MORNINGTON PENINSULA *Shire*

COMMITTED TO A *SUSTAINABLE PENINSULA*

Information Technology Strategy

2009-2014

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Executive Summary

The Shire adopted its first IT Strategy in 2003, following the major upgrade to our core financial, property, rates and human resource systems was undertaken.

It is testament to its vision that its direction is built on and carried forward in this updated strategy.

In a local government context, the Mornington Peninsula Shire IT environment is –

- Large – with three main offices, many smaller offices and a large network to service.
- Complex - with technically advanced software systems with high levels of integration.
- Difficult – in the sense (for example) that fast, reliable broadband is available to many Councils' but is limited on the Mornington Peninsula.

The Mornington Peninsula Shire is committed to creating a Sustainable Peninsula through achieving outcomes that are environmentally, economically and socially sustainable.

Our IT operating environment seeks to reflect these commitments.

Environmentally, we seek to reduce our environmental footprint by optimising the use of 'virtualising' server and desktop systems, thus reducing energy usage. We also seek to optimise the use energy saving technologies and practices.

Economically, apart from the cost savings that come from energy efficiency, virtual servers actually lead to less (but more flexible and functional) equipment; desktop virtualisation has lead to reduced operating costs and longer equipment life.

Socially, the broad and open provision of information is in recognition that we are 'wealthy' with valuable information; information which in turn can be valuable to other stakeholders. To make this information readily and self-accessible to users is a positive.

As an organisation, we simply cannot do without a reliable and functional technology platform. This IT strategy is consistent with, and builds on the excellent work of the previous strategy.

Whilst there are many actions noted within this document, our IT Strategy for 2009-14 is summarised as –

- Data - will be
  - seen as corporate, not owned or controlled by Units or teams.
  - available for all users who need it (subject to security issues).
  - managed centrally, in an accurate, timely and secure manner.

- Hardware – will be
  - be sourced from 'first-tier' computer vendors.
  - be retained for three years to optimise warranty periods and to avoid financial exposure to expensive maintenance contracts.
  - be financed via operating lease, with financing strategies assessed annually.
  - optimise virtualisation as a principle.

- Desktops – will be provided on the following criteria;
    - a desktop PC or high end workstation for general and specialist use.
    - laptop PC where portability is justified.
    - 'thin client' virtual desktop PC as a default.

- Servers – we will
    - continue to pursue virtualisation as a means of consolidating servers.
    - ensure that physical server hosts facilitate virtual desktops where appropriate.

- Networks – will
    - be based on industry standard protocols.
    - utilise broadband for inter-office communications, and microwave where broadband is unavailable or cost prohibitive.

- Software – consistency and continuity will be achieved through the following standards -
    - Operating Systems = Microsoft Windows.
    - Relational Databases = Microsoft SQLServer.
    - Office systems - Microsoft Office.
    - ensuring that new software is compatible to corporate requirements in relation to operating systems and data sharing.

- Resourcing – we will
    - continue to utilise the Rosebud office as a main IT environment with Mornington office as the secondary 'back up' environment.
    - assess staffing levels annually following a review of IT support response and other requirements.
    - not pursue the MAV shared services model as an option for service delivery at this stage, but will monitor service delivery outcomes under the MAV model.
    - investigate the benefits and disbenefits with forming a 'strategic alliance' with another/ other Councils in terms of IT operations.

- Telecommunications – We will
    - investigate the options for using the internet to further enhance external communication with residents, ratepayers and other stakeholders.
    - investigate video conferencing as a principle of sustainability.
    - review options for telephone/ PABX replacement in the next year.
    - pursue technology portability in the field through PC technology, not PDA technology.

- Information Management Systems – we will
    - fully resource and support project SASSI through its implementation.

- Risk management – we will
    - develop our business continuity strategy around replicating the Rosebud IT operating environment at Mornington.
    - regularly testing the effectiveness of IT BCP plans.

  - investigate the benefits and disbenefits with forming a 'business continuity alliance' with another/ other Councils.

- For the future – we will
  - assist the Council staff in their understanding and investigation of
    - e-commerce opportunities.
    - social networking tools.

There is no doubt that the Shire expects to take advantage of emerging technologies for the future. How the Shire 'innovates' improved service outcomes out of these new IT tools and options will in large part be driven by the users themselves, not IT 'finding a solution and then looking for a problem to solve'.

However, in relation to specific major IT projects over the next five years, there is no immediate need for change or significant investment (the exception is the Shire's commitment to upgrading its Information Management System, which is a core plank of organisational service delivery into the future, but for the purpose of this strategy, is seen as ancillary).

Because there is no immediate need for change, the next five years will involve a 'steady as she goes' context in relation to core software systems, operating systems, major hardware.

However, as outlined in the strategy, the main IT projects over the next five years will include

- **Property and Rating Software Upgrade** (years 1 -2)
  Council's Property and Rating system (formerly Proclaim) has been widely deployed, with relatively modest enhancements, for over eight years now, but the vendor has re-written the software to take advantage of new IT technologies. As with most applications, upgrades are covered within annual maintenance costs, but on this occasion it will be necessary to procure a newer version of Microsoft SQLServer to accommodate the database functions. This has impacts on other systems, so it will be carefully planned to ensure the timing suits all users, systems and Council's budget.

- **IP Telephony** (years 1 -2)
  Council's analogue telephone systems will be reviewed in the next year with a view to replacement, and an upgrade strategy agreed. The option of using digital technology using Voice over IP (or internet based phone systems) is now possible given the recent upgrade to inter-office communications).

- **Mobile Computing** (years 1-5)
  Opportunities for improving productivity through mobile computing will be assessed, and if functional and effective, implemented over the next few years. There are already a number of good examples of this already occurring within Council, so it will be a continuation of previous strategies.

- **Video Conferencing** (year 1)
  In early 2009, Council participated in a demonstration of Video Conferencing initiated by the MAV. The experience was positive, and indicated opportunities to minimise

travel cost and time spent travelling between sites. Indicative pricing is indicatively $75k for the three main sites, so a small trial will be commenced to further assess viability and as a prelude to a future cost benefit analysis.

- **Microwave replacements** (Progressive)
  With the upgrade of upgrade to inter-office communications to broadband, there are now only two licensed links and 12 smaller, non-licensed microwave services in use. Whilst it is proposed to assess the options for each link at the end of their effective life (or sooner if broadband options are cost effective), this will be individually assessed having regard for operating performance, options for replacement, and cost.

- **Greater levels of virtualisation** (Ongoing)
  Virtualisation is the technology that enables a single host computer to run multiple applications concurrently, maximising hardware resources whilst minimising upfront and ongoing costs and minimising energy consumption. Current virtualisation technology is in its infancy, not heard of commercially as recently as three years ago. Developments in virtualisation are constant and will continue to inspire innovative IT practices well into the life of this strategy

- **Internet services and National Broadband** (Dependent on external factors)
  Current connectivity using the internet between the Shire's wide area network and the rest of the world is limited in capacity and quite expensive. The proposed national rollout of broadband may provide opportunities for improvement, but at this stage, timeframes are not clear.

Previous IT Strategy

This section summarises the approach taken and progress from the previous IT strategy published in 2003

The previous IT strategy was prepared at a time when there was significant change in IT systems, much of which was new and upgrades on pre-amalgamation technologies.

The Mornington Peninsula Shire was formed as a consequence of Council amalgamations in late 1994. From an IT perspective, significant compromise was necessary during the lean years of the late 1990s, and part of the challenge of this era on vendors of Local Government IT systems was the contraction of their market due to amalgamations and Council demands for more business-focussed applications. For several reasons, including the lack of interest in tackling Y2k, the Shire's major vendor at the time went into liquidation. The Mornington Peninsula Shire and many other Councils went through a period of restructure of IT needs, and for the first time, the traditional integrated applications gave way to 'best of breed' solutions. The Shire's main software applications (property and rating/ financials/ human resources and payroll) were updated in 2001 after an exhaustive review and tender process.

In parallel with the drive for better systems was the constant change in IT hardware and network infrastructure. Old-world, low-performing telephone-based broadband systems like ISDN gave way to relatively super fast and very cost-effective microwave communications links.

As a consequence of these and related factors, it became evident that it was necessary to create meaningful, modern IT strategies for the future.

The strategic vision for information technology adopted in 2003 was developed on objectives such as…

- Data should be corporate, not departmental, and be able to be interfaced with other systems.
- The Council IT network is a vehicle for corporate communication.
- Technology practices and procedures should, where possible, be standard throughout the organisation.
- IT is a tool that should be available to all appropriate staff.
- IT data and processes must be accurate, timely and secure.
- IT inputs should be output focused.
- IT applications must be cost effective and be able to be interfaced...
- In meeting immediate IT needs, longer term corporate and IT priorities should not be jeopardised

The following strategies and actions were adopted -

- Corporate systems will be implemented that allow access to non-confidential information across the organisation and to all users of that information.
- It shall be fundamental policy that non-confidential data is available to employees who need access to it, and where practical, software systems will be specified that facilitate access to corporate data.

- Where possible, corporate data will be managed and sourced centrally.
- Any corporate tender or specification must acknowledge that Council has unhindered right to access and use corporate data held in proprietary IT systems. This requirement must be spelled out clearly in any tender or quote specification, and again in any contracts negotiated with system suppliers.
- Client/Server technology will be fundamental to core systems specified and acquired by Council.
- All data with a spatial[1] capability must be identified, cleansed and prepared for access by GIS and other tools such as report writers and data analysis products.
- In order to achieve maximum benefit and flexibility, Shire systems must be capable of operating in a Microsoft SQLServer database environment.
- Our IT strategy for the future should be publicised amongst staff in a positive way so as to foster enthusiasm and a willingness to adopt new technologies.
- Training programs and skills audits should be revised regularly to ensure that the right people are in place to take up the challenges of the future.
- To ensure that Council is employing the best financing tools it can, a regular analysis should be carried out to compare the cost of capital incurred when Council's own cash is used to finance IT assets with the costs of borrowing and leasing. The outcome of this analysis should then be taken into consideration when developing short to medium range financial plans.
- The IT Steering Committee will be reconstituted, its key role being to influence the revision and development of current and future IT strategies and the policy that evolves from adopted strategies. The IT Steering Committee will also be a link between the implementation of strategic plans and policies and Executive management.
- Council must continue to investigate the options for using the internet to enhance external communication with residents, ratepayers and other stakeholders

The strategies developed early in the decade served us well and in many instances are still relevant, in which case some are repeated in this document.

[1] Spatial data is information about a subject that can be represented pictorially on a map or similar device, such as the locations of septic tanks, drains, registered dogs, Council properties, etc

Business Context

This section covers IT mission, vision, goals and high-level business principles, competitive pressures, regulatory and other macro-issues as they affect IT.

Its purpose is to make clear why the major directional decisions in the IT strategy have been taken.

Our mission

Our mission in IT is to –

- Provide and maintain computer, telecommunications and records systems that best meet the needs of our customers and allow them to perform their duties unimpeded and efficiently.
- Manage the access, storage and retrieval of information and to service the (information) technology needs of internal & external customers in a way which complies with legal, statutory and accessibility requirements.

Our Vision

We aspire to an Information Services Unit that –

- Delivers the right information at the right time, through the appropriate access methods to every customer, both internal and external
- Facilitates the transition of data into information, and information into knowledge using integrated workflow and systems linked with Council's business processes.
- Has team members with the necessary skills to meet current and future needs.
- Is a team of committed, interactive people who have a sense of achievement.
- Peninsula Way objectives of open communication, teamwork, empowerment, delegation of authority, innovation and continuous improvement are Information Services unit work ethics and result in Mornington Peninsula Shire being a great place to work.

We value

- Creativity and Innovation in service delivery
- Reliability
- Consistency
- Making a difference / contribution
- Protection of the organisation's data and communications systems at all costs
- Trust
- Stability
- Learning
- Achievement
- Recognition
- Commitment

Our competitive pressures
In the context of service delivery, we do not 'compete' with other service providers.

Through the Peninsula Way Program Review conducted in July 2005, Council confirmed that it required an in-house IT environment to best suit the needs of the organisation.
Our competitive pressures are similar to other areas of Council. We are charged with the responsibility of providing quality IT services to the organisation and in doing so we commit large sums of ratepayer's money which we must spend wisely. IT budgets must compete with all other areas of Council and as such, we need to obtain maximum value from our outlays.

We also have some internal pressures. (Almost) everyone in the Shire organisation has a reliance on Information Services in the delivery of their role, and IT systems must be available at all times during work hours (and are becoming increasingly required out of work hours).

Whilst past internal surveys indicate that over 90% of users are happy, very happy or thrilled with IT support, the main concern expressed by users is that service needs to be 'there and then', not within the agreed Service Level timeframe. The pressures of a small, very capable team and an organisation that is increasingly 'hungry' for IT resource and support is an ongoing challenge.

Regulatory and other macro issues.

- The Local Government Act 1989 is the relevant legislation that impacts on IT strategy.
    - S186 restricts the power to enter into contracts.
    - Division 3 relates to Best Value principles
    - S 82A requires a Council to maintain an Internet website
    - Other provisions in the Local Government Act deal with accountability, staff code of conduct, employment contracts etc.

  More information on the Local Government Act is available in the appendices on page 52

- The Information and Communications Technology (ICT) Steering Committee consists of all Directors, the Manager Information Services, the Internal Auditor and the Managers of TS&D and Communications. The ICTSC has no authority in its own right and has no executive management role or responsibilities for service delivery, however, it is a forum to guide priorities and standard setting, initiate major projects and proposals, identify opportunities for service enhancement, measure progress and support staff learning programs. It reviews and monitors strategy, guides investment and is involved in forward planning and policy formulation. It is also a forum for brainstorming and a sounding board for discussion on products and opportunities.

- Council policies, procedures and ethical standards in relation to IT operations and staff conduct are particularly relevant. A number of specific IT policies are in place, including
    - Electronic communications
    - Network passwords
    - Mobile computing
    - External access to systems
    - Confidentiality
- Various human resource policies such as the staff code of conduct also impact on IT usage.

IT Contribution to Business Success

This section covers the critical success factors IT can provide to organizational performance by connecting IT activities and Unit business success factors

If IT ensures…

- that in relation to hardware -
  - that the right hardware is available for users, and it is secured against abuse and unauthorised access
  - that hardware is user-friendly, safe and operates effectively
  - that hardware is reliable, and replaced regularly so its functionality is kept up to date
  - that hardware is cost effective

- that in relation to software -
  - that corporate systems are available 24/7
  - that training is provided to ensure optimal IT use
  - that software meets user needs
  - is compatible with other corporate applications

- that in relation to data -
  - that data is corporate and is centrally available
  - that it is current
  - that it is secure from unauthorised access

- that generally
  - service standards are regularly met
  - that systems are reliable
  - that systems are accessible by staff who need it, including out of normal hours

Then IT will contribute purposefully to the Shire achieving its goals and objectives.

Peninsula Way Program Review (Best Value) Principles

Best Value principles were initially included in the Local Government Act as a means of ensuring 'what we do and how we do it' are the most effective means of providing a service to the community. As IT systems exist to service the Council organisation, in this context, "the community" is the Shire staff.

Whilst no longer required under legislation, Council undertakes its own Peninsula Way Program Reviews along similar lines, that is, to ensure that the services we are providing are what is required, and how we are providing it is the best and most cost effective outcome.

The IT Peninsula Way Program Review conducted in July 2005 confirmed that an in-house IT environment best suited the needs of the organisation.

Continuous Improvement Opportunities or innovations

The following continuous improvement ideas were implemented as part of, or additional to, the 2003 Strategy -

- Upgrades of corporate systems were assessed to ensure they continue to cost effectively perform the tasks for which they were deployed (i.e. not just accepted because the software supplier scheduled them).
- Councillors were resourced with a range of technologies including laptop computers, and broadband access.
- PC hardware replacement programs were outsourced to free up IT helpdesk staff from being diverted from normal staff helpdesk services.
- Business Continuity opportunities were improved by implementing continuous improvement principles. 'Fortress Mornington' was implemented, whereby an almost identical IT environment was developed at Mornington, the site ready to take much of the load should an event occur that shuts down the Rosebud data centre (this would not be possible without high-speed data communications, server consolidation and virtualisation, all innovations implemented within the last 12 months).
- Server Consolidation reduced energy consumption, improved storage space and reduced strain on air-conditioning necessary to keep IT hardware at the correct operating temperature.
- Opportunities to apply continuous improvement principles to network file storage has been effective in reducing network storage needs.
- The risk of breaches (malicious attacks – see page 44) through the infiltration of computer malware have been minimised due to the diligent application of proper monitoring tools and resources. As part of a continuous improvement program, automated systems now manage much of these tasks.
- Broadband services are always under pressure and within the last 12 months decade-old microwave technology – state of the art when implemented has now been replaced by more reliable in-ground fibre-optic cable that does not suffer the seasonal weaknesses of microwave, is ten times faster, and now opens up the Shire's networks to additional services like multi-point video conferencing, multi-media streaming and Voice over IP telephone systems.

All of these items have a positive impact on the service levels delivered to the community, Councillors and staff, and in the near future, much greater benefits will be felt when technology is used to minimise time and costs of travelling between sites, improve the flexibility and mobility of field workers, and remote access by staff working from home.

Strategic Agility

The IT industry is dynamic and fast moving.

To ensure that our IT environment aligns with the needs of the users, IT strategies must be reviewed annually in order to adapt to organisational change; to reconfigure business systems and redeploy resources as needed by the organisation.

IT Structure

One of our core service deliverables is to maintain an IT support function responsible for "front-of-house" applications and technical support, and a network team that manages the underlying IT infrastructure.

Given the physical environment we operate in (i.e. distance, number of offices, number of users etc); this all must be done effectively and efficiently.

Staff skills

The competency with which our IT staff manage and administer the IT environment is critical to team success. Our processes for recruitment, selection and ongoing training are based around having very capable people delivering the IT needs of the organisation.

A specific staff training program is in place to ensure that IT staff are appropriately skilled, (refer to the section on IT Structure/ Staffing/ Sourcing within this strategy for further details and recommendations).

Maximising and Maintaining Efficiencies

Computer technology facilitates efficiencies because it often takes care of mundane repetitious tasks, freeing up staff for better use of their time. Efficiencies also arise through integration and data sharing arrangements and through continuous improvement programs where the adoption of new ways of working can streamline throughput.

Investments in high-speed broadband now provide access to faster network infrastructure, making it possible for Hastings staff to effectively use GIS for the first time.

Other efficiencies have arisen since virtualisation has been available some two years ago.

The information management (SASSI) project workflows will streamline the way we work with information to an extent that was not possible with past systems.

Shared Services with Other Councils

Amongst Victoria's 78 Councils, there are opportunities to share services.

Councils with common installations of some of the more technically advanced corporate IT systems could consider shared development costs where similar outcomes are expected, and similarly IT equipped Councils could consider the benefits of sharing Business Continuity resources. For example, The City of Greater Dandenong and the Mornington Peninsula Shire have an almost identical IT structure. Given the improvements to broadband, each could plan to call upon the other for 'host' options should an emergency shut down occur at one of the Councils. Similarly, IT personnel could be made available to assist.

IT Contribution to Business Success – Strategy for the way forward

Issue	Strategy	Timeline and by whom
Confirmation that IT understands the focus of the Council organisation in its service delivery objectives.	Review organisational direction and how this might impact on IT service delivery is now included in the annual business plan for IT.	Annual review by Manager Information Services
Confirmation that IT is continuing to meet the IT needs of the organisation.	Review IT deliverables and service standards and how this might change to suit organisational IT needs is now included in the annual business plan for IT. Review the level of contentment users feel about	Annual Review by Manager Information Services Annual survey, Team Leader

Issue	Strategy	Timeline and by whom
	IT services by conducting an annual satisfaction survey.	IT Support
Not taking advantage of efficiencies arising from the use of technology	Review opportunities for improvements in efficiency by selective attendance at IT conferences, through regular meetings with IT service providers and other Councils.	Annual review, by Information Services Manager
Duplication of common efforts between similarly equipped Councils	Review the opportunities that may arise by planning to share resources with other Councils, particularly in relation to Business Continuity, staff training and 'back office' technologies. Investigate the pros and cons of forming an IT focussed 'strategic alliance' with one or more Councils.	Annual review by Information Services team leaders and outcome facilitators Annual review by Information Services team leaders and outcome facilitators

IT Principles

This section describes the IT strategic direction and vision for the future.

Information and Service Delivery

Council's role as a key deliverer of services to the community is very much dependent upon its ability to work with information. Council staff are information workers and they must have ready access to information to be productive at the levels we desire.

Good, actionable data exists throughout the organisation. Once converted into an information flow, it rapidly becomes intelligence or knowledge in the hands of decision-makers. A fast flow of good information to streamline processes, raise quality, and improve business execution is essential in the current economic climate.

Objective 1

To deliver on Bill Gates maxim……"The most meaningful way to be at the forefront of service delivery is to do an outstanding job with information" [2]

Availability of Information

Ensuring that information is available to all staff that need it will foster corporate communications that will benefit the team approach to client service.

Our requirement is that the right information is speedily delivered in the required format to the right people.

Objective 2

Information systems and the resulting digital data should be seamlessly available to all sections of the organisation so that they can get on doing what they do best.

The accuracy and integrity of data is a matter for which the Council is ultimately accountable to the community. Information gatherers may have exclusive usage of the data they collect during the exercising of their duties; however, the ultimate owner of the data is the community via the Council. Corporate data will provide the continuous development of best value through the need to maintain a common focus, regular review, corporate communication and quality processes.

Our organisation must operate efficiently under a physically decentralised structure; however, it is essential that critical information is sourced centrally. With the vast amount of data that is shared across the Shire, a consistent approach to data gathering, assessment, storage, management, review, access, modification and reporting is critical.

Objective 3

Data should be corporate, not departmental, and sourced centrally.

[2] Paraphrased from a quote by Bill Gates on page 3 in his book 'Business @ The Speed Of Light' "*The most meaningful way to differentiate your company from your competition, the best way to put distance between you and the crowd, is to do an outstanding job with information*"

External and internal communication

The opportunities offered in this environment are only limited by thinking in line with current levels of service delivery.

The internet is the fastest growing tool of change in the world today, and it opens up many opportunities for internal and (particularly) external communication.

To the extent that use of Microsoft products causes a range of issues (licensing, cost, lack of flexibility etc) the fact is that Microsoft has a 90% market share of all operating systems in use world wide[3], and all of the Shire's software systems sit on Microsoft platforms.

Objective 4

All production computer operating systems are to utilise Microsoft Windows.

IT Principles - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Information must be available to all users who need it	Implement Corporate systems so that access to non-confidential information is available across the organisation and to all users of that information.	Continuously reinforcement through all levels of IT decision making
Claims of local 'ownership' of corporate data	Non-confidential data is to be available to employees who need access to it, and where practical, software systems will be specified that facilitate access to corporate data.	Continuously reinforcement through all levels of IT decision making
Fragmenting of corporate data	Corporate data will be managed and sourced centrally wherever possible.	Continuously reinforcement through all levels of IT decision making
Software vendors may align their products to databases other than Microsoft's SQLServer.	In order to achieve maximum benefit and flexibility, Shire systems must be capable of operating in a Microsoft SQLServer database environment. This is a level of flexibility that is desirable and should be included in tender and quote	Continuously reinforcement through all levels of IT decision making

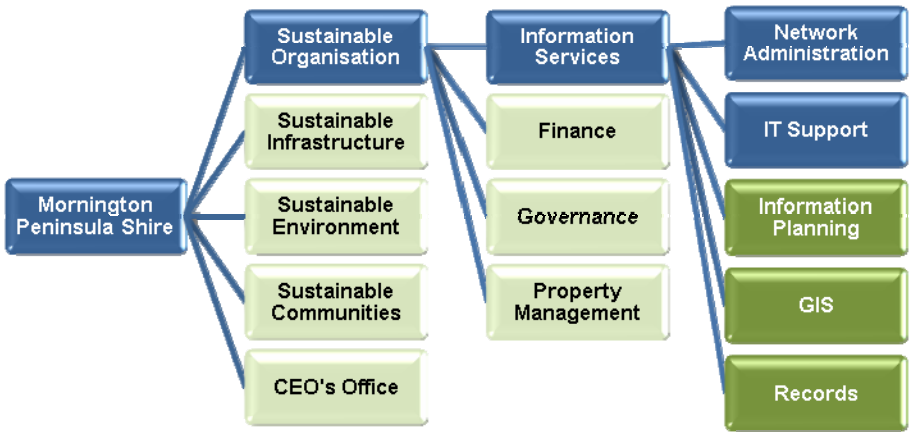
[3] There are now more than a billion PCs in active use worldwide, and the installed base of PCs is growing at an annual rate of almost 12 percent, so by 2014 there will be two billion PCs in use

Issue	Strategy	Timeline and by whom
	specifications.	
Vendors may propose systems that use proprietary or Linux/Unix operating systems	Review the relevance of operating systems appropriate for major systems. (For the time being Microsoft Operating Systems are mandatory requirements).	Annual review by Manager Information Services
Constrained thinking about using the internet more for service delivery	Investigate the options for using the internet to enhance external communication with residents, ratepayers and other stakeholders.	Annual review by Manager Information Services
No recognition of Industry Standards	Investigate aligning IT principles and practices with industry-leading best-practice models.	Annual review by Manager Information Services
Multiple versions of Microsoft Windows for the desktop and servers.	Assess the most appropriate Windows operating system, having regard for its licensing status and functionality when bundled with a new PC, the virtualisation program, administrative support, security features and cost effectiveness	Annual review by Manager Information Services

IT Governance

This section covers the IT Decision-making process

Information Services is a unit within the Sustainable Organisation group, comprising IT Support, Network Administration, GIS, Records Management and Information Planning.



In addition to normal statutory requirements, the Information Services unit is subject to Council policies and procedures, corporate strategies and professional ethics. Routine operational decisions on a day-to-day basis are the responsibility of the Manager Information Services; however, larger projects of significant cost are subject to more stringent rules. Advocates responsible for these projects must develop business cases for presentation to the ICT Steering Committee, the recommendations of which are put to the Management Executive, who in turn may approve the project outright, as in the case of a change of direction, or refer it to the Council if a tender was entered into.

A simple summary of IT decision making is as follows –

Issue	Approach
Routine, day to day operations	Rests with the IS Manager and IT staff. Authority levels governed by agreed service standards, purchase order authority levels and approved budget provisions.
IT hardware purchases	Rests with the IS Manager and IT staff Authority levels governed by purchase order authority levels and approved budget provisions, with ability to refer up to Director
System Operational decision	Rests with the IS Manager and IT staff, subject to consistency with Council Policies, IT Strategy etc. Operationally, also subject to Service Level Agreement.
System change or enhancement	Subject to a Business Case for presentation to the ICT Steering Committee, the recommendations of which are put to the Management Executive, who in turn may approve the project outright, as in the case of a change of direction, or refer it to the Council if a tender was entered into.

IT Architecture and Infrastructure

This section summarises the IT Operating Environment, including hardware and software systems

Overview

The IT architecture strategy is aimed at establishing a reliable and dynamic platform that caters for the Shire's present and future needs. Growth should be progressive, not a sudden reaction to change

Our IT environment is based on non-proprietary, best-of-breed hardware and software. This ensures optimal business continuity; all major software systems are maintained and serviced by the relevant vendors eliminating any dependency on specialised contractors; all hardware is "off the shelf" and readily sourced and replaced, with little or no customisation.

Closely coupled to this is the on-going strategy of server virtualisation which commenced in 2007. This has been driven by the demand for new applications and their need for individual servers. This was deemed as unsustainable using conventional methods as the space, power and cooling infrastructure of the Rosebud Data Centre could not accommodate this growing need.

Virtualisation has not only stemmed the hardware growth but has in fact substantially reduced it as well as providing reserve capacity for new applications. Power and cooling costs have dropped significantly in line with the Shire's Sustainability Initiative.

Current infrastructure environment

The Shire's core business operates from the three major offices at Rosebud (main operating environment), Mornington and Hastings. These sites are interconnected by Telstra broadband high speed communication links currently running at 1Gbps. The Telstra infrastructure allows for significant increase in data throughput allowing for future growth.

The main offices are augmented by a number of smaller satellite sites generally connected by microwave or Telstra DSL links.

The majority of the server hardware is concentrated at the Rosebud Data Centre allowing for centralised power backup and easy access by IT staff. A business continuity site is located at the Mornington Data Centre.

The Shire is now committed to a virtualised server environment with the majority of file and application servers virtualised.

Rosebud Office

Server Virtualisation Infrastructure – four Dell multi-processor multi-core virtualisation hosts in a single cluster connected to the production EMC brand Storage Area Network[4] (SAN). Several smaller servers running specialised systems that are unsuitable for virtualisation – these include the voicemail and Qmaster servers.

Desktop Virtualisation Infrastructure – three Dell multi-processor multi-core virtualisation hosts in a single cluster connected to the production EMC brand SAN.

[4] A Storage Area Network's architecture makes all storage devices available to all servers on a LAN or WAN. The server merely acts as a pathway between the end user and the stored data

Storage Infrastructure – EMC SAN with four disk enclosures (total raw capacity 15.5TB). The capacity is expandable by the addition of extra enclosures as required.

Backup System – dedicated backup system comprising of a Dell multi-processor multi-core server connected to a Dell storage system and tape backup library. Backup soft

LAN Infrastructure – HP Procurve switches in both buildings. These are provided with a lifetime replacement warranty.

Uninterruptable Power Supply (UPS) – MGE 20KVa unit with sufficient battery backup for one hour of operation.

Mornington Office

Server/Desktop Infrastructure – two Dell multi-processor multi-core virtualisation hosts in a single cluster connected to the Disaster Recovery EMC SAN.

Storage Infrastructure – EMC SAN with three disk enclosures (total raw capacity 7.5TB). The capacity is expandable by the addition of extra enclosures as required.

Backup System – dedicated backup system comprising of a Dell multi-processor multi-core server connected to a Dell storage system. Backup data is replicated from Rosebud on a daily basis.

LAN Infrastructure – HP Procurve switches. These are provided with a lifetime replacement warranty.

Uninterruptable Power Supply (UPS) – separate units for each rack of equipment.

Hastings Office

LAN Infrastructure – HP Procurve switches. These are provided with a lifetime replacement warranty.

Uninterruptable Power Supply (UPS) – single unit for the communication rack.

Server Hardware platforms

In the last two years, significant changes have occurred in the areas of server consolidation and virtualisation.

By way of explanation, before virtualisation it was only possible to run a single operating system on a server class computer (i.e. one for one). Due to application conflicts, this usually limited each server/operating system combination to a single application. This was very inefficient as most servers were underutilised and rarely exceeded 10% of their performance capability in running a single application.

With virtualisation, each physical server can now run multiple independent 'virtual' servers concurrently, each with its own operating system and application (i.e. one to many). Server utilisation can approach 80-90% performance capability with little if any decrease in application performance. This is a major reason why server virtualisation is so appealing.

Since 2008, the Shire has adopted and has been implementing a total virtualisation strategy. Historically, we deployed 40 application servers, and today we operate well over 50 applications, but we have only seven physical servers providing all of the computing requirements.

From a user-perspective, there's no difference but from a system administration perspective, the virtual environment offers optimal performance and business continuity. It can be cloned and backed up whilst operational, swapped to another physical server to maximise idle network capacity, and replicated to a second server at another location for business

continuity purposes. Virtual servers also manage the processing power, and disk storage is maintained centrally using SANs.

To maintain consistency, compatibility and ease of upkeep, all server hardware is "off the shelf" and sourced from 'tier one' vendors (currently Dell). All equipment is leased for three years and is fully covered by warranty and on-site maintenance for this period. This means there is little or no need for a maintenance strategy or budget.

The majority of the server hardware is located in the Rosebud Data Centre with a smaller number at the Mornington ~~IT~~ Data Centre.

Desktop Hardware platforms
We have some 750 PC's within our operating environment.

To maintain consistency, compatibility and ease of upkeep, all desktop hardware is "off the shelf" and sourced from 'tier one' vendors.

Desktop hardware is generally provided on three levels –

- Desk top PC's – provided for users who do not have a need for portability in their work environment or who have a need for specific hardware (for example, hardware which optimises Engineering Design software)
- Lap top PC's - provided for users who do have a need for portability in their work environment (either to allow them to work functionally from multiple work environments or in the field)
- Thin Client terminals – are effectively a dumb device that is used to control a centrally located virtual PC.

Through Thin Client terminals, virtualisation of desktop computers (referred to as Virtual Desktop Infrastructure, or VDI) is also achieved.

The virtualisation of a desktop PC involves setting up special software on a server that "tricks" the Windows installer into seeing a specially set up folder structure on the server as a stand-alone PC. Once installed, the virtual PC starts and runs the normal Windows operating system.

The master VDI session can be fine-tuned and have further software installed as required, and any number of clone VDI sessions can be replicated from the master. Typically a host server can house around 40 to 50 VDI sessions, and any desktop, laptop and thin client device can open a VDI session and present itself to a user as though he/she was accessing a local PC. This technology has significant benefits in terms of managing security, granting safe remote access, standardising systems, controlling licences, quickly setting up a training room, and more.

A new computer must be delivered with a version of Microsoft Windows installed, but any number of VDI sessions could be generated without each having a Windows licence, so Microsoft invented the Vista Enterprise Centralized Desktop or VECD which it sells as a solution to Windows licensing in a virtual environment.

The optimum number of virtualised desktops is, therefore, a function of the cost of the server and related licensing, the number of VDI sessions that can be setup, the cost of that many VECD licences and the savings attributed to paying less for a thin client and using it longer than a PC

Because the host computer is in the central IT environment and not on the desk top, VDI enables system administrators to:

- manage desktops centrally, simplifying desktop installations, backups and maintenance.
- control access to sensitive data and intellectual property by maintaining information in a secure data centre.
- provide individual isolated virtual desktops to end users that look and feel like a normal desktop.

VDI offers the organisation multiple benefits:

- desktop computers are replaced by Thin Client terminals making changeover or replacement much simpler.
- replacement cycles can be extended from the current three years to five years or more (because the Thin Client terminal does not contain any 'clever bits', which are all within the host server).
- a Thin Client terminal costs around two thirds the price of the PC (it still requires a monitor) and consumes a tenth of the power.

All PC's are leased for three years and is fully covered by warranty and on-site maintenance for three years. This means there is little or no need for a maintenance regime or budget.

Thin Client terminals have been acquired outright because of the economic benefits of retaining them for longer than three years.

File and Application Storage

In the past all file and application storage was in the form of hard disks built into or attached to each individual server. This was both wasteful (as excess capacity on one server couldn't be used by another) and expensive (as each server needed extra disks for redundancy and fault tolerance).

With the introduction of virtualisation, sharable centralised storage became a necessity. The most efficient way of achieving this was by a SAN. This is a dedicated storage device that is attached to and shared by all participating servers. It can be expanded as storage requirements increase.

The main advantages of a SAN are:

- Storage is shared amongst many servers.
- The extra disks needed for redundancy and fault tolerance are spread across the whole SAN rather than individual servers.
- The SAN can be replicated to another one at a different site for Business Continuity.
- Storage can be reallocated as needed without major interruptions or down-time.

With the introduction of virtualisation at the Shire, SANs were installed at Rosebud and Mornington.

Networks

The Shire's networks are all based on the industry standard Ethernet architecture. The TCP/IP protocol suite has been standardised across all systems. This combination is the de-facto standard for the vast majority of organisations world-wide.

Local Area Networks (LAN) use equipment supplied by tier-one vendors and carries a lifetime replacement warranty with a guarantee of next day delivery.

Wide Area Networks (WAN) are built around a combination of Microwave, DSL and Broadband point to point links. Again these are provided and maintained by tier one vendors ensuring reliability and continuity of service.

Wireless Networks (Wi-Fi) have been introduced at the three main offices. As more Wi-Fi enabled devices are introduced these should be expanded to meet the demand.

With the future of voice communications based on VOIP and Data convergence, all networks have been architectured to support these technologies.

Operating Systems
With very little exception all desktop, application and file server operating systems are Microsoft based. This provides consistency and compatibility across multiple systems and means IT staff can reduce complexity by leveraging a single major skill set.

Virtualisation software
The virtualisation host operating system is supplied by VMware, currently the leading supplier of virtualisation software.

Application and Database Software
The Shire desktop PC Standard Operating Environment (SOE) is based around the industry standard Microsoft Office suite of applications. Other applications are also sourced from major vendors ensuring support of these systems is prompt and readily available.

Specialised application software is primarily best-of-breed and is generally maintained by the respective vendor.

All of the Shire's major applications that require a database use the Microsoft SQL DBMS. This is now a mandatory requirement for any new system and ensures consistency and compatibility between these systems.

Mobile Computing
Our strategy is to fully support mobile computing, wherever possible, by utilising hardware that utilises existing investments in Microsoft products. Recent innovations in ruggedized laptops, very small netbooks, and tablet-style laptops with swivelling screens (to minimise damage to hinged screens) make them all suitable for use in the field.

Trials show that these devices are cheaper and more efficient to operate than PDA-type hand-helds that require specialised software and support (refer to comments under telecommunications).

Backup Systems

Disk Backup. A non-tape, disk-based data backup system comprising of dedicated hardware and Commvault software is located at Rosebud. There is a duplicate of this at Mornington.

All major application servers are backed up in full to disk on a weekly basis with daily incremental backups. Backups and recovery from a Random Access disk-based system is

always significantly faster than a tape system, and an added advantage is that ad-hoc individual files can also be recovered.

Off-site backup. All data is also written to tape on a weekly schedule and rotated between two internal fire-proof storage areas and the Shire's bank, consistent with best practice.
This backup is solely in place to facilitate the ultimate disaster recovery where all other systems are unavailable. This is also a historic backup.

IP Telephony
Refer to the section on Telephone Network within this strategy on page 37.

IT Architecture and Infrastructure - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Server hardware platform	Server hardware will be replaced on a three yearly basis to optimise warranty period and be sourced from 'tier one' suppliers Optimise virtual server technologies wherever possible and suitable	Annual review by Information Services team leaders and outcome facilitators
Desktop Hardware	Desk top hardware will be will be sourced from 'tier one' suppliers and generally based on three levels of hardware. Desk top PC's (generally for users who have specific operating needs) Lap top PC's (generally for users who have the need for portability and flexibility in operations) Thin Client terminals (for most general users)	Annual review by Information Services team leaders and outcome facilitators
Desk top hardware replacements	PC's to be replaced on a three yearly basis to optimise warranty period. Thin Client terminals to be replaced on an 'as needed' basis.	Annual review by Information Services team leaders and outcome facilitators
File and application storage	File and application storage will be based around SAN functionality where possible	Annual review by Network Administrator

Issue	Strategy	Timeline and by whom
	and suitable.	
Networks	Networks will be based on TCP/IP industry standard protocols, and be sourced from 'tier one' suppliers Optimise wireless technologies where possible and suitable. Assess microwave installations for replacement with terrestrial cable on an effective useful life basis, and replaced if cost effective.	Annual review by Network Administrator Annual review by Network Administrator Annual review by Network Administrator
Operating systems	Operating systems will be based on Microsoft technologies and periodically reviewed for functionality, primarily from a user perspective.	Annual review by Information Services team leaders and outcome facilitators
Virtualisation systems	Network operating systems will be based on VM Ware technologies.	Annual review by Network Administrator
Application and database software	Application and database software will be based on Microsoft technologies (and particularly Microsoft SQL DBMS software)	Annual review by Information Services team leaders and outcome facilitators
Back up systems	Backup operating systems will be based on VM Ware technologies and will consist of both tape and disk backup strategies.	Annual review by Network Administrator
Mobile Computing	Analyse current data gathering practices to determine if mobile computing can deliver efficient outcomes by reducing double-handling of data, thus increasing time available to deliver better	Annual review by Manager Information Services in conjunction with relevant unit management

Issue	Strategy	Timeline and by whom
	service levels. Keep abreast of the changing array of devices capable of support mobile computing. For example, micro and full sized laptops, PDA's, smart-phones, GPS devices, etc. Also take into account the robustness required of field based hardware.	Annual review by Information Services team leaders and outcome facilitators

IT Services and Processes

This section covers the specific services and resourcing provided by IT and the processes under which it performs.

IT Services consist of

- Technical Support – the front-of-house user-environment
  - Hardware procurement
  - Vendor support – Partnership with application vendors to facilitate upgrades, enhancements, troubleshooting and problem resolution
  - Software installation and maintenance
  - Staff Service Request (Helpdesk) environment
  - Desktop software installations and maintenance
  - Evaluating business cases

- Network Support – the back-office technical environment
  - Design the network architecture

Currently there are around 750 desktop and laptop computers supported by six full-time equivalent staff, a ratio of 125 computers per person. Industry standards are much lower than this ratio, and as Shire services grow, yet more computers will be procured, requiring increased IT resources, or other productivity strategies to service this growing environment to avoid a lowering of service standards.

To improve our productivity in servicing our users (and to avoid increased staffing), it is proposed to acquire a quality Helpdesk Customer Relationship Management (CRM) software application which would improve the recording, response and reporting of issues that impact on users. Responses and priorities can be tailored and targeted at the most troublesome areas to put the focus on the solution, and to monitor the delivery of service outcomes

Our strategy to ensure that IT services are provided reliably and effectively will be supplemented by -

- Employing industry standards in both our hardware and software operating environments.
- Using a standard Microsoft Windows desktop operating system, presently Windows XP service Pack 3.
- Deploying Microsoft Office, including Outlook as the Microsoft Exchange email client. The default desktop Office products consist of Microsoft Word, Excel, PowerPoint and Outlook, with Publisher, Access, Visio and Project being available where required
- Changing hardware over on a three yearly cycle (thus avoiding unplanned obsolescence and also avoiding maintenance issues through having a three year warranty period)

Procurement

Over the past decade, the price of IT hardware has fallen by 50%. To ensure the Shire engages in best value principles and complies with s186 of the Local Government Act 1989 – see page 52 for more information about S186 – the Shire where possible participates in State Government bulk buying arrangements with ministerial exemption under S186.

What to Buy

Not only has the price of a PC fallen significantly over recent years, but the value you can now acquire in terms of functionality, storage and processing power and speed has also improved amazingly. In simple terms, you can now buy much more for less.

We plan to further improve on our performance in terms of effective and efficient IT service provision into the future by developing a strategy that measures the pros and cons of desktop computing, taking into account

- Climate Change (energy consumption and waste disposal) issues. If notebooks are more energy efficient and cost differences are negligible when compared to a desktop, then perhaps notebooks will become the standard.
- Portability
- Quality of broadband in the context of the serviceability of dumb terminals over a network
- VoIP opportunities, eg a networked soft-phone allowing extension-level access anywhere
- Thin Client Vs "smart" device (computer). The issues here will include the risk of data loss when a computer is lost or stolen, Vs no risk with a dumb terminal.
- OH&S issues – all notebook users seem to want a large monitor and will cite OH&S as the reason to ensure compliance.

Logistics

Our current approach is that all PC's are delivered, unpacked, and installed by third parties. They also decommission the old PC and repack for return to the lease company.

Given that IT support staff need only commission the new machine, this approach has proven effective in ensuring valuable IT staff are not loaded down with large volume, low value jobs.

We should also continue to look for avenues to increase logistical support to minimise IT staff manually handling and transporting IT equipment.

Standard Operating Environment

The SOE is the default configuration for most computers – real or virtual – across the entire organisation. The SOE is a consistent configuration that everyone gets, on top of which specialised, custom applications are installed where required.

A typical SOE would include the Windows operating system, network access configurations, security, and other Microsoft products like Outlook for email, Excel and Word as a minimum.

Once built and tested, a disk is supplied to Dell who installs it for us during assembly of the PC in Malaysia, again saving time for IT staff in commissioning the new equipment.

IT Services and Processes - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Improved support at the Help Desk	Seek expressions of interest to implement an appropriate IT helpdesk system with a view of implementation during 2009/2010.	Review in July 2009 by Team Leader IT Support
Ensuring IT hardware purchases are cost effective	Participate in bulk buying schemes such as those organised by the MAV and the State Government that optimise economies of scale in purchasing IT equipment, having regard for the rules of competitive Tendering under S 186 of the Local Government Act 1989	Periodic review by Manager Information Services (anticipated to occur prior to the expiry of the current agreement)
What to buy	Evaluate the functionality and utility of desktop computer hardware taking into account Desktop PCs, Laptops and Thin-Client devices, having regard for – • Energy consumption • Portability • Quality of broadband (as it impacts on Thin Client terminals) • Voice over IP opportunities • Thin client Vs smart devices • OH and S issues.	Annual review by Information Services team leaders and outcome facilitators
Logistics	Review software pre-installation options, evaluating what operating system and core software environment can be pre-installed prior to delivery, best practices in manual handling, transport and distribution, and the automation of software distribution once computers	Annual review by Information Services team leaders and outcome facilitators

Issue	Strategy	Timeline and by whom
	are connected to the network.	
The standard Windows desktop environment becomes dated	Review the standard operating environment and adjust (eg Windows version, security configurations, set up to facilitate policy and rules) as necessary.	Annual review by Information Services team leaders and outcome facilitators

IT Applications Portfolio

The following summarises the main applications in use and the indicative level of usage.

Vendor	Product	Application	Used By…	Upgrade Path
Technology One	Rates and Property (Also known as "Proclaim")	Rates, Planning, Building, Infringements, Animals, Health Premises, Cash Receipting	In use by 350 staff	The annual Support and Maintenance agreement includes free upgrades; however, the pending Release 10 (labelled Connected Intelligence or CI) is a major upgrade that will be beyond the scope of IT on this occasion. Once upgraded, IT will revert to managing subsequent upgrades
Computron	Computron Financials	Creditors, Debtors, Trial Balance, General Ledger, Asset Register, Chart Of Accounts	Finance staff, Managers, Team Leaders and support staff responsible for budgetary control	The annual Support and Maintenance agreement includes free upgrades; however, the upgrade complexity needs a consultant, costing in the vicinity of $80k, and because of this high costs, Computron is on a three-year upgrade cycle.
Microsoft	Office	WORD: word-processing, EXCEL: spreadsheets, POWERPOINT: presentations and OUTLOOK: email	All staff with a computer	Microsoft Office is a component of the Shire's three-year Microsoft Enterprise Agreement (July 2008 to July 2011), which means that during the life of the EA, all upgrades to the next release of the software are free.
Frontier	Chris21	Payroll and Human Resource Management		The annual Support and Maintenance agreement includes free upgrades
Infovision	Ausinfo	Records Management, Document Imaging, filing, sentencing, archiving	All staff with a computer	Ausinfo is the incumbent Records Management system, being

Vendor	Product	Application	Used By…	Upgrade Path
Infovision	Amlib	Library management systems	The community at large that borrows books from libraries	The annual Support and Maintenance agreement includes free upgrades
Management and Executive Software PTY Ltd	BIS	Internal financial reporting	Managers, Team Leaders and support staff responsible for budgetary control	Paid-for upgrade, usually scheduled to occur once every three years
Merit	Merit	Customer Relations Management	All staff with a computer	The annual Support and Maintenance agreement includes free upgrades
Icon Global	Carelink	Community Services – Meals On Wheels, and Home and Community Care	Community Services staff	The annual Support and Maintenance agreement includes free upgrades
Aussoft	Webcomm	The Shire's website	Available to any web user.	The annual Support and Maintenance agreement includes free upgrades
Geomedia	MAPS	Geographic Information System (GIS) - Mapping geographical objects	All staff with a computer	The annual Support and Maintenance agreement includes free upgrades
Munitech	VM2000	Property Valuations	Valuers	The annual Support and Maintenance agreement includes free upgrades

Major systems – for example, Technology One, Computron, Geo media. Have been in place for some years, and are assessed by users as being very functional for purpose. At this stage, there is there is ***no immediate need for change in corporate systems.***

IT back-office software - for example, Microsoft Exchange for email, VMWare for virtualisation of servers and desktops, SQLServer, is a Relational Database Management System married to all larger applications requiring a database, Trend Micro for antivirus and Webmarshal and Mailmarshal for email and web filtering. Microsoft products have been in use for many years, and by enrolling in a Microsoft Enterprise Agreement, we protect the investments already made in products like Exchange and Office. The current Enterprise Agreement delivers a 19% discount on licence renewals and new acquisitions, and by paying an annual subscription, also less 19%, for support and maintenance (Microsoft call this "Software Assurance") we have the rights to upgrade to new versions of the software for no additional cost.
Current corporate software systems are currently assessed as to be meeting their objectives and users are generally pleased with the present environment.

There are other user-applications not in wide-spread use. For example programs for Immunisation and Maternal and Child Health, managing leased assets, child care and after-school programs and touch-screen cash-registers in leisure centres.

There is a concern that the whole IT industry is at the whim of Microsoft in terms of licensing arrangements, and we need to be constantly aware of the advantages in using Microsoft Enterprise Agreements and ensuring that any new software utilises currently available licensing.

In summary, there is no immediate need for change in corporate systems.

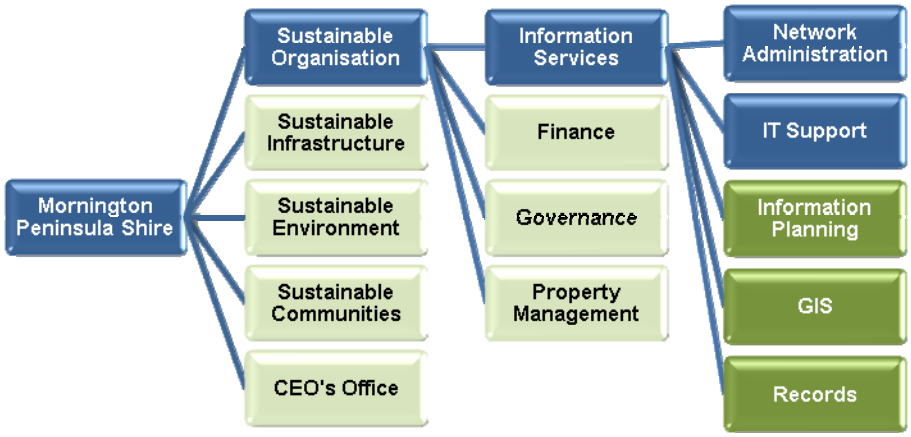
IT Applications - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Major systems	Assess the effectiveness of major systems in consultation with the various Shire user groups. In particular, review when major version upgrades are implemented.	Annual review by Manager Information Services in conjunction with relevant unit management
Cost effective Licensing arrangements	Review the Shire's needs for future Microsoft Licensing at the expiry of the current Enterprise Agreements.	Periodic review by Manager Information Services (anticipated to occur prior to the expiry of the current agreement)
IT Back Office software	Review back office software needs on an annual basis.	Annual review by technical IT support staff.

IT Structure, Staffing and Sourcing

This section summarises the arrangement and sourcing of resources to deliver the strategy

Corporate Organisation Chart highlighting the Information Services unit



Staff Structure

The following is the current staff structure within the IT Unit.

• Manager	1 EFT	Responsible for resourcing and strategic development of the IT environment
• Network Support	3 EFT	Responsible for the wide area and local area network infrastructure and servers that distribue over 40 applications and a range of IT services to staff right across the Shire
• IT Support	6 EFT	Responsible for the deployment and technical support of 750 computers

Apart from the challenges of supporting large numbers of equipment at a level above the industry styandard, there is no request for additional staffing at this stage. Other strategies to assist support services will be implemented as a first stage.

Required skills

IT staff are skilled professionals with a wide and varied portfolio of knowledge. To oversee the Shire's complex computing environment, the high-level skills necessary include

- Database administration – predominantly MS SQL Server
- Administration of a range of windows based servers including Windows Server 2003, Exchange Server, SQL Server
- VMware Virtual Infrastructure
- Anti-intrusion, malware, and malicious attack prevention (See page 44).
- IT security principals
- Troubleshooting hardware and software issues

- Wide knowledge of IT principles and the ability to react quickly
- Customer service skills.
- Understanding of emerging IT trends
- Expertise in a large number of corporate software applications
- Configuration and maintenance of network infrastructure including routers and switches.

Areas for skills acquisition

IT Staff have identified the need to participate in skill updates, both internal and external.

Skills need to be maintained in terms of corporate systems, office automation applications, server and desktop management tools, and personal development. The organisation has adopted a training model that allows for the identification of skills necessary to continue to perform the job at the required standards, and also to address discretionary skills acquisition. IT staff Team Building workshops identified a range of issues that impact on performance

- Communications
    - Regular team meetings
    - Interaction with other teams
    - Document IT and other unit projects
    - Implement an Majors and Minors projects board listing individual and corporate projects and initiatives
    - Implement an Immediate Problem area board
    - Communicate amongst each other
- IT Helpdesk
    - Implement a quality IT Helpdesk Customer Relationship Management software application
    - Use the outputs from the IT Helpdesk CRM to analyse and target responses
    - Publicise and distribute the IT Service Level Agreement
    - Carry out annual on-line Satisfaction Surveys amongst shire staff
- Workflows and People
    - Improve documentation, flowcharts and instructions
    - Opportunities to update both internal and external skills
    - Planning for change – In terms of major projects and initiatives, developing strategies and consult the team with timelines and outcomes.

A strategy has been developed with staff, and the various actions have been included in the Unit business plan and staff Learning and Development plans.

Training and Recruitment

The IT training budget is typically $15,000 annually to cover specific, non-corporate training deemed to be essential for IT staff to maintain ever-changing specialised IT skills.

The majority of this budget is consumed keeping up to date with IT technologies as they rapidly change.

The Shire's IT environment is quite conservative with Microsoft operating on tier 1 quality hardware deploying industry-standard Local Government applications across a very normal, mainstream network infrastructure. This very sustainable and stable environment is attractive to job applicants.

IT Structure, Staffing and Sourcing - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Resource Allocation	Review the number of devices supported by the IT Helpdesk annually to ensure service outcomes are delivered satisfactorily.	Annual review by the Manager Information Services in the second quarter in time for consultative and budget process
Multi-site support	Review staffing levels and service provision having regard for the needs of remote sites	Annual review by the Manager Information Services in the second quarter in time for consultative and budget process
Ensuring IT staff are sufficiently skilled to assist users and manage corporate systems	Review IT skill levels required within our IT environment. Develop individual Learning and Development plans for all IT staff to accommodate any changing needs.	Annual review by Manager Information Services and IT team leaders

Telecommunications

This section summarizes existing and possible ~~the~~ future situation with telecommunications

Telephone network

A major component of any sizable organisation is its telephone network, and the Mornington Peninsula Shire expects its phone system to work reliably at all times. Telephone systems at the Shire are complex and costly due to the multi-office environment and the internal private network that services it. The Shire owns its current NEC-branded PABX hardware but within the life of this strategy it will become obsolete and unsupported by NEC.

The present value of the capital expenditure required to purchase a suitable replacement PABX system would be in the order of $250k, with annual support costs of around $80k. Assuming a life of ten years, that's $1,050k, or $105k per year.

An alternative exists in which the Shire contracts for a VoIP[5] Managed Service which could be configured as an operating lease or a simple rental agreement with a vendor like NEC.

Such services are usually provided as a fee per phone handset per month. For example, $12 per month for 700 users is $101k per year, marginally less than present costs, without the overheads of owning and managing assets.

The benefits of such a system are

- No requirement for large tranches of Capital every five or ten years
- Costs are recurrent, applied against the year in which they are consumed
- The Shire's telephone system would be fully supported at no additional cost (other than the addition of new handsets)
- 'Technology Refresh' clauses would ensure that equipment continually meets our needs.

This may prove an appropriate course of action, so in terms of IP Telephony, we want to assess the opportunities and benefits of IP Telephony, including -

- Deploying Presence software and related licensing issues
- Deploying desktop digital handsets and/or soft phones
- Managed Service Vs Ownership Vs Leasing.

Mobile phones

Traditional mobile phones were little more than voice and text-message devices, however, within the last decade internet access and email has become the norm, and now fairly basic mobile phones are increasingly becoming multi-media devices with cameras, on-board entertainment features, and internet browsing capability.

[5] VoIP: Voice over Internet Protocol is a general term for a family of transmission technologies for delivery of voice communications over Internet Protocol networks such as the Internet or other packet-switched networks. Other terms frequently encountered and synonymous with VoIP are *IP telephony*, *Internet telephony*, *voice over broadband* (VoBB), *broadband telephony*, and *broadband phone*

New-generation devices more closely aligned to computers are now emerging, such as the Apple iPhone and the Blackberry. These devices are fast becoming the benchmarks for future mobile phone design and manufacture, and this style of phone will dominate the mobile phone market within the life of this strategy.

Our current standard is to provide a 'basic' mobile phone with minimal 'emerging' technology to required users.

We need however to carefully assess the benefits of this new technology, rather than have it introduced by stealth.

In terms of cost, the Shire's mobile phone operations were tendered in 2008, and a financially satisfactory outcome was achieved. The new contract arrangements, together with an improved reporting process on mobile phone usage has seen a real reduction in cost of mobile phones over the last year or so.

Mobile Computing

Personal Data Assistants (PDA devices) exist in two forms: Those with mobile phone capability (often called "Smart phones") and those without. In both cases the PDA has a distinct style with a larger screen, some have slide out QWERTY keyboards and others have touch-screen soft-keyboards. Most have a small wand that the user uses to tap active areas on the screen to select features or enter data. A PDA can show maps and photos, and because of its larger screen is better equipped visually than a dedicated mobile phone.
PDAs are popular because of their rich feature set, and they have been equipped to gather data in the field for immediate access to corporate systems if internet access is available or for cable-connected upload to corporate systems later.

From our recent trials and investigations there are four perceived weaknesses that can be attributed to PDAs.

- Data entry is limited in scope because wand-tapping large volumes of text is tedious and time consuming
- Programmers must be employed to develop special applications that accept taps on check-boxes or drop-downs, with the occasional typed monosyllable.
- IT staff would have to be up-skilled to manage PDAs in anything but a rudimentary way or the work outsourced at considerable cost
- PDA devices require their own suite of Microsoft Windows licences.

Whilst they appear a viable option where portability is essential, depending on the feature-sets PDA's are can be expensive, and they are not robust.

An emerging alternative to PDAs for mobile computing using a compact device is the relatively new Netbook. These are small, quite cheap laptops whose main purpose is to facilitate internet browsing and email. They are under-powered compared to a standard laptop, but as long as demands on them are kept low, they would be no less functional than a PDA and none of the four issues raised above apply.

Finally, fully functioning, full-powered laptop computers in several guises are available

- The familiar desktop computer replacement with the hinged screen

- The tablet computer with a swivelling screen that removes the risk of hinge-damage in the field. Many of these devices are also capable of hand-writing recognition
- The ruggedized laptop. These are laptops designed for a fall, and are generally water and dust resistant. Typically they can be dropped between 1 and 2 meters onto a solid surface and survive. Unfortunately this technology is not cheap, with a typical model costing three to four times the price of a standard laptop.

Once again, none of the issues raised in criticism of PDAs apply to laptops.

Where it is considered cost-effective to require field-based workers to gather and submit data in the field, the best tool for the job should be evaluated and recommended.

Video conferencing

Audio-video conferencing between the Shire and the outside world and between staff in the main Shire offices is now possible thanks to the recent upgrade to the Shire's private wide area network and the internet.

Video communications at this level can take three forms

1. An event at Rosebud being broadcast to an audience in the Mornington chamber via closed-circuit TV facilities
2. A video conference between staff at two sites (a many-to-many scenario)
3. Peer-to-peer functionality where staff with webcams can interact visually. This could take the form of one person or a few people at one site addressing one person or a few people at another site.

Trials have been carried out that prove the concept works, both between staff at the Shire and those at the MAV in the city, and internally over the Wide Area Network.

The benefits of Video Conferencing can be significant if it cuts back on travel costs and staff time spent travelling between sites. A Rosebud person driving to a one hour meeting at Mornington could consume at least two hours, whereas a video conference may involve just the hour with no adverse environmental impact or fuel cost.

Telecommunications - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Analogue telecommunications that must be replaced soon due to ageing and obsolescence	Investigate and implement if cost effective, a VoIP solution to ensure phones continue to meet our needs into the future.	Review to be completed by 31 December 2009 in readiness for consultative stage and budget process
Changes in mobile phone technology and the functions required in a business environment	Evaluate the functionality required of mobile phones, having regard for innovations in design and the cost-effectiveness of data plans.	Annual review by Team Leader IT Support

Issue	Strategy	Timeline and by whom
Mobile computing	Evaluate the best mobile computing tools to meet the needs of staff in the field.	Annual review by Manager Information Services in conjunction with relevant unit management
Optimising video conferencing opportunities	Implement a small scale video conferencing environment between the three main offices to test the functionality and productivity benefits that accrue.	Proposed to commence in July 2009

Information Management

This section summarises the direction the Shire is taking in terms of Information Management.

Whilst not specifically relevant to IT, it will (and has) significantly influenced our thinking over recent years.

One of the major challenges of continuing to meet the rising expectations of the community is managing the electronic information objects generated by information and communications technology.

Corporate information consists of officers' professional expertise and the information held and accessible by the Shire. Knowledge management is the leveraging of that information in support of the Shire's Mission to achieve the Community Vision in the Community Plan.

The following diagram illustrates the progression from data to knowledge:

Data ➡ Information ➡ Knowledge

The underlying principle behind the ECMS is that it will be seamless in its functionality to the user and has the capacity to satisfy the Shire's information management needs for the next ten years.

Project SASSI

The Shire is implementing a new information strategy under the following principle – "Seeking excellence in service provision through strategically managing the organisation's knowledge".

In a review of information systems in 2006, we concluded -

- We were not capturing important information (we estimate that only 30% of the electronic records were being captured)
- Information was held in a variety of systems and databases (some of which can 'talk' to each other, but some cannot),
- We wanted to embrace electronic records as a way of doing business (to benefit from the efficiencies that it can deliver as well as better use our knowledge base),
- The Shire was increasingly doing business electronically, leading to a growth in the number electronic documents that are generated (so efficiencies are necessary to manage workloads),
- The current records management system had limited ability to meet these challenges.

Project SASSI is a five year strategy to:

- Implement processes that will enhance the acquiring, creation and sharing of knowledge.
- Target efficiencies in capturing, recording, storing and utilising information,
- Implement cultural and technical foundations that will support these processes.

The cultural foundation is based on recognising the value of the organisation's knowledge by implementing a whole-of-organisation commitment to practices and procedures that encourage the flow of knowledge across the traditional boundaries.

The technical foundation is one that will successfully combine the operational imperative for fast, flexible access and flow of information, with the need for structure and stability in its management.

Stage 1 is the implementation of a new Enterprise Content Management System and its implementation is scheduled for July 2009.

Other stages involve the roll out of content management and collaboration with other corporate applications where appropriate.

To the extent that this is a discrete information management project, it is mentioned because there will be some significant IT impacts as the project is rolled out. IT staff are integral to the planning and implementation of the new software, and a range of other back office functions which will make the project 'tick'.

Information Management - Strategy for the way forward

Issue	Strategy	Timeline and by whom
How to • Establish a knowledge-centred culture within the organisation • Have an integrated approach to managing the corporate information • Comply with legislative requirements for managing records	Implementation of Project SASSI.	Ongoing - by Senior Information Officer in his role as SASSI Project Manager

IT Risk Management

Generally
By building the IT architecture around “off the shelf” hardware and software components, risk is substantially reduced compared to a proprietary system.

Any defective hardware can be replaced within a minimum timeframe (days not weeks) and all critical software systems have been sourced from major vendors that maintain substantial support infrastructure.

The virtualisation infrastructure allows for automatic load sharing and relocation of the application servers between the hosts. Failure of a host has little effect on the application servers it is hosting as they are automatically re-started on the remaining hosts in that cluster.

Physical Security
As a consequence of some thefts around two years ago, it was decided to physically constrain all desktop PCs in the Hastings office, publicly accessible PC’s at Rosebud and as many in remote sites as can be achieved without damaging property or creating inconvenience.

In physical terms, securing cables are anchored to the desk and passed through Kensington key locks – small slots designed to accommodate a small hasp through which the locking cable passes. Since implementing this in a very high-profile way, no break in thefts have occurred but we have budget provision to continue this process as required.

Business Continuity
The recent installation of high speed point-to-point broadband links between Rosebud and Mornington initially and Rosebud and Hastings means that many of the past issues in terms of business continuity have been either significantly eased or avoided.

With high-speed point-to-point network links between Rosebud and Mornington, the Rosebud SAN will be synchronised with the Mornington SAN at high speed, continuously, in idle time throughout the day.

The virtualisation of servers means that at a given site, should a host server fail the virtual application servers that were running on that host are automatically restarted on the remaining hosts. Virtual application servers can also be moved between hosts with no downtime.

The Rosebud and Mornington server infrastructure will automatically replicate itself between sites every hour, continuously. This means that the loss of a server at Rosebud can be quickly re-established at Mornington, well within an hour, and the data will be current to within an hour.

All of the above combined with functional uninterrupted power supplies, means that applications are more available than ever before.

Virus or malicious attack

Within any organisation, malicious attack can come from many sources, including:

- Internal – generally from disgruntled employees intent on disrupting the business or by carelessness when using infected removable devices such as CDs or USB sticks (thankfully we have no evidence of internal attack).
- External – this takes many forms including:
    - Hacking – deliberate attacks designed to gain unauthorised access or disrupt business.
    - Email - generally in the form of phishing or virused attachments.
    - Trojans, worms and viruses – the common entry point being infected email or WEB sites.

The Shire uses a multi-pronged defence against these threats – namely:

- Policies – these spell out what is acceptable behaviour of staff using the Shire's systems.
- Firewalls – these are specialised hardware devices that are placed between the Shire's internal network and all external internet connections. They are dedicated to monitoring and preventing unauthorised external access and also filter out unsafe traffic.
- Anti-virus software – the Shire uses a state-of-the-art multilevel suite of software to protect against known threats. It is constantly updated on a 24 x 7 schedule.
- Email/WEB filtering – the Shire employs a suite of filtering software to guard against malicious email and WEB sites. This uses a combination of aggressive filtering and blocking to reduce threats posed by these sources.

All of these systems are reviewed on a regular basis to ensure they meet the requirements of keeping the risk to the Shire's systems to the absolute minimum.

Operational risk assessment

The following are the assessed operational risks for IT, and our existing plans for risk treatment.

Issue	Cause	Existing Controls	Risk Treatment
Outdated desk top technologies	Poor or ignored replacement strategy for desk top equipment. Lack of budget commitment to replace outdated technologies	We have a 3 year replacement program in place that is based on leasing desk top equipment; it is therefore enforced	Tolerate the risk Level of residual risk: None
Incompatibility of systems	Lack of a functional IT Strategy. Ability to acquire systems without a rigorous program of review that considers system compatibility	Compatibility with other systems is checked during the evaluation stage. The IT Steering Committee is a 'house of review' for new or replacement systems and through the presentation of a business case to them, system compatibility is reviewed	Tolerate the risk
Breaches of computer security by staff	Either accidentally or with malice, IT staff members could corrupt or even remove valuable data on the system	Various policies are in place. System and password controls are good. Network controls are good. Current procedures in place can assist in investigating any perceived security problem	Tolerate the risk
Not maximizing the benefit or optimising the use of information to make better & informed decisions	Lack of integration between systems. Lack of knowledge of systems. Identified in the Business Case for Project SASSI (Seamless Access, Storage & Sharing of Information)	New Information Management System underway	Treat the risk by ensuring that the SASSI contract is broad enough to cover this situation. It is a key element of the current project plan
Officers not understanding their responsibilities in managing electronic information	Lack of knowledge. This risk was identified in the business case for Project SASSI. (Seamless Access Storage & Sharing of	Some Weaknesses	Treat the risk by ensuring that the SASSI project plan covers the

Issue	Cause	Existing Controls	Risk Treatment
	Information)		appropriate training
Loss of Rosebud Office or IT environment at Rosebud	Fire/ power failure/ crime scene. Rosebud office is the "nerve centre" of communications, so the loss of it would cause severe disruption to communications without some sort of a plan to continue the service	Ensure BCP Plan is kept current and is tested from time to time	Tolerate the risk
Outdated equipment	Lack of planning for changeover. Budget restrictions on changeover strategy. Lack of knowledge of where the industry is going	A strategy for upgrade of all core communications hardware is in place. The five year Capital Works Program has regard for this strategy. We are also well aware of the need to continually review options for new technology	Tolerate the risk
PABX system failure	Lack of an appropriate maintenance regime. Lack of a Business Continuity Plan for communications. failure	An appropriate maintenance agreement with NEC is in place. A strategy to address a PABX failure is a component part of the BCP	Tolerate the risk
SQL Server environment corrupted	There is always a risk from virus/ worms/ hackers	Nightly backups are undertaken and integrity checks periodically undertaken. Anti virus software currency is maintained and servers patched as required	Tolerate the risk
Unable to manage increased complexity of IT environment	Lack of training of IT Help Desk staff. Lack of fundamental skills in IT Help Desk staff	Staff working in this area have a core level of IT skills that means they can manage most IT enquiries. Ratios of staff to computers and software packages are maintained at industry standard.	Tolerate the risk
Failure of back-up hardware	Hardware failure is the most likely cause. A power failure may have similar consequences	Back-ups are replicated between major offices. Critical hardware is duplicated. It is considered that this risk is well controlled	Tolerate the risk

Issue	Cause	Existing Controls	Risk Treatment
Untested recovery strategy for one of the core systems	Lack of planning or perception of need to specifically test recovery processes for core systems	Specific testing of system recovery for all core systems has been undertaken for all but payroll. Other minor systems are tested on a continuous basis. The establishment of 'fortress Mornington' has allowed replication of systems, which overcomes most of the issues of system recovery	Treat the risk
On-Line fraud Via E-Proclaim	Hackers persistently looking to access our system. Ineffective firewall management. Lack of security planning for remote access	Latest versions of remote access software are installed and web servers patched as necessary	Tolerate the risk
Loss of System through loss of power supply	Power outage at sub-station	Uninterruptible Power Supply systems are in place and would protect against short term outages (1-2 hrs) Outages of 4+ hours would cause major disruption and we do not have an alternate power supply	Treat the risk
Loss of Systems through microwave failure	Hardware failure within an individual microwave configuration (radios/ line of sight etc). Loss of a microwave tower (accident)	All microwave equipment is covered on a 4 hour business day response. There is an adequate equipment replacement strategy in place	Treat the risk
Virus/Malware Infection	Incoming electronic transaction can bring in viruses that can disable our system	Various anti-virus patterns and firewall software protections are in place and kept up to date	Treat the risk
Back-ups not completed in the time allowed	Data requirements and volumes can change rapidly. System is full of data files that need not be on corporate networks	IT has no control over the volume of data received and has no strategy to deal with it except to "get on with it".	Treat the risk

Issue	Cause	Existing Controls	Risk Treatment
Failure in back-ups	Back-ups are conducted overnight and occasionally fail due to software or communication problems	Failed backups are generally rescheduled immediately, meaning that this risk is adequately dealt with.	Tolerate the risk
Outsiders hacking into the Council's databases	Given the spread of our offices (particularly remote offices) and the increasing growth in staff accessing systems remotely, the Shire's corporate system could be open to attempts to access by non-Shire staff	Various hardware and software controls have been implemented. Network controls are good. Other stand alone systems not so secure	Tolerate the risk

IT Risk Management - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Physical security	Physically constrain any hardware located away from the three major offices.	Continuous review by Network Administrator
System reliability and continuity	Test the closing of the Rosebud IT operating environment and passing operations to the Mornington IT environment.	Continuous review by Network Administrator

IT Financial Management

This section covers the financial accountabilities and budget for IT.

The IT Unit is an Internal Service Provider whose customers are largely Shire staff and Councillors, with some assistance provided to Shire partners. IT budgets cover -

- **Operating Expenses**
    - Expenses for IT operations – Salaries and Wages, accommodation, office administration costs and overheads
    - Expenses for corporate IT systems Support and Maintenance, operating leases for IT hardware, telecommunications charges for all fixed and mobile phones, broadband services including microwave and printer consumables.
- **Capital Expenses**
    - Smaller, one-off projects are funded as Priority Works. These include cyclical upgrades of ageing microwave infrastructure, new software implementations, Business Continuity initiatives to replicate the IT environment at another site, and PABX upgrades. The budget process allows $200,000 annually for these projects.

Occasionally IT projects are funded by Government grants but in the main, funds are sourced from Council's consolidated revenue.

IT is a cost centre that strives to recover its avoidable operating costs by raising a recharge on each computer user. A key issue is that the calculation of the recharge is largely historic, and based on a percentage recovery, rather than a specific analysis of recoverable costs. This means that the cost recovered from users is not the full (or even close to full) cost of services provided.

In terms of hardware, Council has a planned, regular process of replacement, driven in large part by (3 year) leasing arrangements entered into for both desk top and back office hardware. Leasing of hardware has been periodically reviewed for cost-benefit, and we have regularly concluded that the cost of leasing is the best financing option for council given the various additional costs (such as cost of disposal) which comes from acquisition.

This financing decision should however be regularly reviewed.

IT Financial Management - Strategy for the way forward

Issue	Strategy	Timeline and by whom
Level of recharge recovered from users does not have an acceptable basis of calculation.	Review the method of equitably distributing IT departmental costs on a user-pays basis annually	Review by Manager Information Services prior to October 2009 and implement for 2010-11 budget
Cost of leasing Vs purchase	Review the benefits and dis-benefits of leasing IT hardware on the desk top and in the back office	Bi-annual review by Manager Information Services

Budget area	2008/09 Adopted $000's	2009/10 $000's	2010/11 $000's	2011/12 $000's	2012/13 $000's
IT Operating Statement Excluding Depreciation					
Expenses					
Salaries and Wages	720	743	781	816	853
Operating Leasing Costs	295	481	497	514	531
Support and Maintenance	849	836	865	894	925
Internet Services	162	142	146	151	157
Telecommunications	181	183	189	196	202
Consumables	60	55	57	59	61
Recharges	118	89	92	95	98
Other	45	34	34	35	36
Total Expenses	2,430	2,563	2,662	2,761	2,863
Costs Recovered from the Organisation	1,316	1,368	1,414	1,462	1,512
Cost Of Governance	1,114	1,195	1,248	1,298	1,351

It should be noted that from 2007, IT leases, formerly Finance Leases, are now treated as Operating Leases

As at 30 June 2008, extracted from the 2007/2008 Annual Report		
Assets		
Shire IT Assets at cost	1642	
Less Accumulated Depreciation	1598	
Sub Total	44	
Made up of		
Microwave poles		
Wide area network switches		
UPS hardware		
PABX hardware		
Physical network infrastructure		
Leased		
Information Technology Leased	828	
Less Accumulated Amortisation	550	
Sub Total	278	
Made up of		
Residual value of several three-year finance leases for desktop and laptop computers and physical file servers		
Total	322	

Capital					
IT Priority Works	200	200	200	200	200

Challenges and Opportunities for the Future

Challenges

- **Vendor Licensing**
  Vendors depend upon revenue from sales of software enhancements and new modules, annual support and maintenance and consulting. Once the acquisition of a client-base reaches saturation, vendors must find innovative ways of survival, and one of these is to reform licensing arrangements.
  The Microsoft model is an Enterprise Agreement licensing regime that promotes an annual "Software Assurance" premium that assures customers of free upgrades during the three-year life of the Enterprise Agreement. Licensing grants permission to the subscriber to use some else's intellectual property for gain. The challenge is to tread the fine line between what we need and what the vendor is trying to sell.

- **Unavoidable Upgrades**.
  Following on from the previous point, vendors often produce regular upgrades in order to justify expensive annual support and maintenance charges. In most cases upgrades are "free" to customers who are current with their annual maintenance charges, but there's a hidden cost of installation, training, data conversion, and disruption. The exceptions are those companies whose upgrades are too complex for Council IT staff to install. In other words, the upgrade is free but $80k is charged to install it. Under those circumstances, such upgrades should be only be implemented when necessary.

- **Lack of Quality External Broadband**
  Business class broadband available to the Shire is limited when compared to our city-based colleagues. It is possible to increase the number of BDSL services, but each is limited to 4mbps, and is quite costly. Until we know the outcome of the national broadband rollout, internet communications will continue to be a challenge

Opportunities for the Future

- **E-Business**
  Council has not made significant investments in E-Business as yet, keeping our exposure to limited on-line payment functionality provided by Technology One, and "Easybiz" - interaction with the small business community via the State Government's Business Vic website.

- **National Broadband**
  The Federal Government is only now opening debate on the future of the nation's high-speed broadband. Once this is in place, it is anticipated that significant benefits will be available in the form of speedier communications, the conducting of new innovations over the internet and greater opportunities for on-line resource-sharing.

- **Social Networking**
  Social networks, sometimes referred to as "Web 2.0" are the Internet-powered relationship engines of the twenty first century. Popular sites like Facebook, Myspace, You Tube, Twitter and LinkedIn are all examples. These services specialize in facilitating connections between people who share similar interests or

professional pursuits. Whilst (as the name suggests) they are focused on social networks, and generally focused on GenX and Gen Y cultures, the initial focus of simple social interaction has now expanded to include the corporate world.

As an example, a major corporate manufacturer of computer hardware uses You Tube for training purposes. A computer repairman in Melbourne could log in to You Tube to learn how to carry out a maintenance task.

Organisations are utilising web-based groups by Google, Yahoo and Facebook to deploy information to interested parties. Community groups would be strong candidates for this technology.

Analysis following recent bushfire activity resulted in the police in conjunction with Telstra, trialling a broadcast SMS to all Victorians to alert them to extreme weather conditions. Vendors of similar systems immediately recognised a market and offered Councils similar services. Unfortunately the costs are high – in excess of $100,000 annually – so alternatives were examined. Twitter is a Web 2.0 short-messaging system in which someone leads and others follow (A celebrity sets up a Twitter account and interested "followers" subscribe). The Shire could use Twitter to deploy information to all who wanted to opt in. The service is free, and those who opt in can elect to be informed via a website, by email or SMS.

In conjunction with the Communications unit, the Shire should consider developing strategies to keep up to date with developments in social networking and utilise them where practical

Continuous Improvement

- **SWOT analysis**
  Further improvements in the presentation of this strategy will become evident when much of its content is organised to group it into internal Strengths and Weaknesses and external Opportunities and Threats

Challenges: Strategy for the way forward

Issue	Strategy	Timeline and by whom
The risk of vendor licensing becoming too costly and not relevant to our needs	Review licensing arrangements with vendors, • Questioning the present usefulness of the core software Vs the cost of maintaining it • Testing the market from time to time to see whether there are competitors with better deals	Annual review, second quarter every year, Manager Information Services
Upgrade for upgrade sake	Construct an upgrade strategy for each major application to ensure upgrades are beneficial and not unduly consuming Shire resources	Annual review by the Application Administrator

Opportunities: Strategy for the way forward

Issue	Strategy	Time line and by whom
Denying our stakeholders the opportunity to conduct more business electronically	Investigate opportunities to engage with stakeholders on-line, having regard for the limited capabilities of the Shire's internet connectivity	Continuous review by Manager Information Services
Missing out on the benefits of speedier communications	Develop strategy to maximise the benefits of the national broadband rollout when details become known.	Subject to further information
Missing out on communicating with key stakeholders in the community	Investigate ways that the Shire can take advantage of Social Networking as a means of communicating with GenX and GenY in conjunction with the Communications unit	Review by Managers Communications and Information Services as part of Communications Strategy

Continuous Improvement: Strategy for the way forward

Issue	Strategy	
Fragmented IT strategy	Apply SWOT analysis to IT Strategies.	Review by Manager Information Services six months after adoption of IT Strategy

Appendices

Regulatory and other macro issues.

The Local Government Act 1989 is the relevant legislation that impacts on IT strategy.

- S186 restricts the power to enter into contracts.

  Before a Council enters into a contract for the purchase of goods or services, or for the carrying out of works, to the value of $150 000 or more, it must-
  a. *give public notice of the purpose of the contract and invite tenders from any person wishing to undertake the contract; or*
  b. *give public notice of the purpose of the contract or the project to which the contract relates and invite expressions of interest from any person interested in undertaking the contract or all, or any part of, the project.*

- Division 3 relates to Best Value principles, which are.

  a. *all services provided by a Council must meet the quality and cost standards required by section 208D;*
  b. *subject to sections 3C(2)(b) and 3C(2)(e), all services provided by a Council must be responsive to the needs of its community;*
  c. *each service provided by a Council must be accessible to those members of the community for whom the service is intended;*
  d. *a Council must achieve continuous improvement in the provision of services for its community;*
  e. *a Council must develop a program of regular consultation with its community in relation to the services it provides;*
  f. *a Council must report regularly to its community on its achievements in relation to the principles set out in paragraphs (a), (b), (c), (d) and (e).*

Summary of Strategies