



SHIRE OF WYNDHAM | EAST KIMBERLEY

ICT STRATEGY

2020-2023

2020

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Executive Summary

In 2010, the Integrated Planning and Reporting (IPR) Framework and Guidelines were introduced in Western Australia (WA) as part of the State Government's Local Government Reform Program. All local governments are required to plan for the future of their district under Section 5.56 (1) of the Local Government Act 1995. Regulations under Section 5.56(2) of the Act outline the minimum requirements to achieve this. Whilst the minimum requirement of the plan is the development of a Strategic Community Plan and a Corporate Business Plan, other recommended core components include informing strategic documents such as a Long Term Financial Plan and issue or area specific strategic plans such as an Information and Communications Technology (ICT) strategy.

This ICT Strategy document explicitly defines the guiding principles to be implemented by the ICT section in the delivery of ICT services across the enterprise. It also defines the components of the ICT service delivery framework that will be used to ensure that services address governance requirements, are fit-for-purpose, innovative and sustainable.

The ICT Strategy also documents the current state of ICT, identified issues and the proposed future state along with a roadmap to transition to the proposed future state.

A review of the state of ICT at the Shire of Wyndham East Kimberley (SWEK) conducted over the past year and focusing on the areas of Infrastructure and Communications, Application Software and Service Delivery exposed a number of shortcomings that are negatively affecting productivity of Shire staff, expose the Shire to additional risk and prohibit the reform of business processes that would deliver better services to Shire residents via digital means.

As a result, it is proposed that three major reform projects are undertaken over the next three years, the time scope of this strategy: -

1. Project "Renaissance" – the refresh of the Shire's main application software which incorporates many of the services and functions delivered by the Shire and governance functions associated with these services.
2. Project "Marconi" – focussed on the connectivity between the Kununurra and Wyndham administration offices.
3. Project "Cloudbreak" – delivering the move of the Shire's productivity and collaboration service provision to the "Cloud", resulting in improvements of available services (Office365).

The "Strategy on a Page" diagram below summarises the action plan associated with this ICT Strategy and gives a visual representation of the focus of this version of the ICT Strategy for the Shire of Wyndham East Kimberley.

EXECUTIVE SUMMARY: IT STRATEGY FOR 2020-23

Statement of IT Strategy: To contribute to the Shire's goal of achieving its mission "To be a thriving community with opportunities for all" by providing streamlined IT services and innovations that enable operational efficiencies and introducing new IT-enabled solutions that enhance the customer experience.

State of IT in 2020

- Core business application (Synergy) is not fit for purpose
- Applications do not support governance requirements (EDRMS)
- Communication links across the Shire are problematic
- Service Delivery is too reliant on local resources
- Hosting strategy not defined – "on-site" preference by default

IT Initiatives

1. Upgrade or replacement of core business application with contemporary system that is fit for purpose and supports business processes and governance requirements
2. Establish Fibre Optic links where possible and practicable
3. Establish fit for purpose, sustainable communication links with Wyndham
4. Minimise on-site infrastructure in order to reduce the need for on-site support resources
5. Move to cloud services where appropriate
6. IT Support Service Delivery review to ensure continuity

Underlying Beliefs and Assumptions

1. Council approves core business application upgrade / replacement project
2. Council approves communications link project
3. Adequate funding is made available for the projects
4. No further deterioration of revenue levels

State of IT in 2023

- Core business application supports Shire operations, delivers innovation, increases productivity and meets governance requirements
- Operations are fully supported by core business applications and available at all sites
- On-site infrastructure is reduced to must-have, locality dependant devices
- IT service delivery is a hybrid model ensuring continuity and sustainability
- Most efficient, scalable and agile IT environment delivered to appropriate, explicit service levels
- Hosting strategy – "Cloud First"

Purpose

The Western Australian Government's Integrated Planning and Reporting (IPR) Framework requires local government authorities to develop Strategic Community plans and Corporate Business plans which outline the strategic goals for the authority. These plans document the resources required to achieve the strategic goals set and are in turn informed and managed by a number of contributing and informing strategic plans.

The Information and Communication Technology (ICT) Strategic plan is one of these informing strategies and forms part of the IPR framework.

Customer Service, Sustainability and Innovation are the key focus points of successful ICT service delivery and consequently form the key aspects of the Shire of Wyndham East Kimberley's (the Shire) ICT Strategy.

This document describes the ICT Strategy for the Shire that is aimed at: -

1. Ensuring alignment of the ICT strategy with the Shire's Corporate Business plan in order to support the delivery of the required outcomes under the Strategic Community Plan.
2. Establishing the principles around which service delivery will be based.
3. Documenting the current state of ICT at the Shire and describing the envisioned future state.
4. Providing a roadmap for the delivery of the program of works associated with moving from the current 'as-is' state to the described 'to-be' state over the next three years, the period covered by this document.

The delivery of the ICT Strategy will require a significant investment by the Shire in terms of both human and fiscal resources. As a result, successful delivery of the outcomes described in this strategy is contingent on the availability of the required resources and the support of all stakeholders.

ICT Vision Statement

"To contribute to the Shire's goal of achieving its mission 'To be a thriving community with opportunities for all' by providing streamlined IT services and innovations that enable operational efficiencies and introducing new IT-enabled solutions that enhance the customer experience."

ICT Strategy - Framework Components

The Shire's ICT strategy incorporates the recommendations developed by the Department of Local Government's IPR framework in relation to ICT strategy which is comprised of seven components designed to set the baseline for managing systems, networks and data.

The seven components are: -

- Governance – Strategies, principles and practices that guide the correct and effective delivery of ICT services and provides a framework for ICT decision making.
- Emerging Trends and Technologies – Providing challenges and opportunities for local government in managing ICT systems and resource, and delivery of future ICT services.
- Business Systems and Applications – Software systems and applications used by a local government.
- Infrastructure and Technology – Hardware and network infrastructure used to deliver local government ICT services.
- IT Business Continuity – Activities undertaken to enable a local government to deliver its ICT services.
- Security – Protecting information and systems from unauthorised access, use, modification, disclosure or destruction.
- Project Management – Planning, organising, controlling and managing resources to achieve specific goals.

The implementation of these principles will ensure that systems are effectively managed and developed, that systems and data are secure and protected and that the return from investment in ICT resources is maximised for the Shire.

ICT Strategy – Guiding Principles

In order to achieve the vision for ICT services at the Shire, the following guiding principles will be used to guide decision making and in doing so, build the culture of ICT.

1. Strategic Alignment – ICT strategic and operational decisions will be driven by, and aligned with, the corporate business strategy and the operational requirements.
2. Engage with the Business – The ICT team will ensure that there is a strong understanding of the business' operational requirements and expected outcomes through early interaction and collaboration with impacted business units.
3. ICT Infrastructure – The ICT infrastructure will be simple, well architected, fit for purpose, reliable, secure and will have a “cloud first” approach.
4. Service Excellence – The ICT Team will deliver timely, reliable, consistent and fit for purpose support services to all parts of the business with a focus on service continuity.
5. Business Systems – Where possible, business systems will be “Commercial Off The Shelf” (COTS) systems with a focus on minimal or no customisations in order to minimise ongoing support risks and costs.
6. Information as an Asset – Information will be valued as an asset and will be made available where possible to enable and support better decision making, improvements to service delivery and innovation.
7. Centralise ICT Decisions – Major ICT decisions requiring significant financial investment or with wide ranging impact will be made centrally in consultation with the business utilising a formal governance process.
8. Continual Improvement – System metrics, customer feedback and ongoing research into best practise and technology innovations will be utilised to drive continuous improvement

Current State / Future State

The ICT Service Delivery requirements can be broken down into three broad areas: -

1. Infrastructure (both internal and external to SWEK)
2. Application Software
3. ICT Service Provision / Business Support

The discussion regarding current state and future state of ICT within SWEK will be discussed in alignment with these areas of impact.

Infrastructure

Current State

The Shire of Wyndham East Kimberley currently has a virtualised server infrastructure which is hosted in a purpose-built server room within the Shire offices in Kununurra. With redundancy in physical hardware for both compute as well as storage, a suitably sized uninterruptible power supply, a backup generator and multiple redundant Internet connections, the Shire's ICT infrastructure is well equipped to deal with most unforeseen operational risks. Almost all of the applications used within SWEK are hosted on this equipment.

The ICT infrastructure also supports a number of external sites in Kununurra and Wyndham using a range of communication methods to connect them back to the Kununurra offices: -

Site Name	Communications Technology
Kununurra Depot	Microwave link
East Kimberley Regional Airport	Microwave link
Kununurra Landfill	Microwave link
Kununurra Leisure Centre	Optic Fibre
Kununurra Library	VPN Tunnel / Broadband
Wyndham Administration Office	VPN Tunnel / GSM
Wyndham Leisure Centre	VPN Tunnel / GSM
Wyndham Pool	VPN Tunnel / GSM
Wyndham Depot	VPN Tunnel / GSM
Wyndham Landfill	VPN Tunnel / GSM

Access to the application software is achieved through the use of the SWEK network where available and through the use of remote terminal access technology where the network is not directly available.

The Shire also maintains a CCTV network in Kununurra and Wyndham. Video data is recorded at three locations: the Wyndham administration office (due to bandwidth issues between Wyndham and Kununurra), at the East Kimberley Regional Airport (EKRA) (for redundancy issues) and at the Kununurra administration offices. Connectivity between the CCTV cameras and the recording equipment is achieved through a mixture of point-to-point radio, microwave radio and fibre optic cable. The Kununurra Police department have the ability to monitor the Kununurra CCTV network from the police station. The Wyndham Police need to attend the Wyndham administration to view Wyndham CCTV footage.

Disaster Recovery (DR) for the Shire’s ICT environment is centred around a “warm” DR site housed at the EKRA facility. Daily back-ups are stored in multiple locations as well as replicated from the “live” system to the DR installation via the microwave link between the offices.

Infrastructure Issues

Connectivity between the satellite offices across the Shire is a major issue at SWEK.

All connectivity with the Wyndham offices is via VPN tunnels across public Internet which is problematic from both a bandwidth as well as a security perspective. As a result, staff in the offices in Wyndham have a very degraded experience when utilising corporate application software. This impacts on productivity and in some cases requires workarounds in order to be able to achieve required outcomes. In addition, the CCTV footage recorded at Wyndham cannot be viewed remotely, impacting on the effectiveness of this system as a deterrent to anti-social behaviour.

Similar problems exist between the Kununurra based sites as well. Staff at EKRA, the Kununurra Library and the Kununurra Landfill experience similar issues to Wyndham staff.

The DR site at EKRA does not have a stand-alone Internet connection. In case of a disaster that required the commissioning of the DR site, it would be a requirement to establish such a connection which would most likely be based GSM services that may not be fit for purpose.

Future State

The compute and storage infrastructure at the Kununurra offices are fit for purpose and capable of supporting the Shire’s operations for the remainder of the useful life of the equipment which is at least another three and a half years. Any major changes to this infrastructure should be undertaken with a view of “Cloud First” in order to not miss opportunities that may be available through the leveraging of services such as “Infrastructure as a Service” (IaaS) or “Platform as a Service” (PaaS).

Connectivity should be moved to fibre optic where possible, practicable and sustainable. Connectivity between the Kununurra and Wyndham offices should be upgraded to provide better, more consistent service levels that are more secure and more predictable than the current methods. GSM services currently in use should be used as a backup in case the primary link fails. This would result in the following connectivity matrix for the Shire: -

Site Name	Communications Technology
Kununurra Depot	Optic Fibre to Kununurra Admin Office
East Kimberley Regional Airport	Optic Fibre to Kununurra Admin Office
Kununurra Landfill	Microwave link to Kununurra Depot
Kununurra Leisure Centre	Optic Fibre to Kununurra Admin Office
Kununurra Library	Optic Fibre to Kununurra Admin Office
Wyndham Administration Office	Microwave link to Kununurra Admin Office
Wyndham Leisure Centre	Optic Fibre to Wyndham Admin Office
Wyndham Pool	Optic Fibre to Wyndham Admin Office
Wyndham Depot	Optic Fibre to Wyndham Admin Office
Wyndham Landfill	VPN Tunnel / GSM

This will result in a fit for purpose communications network across the Shire that will deliver the services required in a secure and predictable manner and will ensure all staff have access to the systems that they need to interact with in their day to day employment.

The DR site at the EKRA facility requires a dedicated Internet connection with sufficient bandwidth to support operations.

Financial Implications / Funding

There is considerable capital investment required to deliver the connectivity improvements mooted earlier. Initial scoping of a fibre optic connection between the Kununurra administration office and the East Kimberley Regional Airport have been costed at around \$500,000. Similarly, the delivery of a microwave link between Kununurra and Wyndham will require a significant investment in infrastructure (microwave towers, radios, fibre optic links) that have been costed in excess of \$250,000 as well as an ongoing monthly access charge.

Based on these considerable costs, it is difficult to build a compelling business case for capital investment on this scale. Whilst the services are a pre-requisite for a number of planned projects, the return on investment based on existing opportunities is not attractive.

As a result, the approach for the delivery of these improvements will focus on the creation of joint ventures with other pertinent service providers in order to reduce the capital investment required from the Shire. Where available and applicable, we will also work with government, both state and federal, to deliver the required outcomes through any grants available to us.

Application Software

Current State

The Shire utilises many different applications in the day to day operations of the enterprise. Most of the applications are hosted on the in-house infrastructure described earlier. Some applications are cloud based and take advantage of the “always available, from anywhere” nature of such systems.

The Shire’s main application software is Synergy, an Enterprise Resource Planning (ERP) solution developed and supported by IT Vision in Perth. This software has been in use since 2009 across many parts of the organisation. Synergy is the system of record for many of the Shire’s services including finance, payroll, rates, records, building applications, health records, cat and dog registrations. It is regularly updated in line with legislative and other regulative changes. Synergy is best described as a “legacy” system due to its age and the technology it is implemented on.

The other application of note is the Shire’s corporate website which has been designed and implemented by an external consultancy and is currently hosted at a data centre in Geraldton. The website is reasonably modern and conforms to standards with regard to accessibility by people with disabilities.

Another important application to the Shire is “Being There”, a niche video conferencing service that has been in use at SWEK for many years. This service is important as it facilitates the remote attendance of Councillors at Council meetings and allows participation of Wyndham based employees at various staff and team meetings. It is also used by the HR team in the recruitment process and by other staff to participate in external, remote meetings.

Application Software Issues

The Shire’s ERP application, Synergy, has reached the end of its useful life. The application was first developed in the 1980’s and is based on outdated technology. As a result, it is not possible to take advantage of modern, productivity enhancing applications. It is also very difficult to retrieve data from Synergy, making it difficult or impossible to gain insights into the operations of the Shire. This results in a lack of transparency across business processes and therefore restricts the ability to improve processes and increase productivity.

It must also be noted that IT Vision, the creators of Synergy, have been re-developing their ERP offering over the past few years. In their recent client conference they re-iterated that there was very little on-going development of Synergy outside of legislative requirements and that their goal was to move existing Synergy users to their new platform, Altus.

Due to Synergy’s enabling technology, it is also not possible to introduce modern applications to support operations in the field using mobility solutions. It is also difficult to integrate other productivity and insight enhancing technologies such as workflow and business intelligence.

Whilst the current web site for the Shire is fit for current purposes, it is unclear at this stage whether it can integrate with Synergy to the degree required if the Shire moves to a more on-line focussed delivery of customer services in the future.

The “Being There” solution is another dated application that offers very little in the way of features or functions that are not available in other solutions. Whilst the application is fit-for-purpose, it does attract a significant monthly fee.

Future State

There has been an industry trend over at least the past five years for local government to move toward more on-line service provision to make interactions between the Shire and the public easier and more convenient. At the same time, industry as a whole has been embracing the concept of mobility for its workforce in order to facilitate efficiencies, working from the field and reducing bureaucratic efforts. In order for SWEK to be able to move to a similar model, major changes to the supporting applications will be required.

A major program of works is required to achieve this outcome, comprising of multiple stages to determine requirements, explore the possibilities available to SWEK from an upgrade or replacement of the Synergy system, acquire the application of choice and then move to that platform.

The proposed implementation of Office 365 brings with it a number of collaboration tools that will streamline and modernise certain aspects of the daily tasks being undertaken at SWEK. One of these is the "Microsoft Teams" application which is part of the proposed Office 365 suite of applications. This application is rapidly becoming the standard application used by businesses around the world to host and participate in video conferences and it is envisaged that SWEK will also adopt Microsoft Teams as the video conferencing application of choice.

Financial Implications / Funding

Given the fact that Synergy is not actively being developed, SWEK will have to move to a different ERP system or remain on the outdated Synergy platform. Ultimately, SWEK will be required to transition to another system as it is unlikely that IT Vision will continue to support Synergy once sufficient clients have moved to the Altus platform.

The costs associated with transitioning to another ERP system are significant. It is estimated that the selection process will require an investment of around \$100,000 to ensure that the new system meets all of the current requirements of the Shire. The acquisition of a new system, conversion of the existing data and training for staff has been estimated to cost around \$250,000. A replacement document / records management solution will require an initial investment of around \$100,000. Ongoing annual costs are likely to be similar to existing costs.

It is envisaged that a modern ERP solution and records management system will bring many benefits, both from a productivity as well as a customer service perspective. Whilst it is difficult to put a monetary value on these improvements, it is highly likely that the investment required to replace the outdated Synergy platform will be recouped over the time that the new solutions will be in service.

Whilst the implementation of Office 365 will incur an increase in annual licensing costs, the elimination of other applications, such as Being There, is expected to offset this cost.

ICT Service Provision / Business Support

Current State

Information Technology services are currently delivered via two sources; the internal ICT team at SWEK and through Fourier Technologies, a managed services provider based in New South Wales. The SWEK ICT team consists of two ICT Officers and a Manager – ICT. Under this arrangement, the SWEK team generally looks after project work, Level 1 support for infrastructure and applications, any tasks that require physical intervention and any project-based activities. Fourier Technologies manage all other aspects of ICT service provision.

The SWEK ICT team manages requests for assistance using a Help Desk application to record and track all ICT service requests across the enterprise. The Help Desk system utilised is also utilised as a repository for business forms in use at SWEK and functions as a basic intranet site for the organisation.

Business support, from an Information Technology perspective, is delivered by the internal ICT team in most instances. Any requests for assistance by staff members are triaged through the ICT Help Desk and assigned to the most suitable resource.

This arrangement is the same for SWEK staff irrespective of their location. As a result, there are many occasions where travel to and from remote sites is required or support is delivered in a remote manner via telephone or Internet / GSM connections.

Service Provision / Business Support Issues

The current delivery method for the provision of ICT and Business Support Services is fit for purpose and delivering strong outcomes for SWEK. This is in part due to a stable, highly experienced IT team and in part due to the current managed services vendor having been in place for three years and hence having a strong understanding of the SWEK infrastructure.

However, there are issues that should be considered and mitigated if possible.

Due to the geographical isolation of the shire, it is likely that staff will move to other localities and this would pose considerable risk for SWEK. Historically, it has been difficult to engage the services of an experienced Manager of ICT to drive the strategy and operations of the ICT department. This has resulted in the decline of service levels and necessary infrastructure not being maintained or improved.

There are also gaps in the services being provided by the incumbent managed services company, Fourier Technologies. Reviews of routine tasks carried out by the vendor has found issues that, if not mitigated, would have exposed the shire to additional risk. It is the authors opinion that Fourier Technologies are lacking in some of their processes.

Future State

The current hybrid delivery service delivery model is a sound method for the delivery of ICT services and ICT Business Support services. Recent projects undertaken by the ICT team have mitigated many of the identified risks and overall, service delivery levels are very high with SWEK staff in general being satisfied with the services delivered.

More emphasis is required on the managed services aspect of the delivery methodology. The managed service provider needs to be much more involved in the operations of SWEK and documentation, processes and procedures need to be shared between the SWEK ICT team and the service provider. Importantly, the ICT strategy should be understood and agreed to by the appointed vendor as this will mitigate the risk associated with the ICT leadership undergoing personnel changes.

Help Desk services should be shared between the on-site ICT team and the managed services vendor to ensure an ongoing sharing of knowledge and understanding of issues and limitations in play. The on-site ICT team should focus on tasks that require physical intervention as well as project tasks and business support service provision i.e. a focus on person to person tasks.

The current contract with Fourier Technologies expires in September 2020. This is an ideal opportunity to go to market and compare the offerings in this space. This will allow a better definition of the services and service levels required by SWEK and to understand the cost / value propositions available to the Shire with regard to outsourced ICT services. As such, this will be addressed as part of “Business as Usual” for the ICT team.

Financial Implications / Funding

It is currently unclear whether the charges leveled by Fourier Technologies is at the high end or the low end for the provision of managed services. This will become clear once we have responses from other providers as part of the service review being undertaken. The outcome of this review will in part determine the direction taken at SWEK with regard to the provision of IT services.

ICT Roadmap

As previously discussed, the Shire is currently constrained by the outcomes of poor strategic planning in the ICT space over a number of years as well as the issues associated with being located in a remote part of Western Australia.

Comparatively low levels of available communications infrastructure and talent acquisition and retention are examples of the issues inherent in operating in a remote part of WA and which are significant imposts on, and sources of risk to, the Shire. The combination of these factors has resulted in a number of issues including poorly implemented infrastructure, dated equipment, communication issues between sites and issues associated with high staff turnover in the ICT leadership and team.

From the application / business support perspective, the biggest issue facing the Shire is the currently implemented Enterprise Resource Planning system – Synergy. Due to the age of the application and the very dated technology it is built on, Synergy has many issues that limit its ability to support operations effectively.

In order to mitigate these and other issues in the Information and Communication Technology aspect for the Shire, a program of works is required to affect the following changes: -

Current State

- Enterprise software no longer “Fit for Purpose” including Electronic Document and Records Management solution (EDRMS)
- Limited on-line capabilities
- Limited process automation
- Poor communication between sites
- All required IT hardware hosted on premises
- Most support provided by internal resources
- Limited governance around IT services
- Data stored indefinitely
- e-Mail stored indefinitely

Future State

- New / Upgraded Enterprise software that meets requirements
- New / Upgraded EDRMS solution
- Digital delivery of tasks on-line
- Automation of business processes
- Fit for Purpose communications between sites
- Limited IT Hardware on premises
- “Cloud First” strategic outlook
- Hybrid support model with emphasis on managed services
- Strict governance around IT services
- Limited, controlled data storage
- Limited, controlled e-mail storage

The proposed ICT Roadmap will deliver the bulk of these changes through the delivery of three major projects over the period July 2020 to July 2022. The proposed projects are: -

1. **Project “Renaissance”** – This project will focus on the renewal of the Enterprise Planning Solution (currently Synergy by IT Vision) and the associated Electronic Document and Records Management System (EDRMS).
2. **Project “Marconi”** – This project will focus on the communication links between Kununurra and Wyndham with a view of connecting the two locations via a dedicated link that can deliver the required connectivity in a reliable, secure and sustainable manner.
3. **Project “Cloudbreak”** – This project will transition SWEK to utilise Microsoft cloud services for the delivery of its suite of productivity and collaboration tools (Office 365).