changes in information technology. A high level of planning skills is required to cater for the increasing demand for information technology services.

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The occupant in this position is required to possess a well developed appreciation of the historical, current and future development in the information technology industry in order to consider all of the available options and to make sound cost effective decisions.

Negotiation and liaison skills of a high order are also required to enable the occupant to effectively deal with clients.

Summary

Classification of this position at Grade A is justified because the occupant is required to manage a major information technology work area involving activities of considerable complexity, extensive co-ordination and unusually significant responsibilities for human and financial resources.

Note: particular weight has been given to the management responsibilities of this position.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY	:	Department of Defence
LOCAL TITLE	:	Director, Manpower Applications Systems

Background

The Manpower Applications Systems Directorate is responsible for the development and maintenance of complex and closely integrated pay, personnel and establishments computing systems. These include:

- NAVPAY (Navy pay), AMAN (Army personnel/pay), AFMAN (Air Force personnel/pay), ARMESTAB (Army establishments) and SEROSSAL (Services overseas salaries) systems run in the DMS 1100 DBMS environment on the UNISYS mainframe; and
- CIVILPRISM (Civilian pay/personnel) and CENRESPAY (Reserves pay) systems run in the Model 204 and IDMS/R DBMS environments on the IBM mainframe.

The data maintained by these systems (and other smaller systems) constitute all statutory personnel and pay records of Defence service and civilian personnel.

Also developed and maintained are mini computer based systems and stand along PC based systems which interface with mainframe systems for the capture of data and the handling of conditions of service enquires.

Role

The occupant of this position is responsible for managing Information Technology Officers providing in-house development, maintenance and enhancement of those systems listed above in order to meet user requirements.

The services provided by the Manpower Application Systems Directorate for the various civilian and service systems are:

- production scheduling for UNISYS systems;
- statutory systems changes and the resolution of user difficulties;
- the provision of authoritative advice on the feasibility and cost of proposed system enhancements and new applications;
- the development of new applications software;
- the implementation of enhancements (such as changes in conditions of service, phasing out of old technology) and new systems to agreed priorities;

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- the provision of user testing and training software, facilities and assistance; and
- the transfer of production data to external systems via electronic links and magnetic tape.

All application systems are used by a variety of civilian and service personnel throughout Defence.

Accountability

The occupant of this position report directly to, and is subject to broad direction from, the Assistant Secretary, Manpower Computing Centre.

Advice and recommendations are considered technically authoritative and are normally accepted without significant change. The occupant has a high degree of independence in management, technical decisions (including development methodology, systems design, use of computing tools and task allocation) and implementation of projects.

The occupant is responsible for the Directorate's 70 Information Technology Officer staff, of which 4 are Senior Information Technology Officers Grade B heading project teams, and 7 Administrative Service Officer staff who provide a centralised clerical support service for the Directorate.

The occupant of this position is accountable for ensuring:

- the accuracy, stability and reliability of application systems which are in production as opposed to development;
- the timely implementation of new application systems and approved system changes (such as conditions of service and taxation changes which have strict dates of effect);
- the accurate transmission of data to financial institutions and Government agencies; and
- the privacy and integrity of sensitive data.

Judgement

In assessing costs and functional implications of broad system requirements, and the feasibility of proposed applications, there is a significant requirement for technical judgement to be exercised.

Broad guidance is given by the existence of a Departmental standard for systems development methodology called SPECTRUM. Technical judgement is required in tailoring this methodology to both large and small maintenance projects and individual development projects.

The systems developed and maintained by this Directorate mostly interact and impact on each other in some way. This requires constant co-ordination to ensure conflicts are resolved and priorities are agreed upon.

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The responsibilities of the position also include frequent and detailed liaison and negotiation with user management, suppliers and potential suppliers of hardware and applications development related software products.

The complexity of activities and demands on the technical skills and knowledge of the occupant are greatly increased due to the difficulties posed by three different DBMSs being run in two different mainframe computing environments and each being accompanied by a range of supporting software products.

The nature, including retrospectivity, of conditions of service calculations and information also makes the management of applications software in this area particularly difficult.

Competencies

The occupant is expected to possess:

- management skills in order to manage an unusually large number of professional staff who are working on large and complex systems;
- liaison skills in order to determine broad system requirements and to balance sometimes conflicting functional implications;
- extensive project management knowledge for accurate resource allocation and estimations involved in long running developments of large systems; and
- technical knowledge and experience of systems development and maintenance are required for the assessment and costing of user requirements for new and enhanced systems. These systems operate in two technically different mainframe environments (UNISYS and IBM) and also have concurrent computer, mini computer and PC based components.

Summary

Classification of this position at Grade A is justified because the occupant is required to co-ordinate information technology projects involving unusually large numbers of Information Technology Officers and significant information technology requirements.

Schedule 15 -Information Technology Officers (including Senior Information Technology Officer)

SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY (DEET)	:	Department of Employment, Education and Training
LOCAL TITLE	:	Director, Data Administration

Background

The Department operates a large scale computer network with the following central mainframe computers located in Canberra:

- Hitachi Data Systems (HDS) AS/EX80 using the MVS operating system; and
- Fujitsu M780/10S using the MSP operating system.

Three Database Management Systems (DBMS) are used:

- AIM on the Fujitsu;
- IDMS on the HDS; and
- ADABAS on the HDS.

The mainframes are accessed through a large national data communications network servicing more than 5,000 users in 350 nationwide locations supporting a national network processing approximately 1,000,000 transactions per day. Direct access data storage exceeds 160 gigabytes. The network currently utilises a mixture of IBM Systems Network Architecture and Fujitsu Network Architecture protocols.

The Department operates over 20 applications on the central mainframes. The two largest applications reside on different mainframes. JOBSYSTEM runs on the Fujitsu and the Education Student Assistance System runs on the Hitachi. These applications consume approximately 70% of the available mainframe resources, both in processing capacity and storage requirements. The mainframes also support other employment and education programs and Departmental business applications such as personnel and financial systems.

Role

The position is responsible for managing a Section which provides:

- the installation, enhancement and maintenance of DEET's three mainframe based DBMSs and the Department's data holdings; and
- the design, implementation, documentation and maintenance of test, training and production data bases for DEET's wide range of applications and of the security, monitoring and tuning of these data bases.

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DEET is in the process of moving to one database environment. The occupant will be required to contribute high level technical advice to the process of selecting the strategic database product upon which the new environment will be based, and then to co-ordinate the task of converting applications to the new environment while maintaining the three environments until the conversion is complete. This process is estimated to take over three years to complete.

Accountability

The occupant reports to, and is subject to broad direction from, the Assistant Secretary, Technical Services Branch and has a high degree of independence in management, technical decisions and implementation of projects.

The occupant makes final decisions on issues such as which of the three existing environments will be used for new applications, the allocation of disk storage capacity to projects and the specific technical measures to be applied to complex problems.

The occupant has technical and management responsibility for 19 Information Technology Officer's, including three Senior Information Technology Officers Grade B and varied numbers of contract staff (currently two).

The occupant is also required to be DEET's major source of technical advice on development of DBMS and hardware solutions and as such is a key contributor to information technology strategic planning.

Judgement

The design, implementation, monitoring, tuning and maintenance of large scale data bases are complex activities which require a specialised knowledge of DBMSs and their interactions with other operating systems software. This calls for a considered balancing of parameters in order to fully utilise hardware and software components whilst still ensuring that both storage efficiency and terminal response is acceptable.

The occupant needs to apply detailed knowledge of DEET's three difference DMBSs in order to act as a trouble shooter in emergency situations and to provide high level technical advice in particularly complex design and tuning situations.

As mentioned above, DEET has decided to move to one DBMS. This process will involve the conversion of major applications to it. The occupant of this position will be required to provide technical input to tender specifications and provide authoritative advice on product selection and the development of changeover strategy.

The responsibilities of the position also include frequent and detailed liaison and negotiation with suppliers and potential suppliers of data base related software and hardware.

Competencies

The position requires the occupant to possess an advanced technical knowledge of, and the interaction of, DBMSs and related software products.

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The complexity of activities and demands on the technical skills and knowledge of the occupant are greatly increased due to the difficulties posed by three different DBMS's being run in two different mainframe computing environments and each being accompanied by a range of supporting software products.

Liaison and negotiation skills of a high order are also essential.

Summary

Classification of this position at Grade A is justified because it is required to undertake particularly complex specialist activities which:

- require expert knowledge of information technology and information technology techniques and principles in a specialised field; and

- a high degree of originality and independent judgement in the constant adaptation of existing information technology principles to new and unusual problems.

This work involves frequent changes in policy, program and technological requirements.

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SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY	:	Department of Health, Housing and Community Services
LOCAL TITLE	:	Director, Communications

Background

Networks supported by the Communications Section include:

- Systems Network Architecture (SNA) "star" network supporting 2200 terminals nationally, with distributed controllers and front end processors linked to a central AMDAHL mainframe computer with SNI links to several other government and semi government computing sites;
- Australia wide network linking 16 VAX processors and supporting in excess of 2000 terminals. This network is undergoing rapid expansion and integration with other Departmental networks while processor consolidation occurs;
- a stable Australia wide network of 11 WANG processors supporting more than 500 terminals;
- token ring local area networks in Central Office;
- Ethernet local area networks around Australia and centred on Central Office;
- WANGNET local area network in Central Office; and
- voice network using ISDN and Megalink.

Role

The Communications Section is responsible for the development of a Departmental network providing for the transmission of voice traffic and for the integration of voice and data facilities.

The Section also provide detailed fault resolution for Central Office users of devices such as telephones, terminals, printers and their supporting infrastructure.

This position manages a Section responsible for the evaluation, design, implementation and support of nationwide voice and data communications networks used by the Department and by outside organisations.

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Accountability

The occupant is subject to broad direction from the Assistant Secretary, Computing Facilities. The occupant has the authority to decide on the manner in which technical difficulties will be overcome and for project scheduling.

The occupant has responsibility for 19 staff (including 16 Information Technology Officers). Two Senior Information Technology Officers Grade B report directly to this position. Technical leadership and direction is provided to 8 state based communications cells.

Authoritative advice is provided to senior managers on the purchases of communications software/hardware and maintenance agreements. Such expenditure is expected to be approximately $4M in the 1990/91 financial year.

The occupant has responsibility for management of the section, ensuring an appropriate level of services to clients, negotiating with suppliers/vendors and liaising with clients at all levels.

The occupant operates with a high degree of technical independence in relation to the direction and implementation of new technology within the Department. The occupant provides advice to the Assistant Secretary, Computing Facilities. On technical and operational matters, the advice given is authoritative. On strategic matters the advice is influential in decisions made by senior management. Other factors such as finance and business applicability are also considered.

Judgement

The development of network strategies is complex. The telecommunications arena is characterised by rapid development, a great diversity of equipment to choose from and evolving strategies and standards.

The Department has a diverse variety of technical infrastructures within which operates multiple communications architectures. Ensuring configuration compatibility as a result is a particularly complex task.

The occupant is required to negotiate with suppliers on the acquisition and pricing of communications software/hardware and provide authoritative advice to senior management after evaluation of all available options.

In providing advice and recommendations the occupant is required to make an assessment of the needs of the Department based on a thorough understanding of its operations and on an evaluation of its future needs.

Competencies

The position requires the occupant to possess a broad knowledge of information technology and of the advances being made, with expert knowledge of communications technology, particularly relating to the concurrent transmission of voice and data and of emerging standards in the computing industry. A well developed understanding of the difficulties posed by multiple separate architectures is also required.

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Management skills of a high order are required to deal with a sizeable team of professional staff working in a complex and demanding environment.

Summary

Classification of this position at Grade A is justified because it is required to undertake particularly complex specialist activities which require:

- expert knowledge of information technology and information technology techniques and principles in a specialised field; and

- a high degree of originality and independent judgement in the constant adaptation of existing information technology principles to new and unusual problems.

Schedule 15 -Information Technology Officers (including Senior Information Technology Officer)

SENIOR INFORMATION TECHNOLOGY OFFICER GRADE A

BENCHMARK JOB DESCRIPTION

AGENCY	:	Department of Transport and Communications
LOCAL TITLE	:	Director, Information Systems

Background

The Information Systems Section installs, operates and maintains corporate information systems. These are common usage systems which operate across all Departmental programs. The Section supports 14 mid range mini computers (IBM, Digital and Prime), comprising three distinct operating systems as well as UNIX, running some 30 major applications.

This position is one of only two directors in the Department dealing with information technology. The other director heads a special information technology team responsible for selecting and implementing the new office automation and is project manager for the Financial Management Information System.

Role

The occupant of this position manages six areas of activity. These comprise:

- Applications - design, development, maintenance and enhancement;
- Technical Support - operation of mini computers and production systems;
- User Support - support to staff, PC selection, installation and maintenance;
- Voice/Data Communications;
- Policy and Planning - information technology plans, purchasing, project management, standards and resource management; and
- Special Projects - this sub section maintains a liaison role with the office automation team to ensure compatibility with existing systems.

The occupant is responsible for the co-ordination and management of information technology resources and management of an annual information technology budget.

The Section has responsibility for the development and implementation of the corporate information technology strategy. In addition to this, the Section manages the Departmental voice and data networks, implements and supports the national; PC LAN-based Office Automation network and the Financial Management Information System.

The occupant provides authoritative advice on information technology systems and applications in relation to the departmental information technology strategy, on the

Schedule 15 -Information Technology Officers (including Senior Information Technology Officer)

resource budget, level of service to users, system performance and delivery to external clients.

Accountability

The occupant has responsibility for 56 staff, including 41 Information Technology Officers. Six Senior Information Technology Officers Grade B are each responsible for one of the areas of activity outlined above. These report directly to the occupant.

The occupant is responsible for an annual budget of $7M (not including salaries). Financial delegation is to the limit of funds allocated.

The occupant has discretion in relation to selection of appropriate systems, hardware and applications and to the technical aspects of applications in a software environment.

Advice and recommendations are given to Branch Head and First Assistant Secretary, for approval and Executive endorsement, on information technology strategic management, information technology resource management and information technology system selection.

The occupant is expected to take full responsibility for judgements related to technical matters, encompassing all aspects of Departmental information technology requirements, apart from the project areas of office automation and the Financial Management Information System, which are shared with the Senior Information Technology Officer heading the special information technology team.

Judgement

The position is required to manage activities of considerable variety and has the authority to enter into commitments with information technology vendors for both software and hardware in accordance with the corporate information technology strategy.

The occupant is required to make timely decisions based on technical expertise, in compliance with the corporate information technology strategy.

Competencies

The occupant is required to have a high order of skills in resource and people management and service delivery.

The position requires a sound knowledge of a number of information technology areas (particularly systems development methodology, developments in the areas of mini computers, hardware/software development tools, voice and data communications and network management).

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Summary

Classification of this position at Grade A is justified because the occupant must manage a major information technology function involving:

- activities of considerable variety;
- extensive co-ordination; and
- unusually significant responsibilities for both human and financial resources.

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