CLOUD FIRST POLICY - BUSINESS CASE TEMPLATE

premier

Office Of The Premier
PROVINCE OF KWAZULU-NATAL

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Version 1.0 Feb 2020

Accreditation

This document is platformed, with credit, on the DPSA Cloud first policy that is awaiting ratification. It contains the basis of the required information from the policy with upliftment to address pertinent financial decision making pertinent to cloud within the province of Kwazulu Natal.

Document Version Control

Date	Author	Version
23 January 2020	KZN OTP ICT DEPT	Version 0.0.1
28 February 2020	KZN OTP ICT DEPT	Version 1.0

Approvals

The Cloud First Business Case Template is approved by the Director General of the Province.

Name	Signature	Date

Review Period

This template will be reviewed annually or subsequent to any significant issue arising that has not been considered

Name	Signature	Date

Contact Information

For more information on this policy or to inquire about a variation that is not covered, pls contact the KZN Office of The Premier ICT Governance Department.

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Definitions/Glossary

DPSA	Department of Public Service and Administration
GCIO	Government Chief Information Office
GITOC	Government Information Technology Officer Council
SITA	State Information Technology Agency
PSA	Public Service Act
ICT	Information and Communications Technology
SSA	State Security Agency
ISO	International Standards Organisation
ISACA	Information Systems Audit and Control Association
NIST	The National Institute of Standards and Technology
CSP	Cloud Service Provider
HIPAA	Health Insurance Portability and Accountability Act (USA)
GDPR	General Data Protection Regulation (European Union)
IaaS	Infrastructure as a Service
PaaS	Platform as a Service
SaaS	Software as a Service
ISO/IEC27001/ ISO17799	Information security management Standard
4IR	Fourth Industrial Revolution
NPV	Net Present Value
IRR	Internal Rate of Return
WACC	Weighted Average cost of Capital

Legislative

Public Service Act 30 of 2007
Public Service Regulations of 2001 as amended 16 July 2004
Public Administration Management Act of 2014
Promotion of Access to Information Act, No 2 of 2000
State Information Technology Agency Act no 88 of 1998
Intelligence Services Act 65 of 2002 - SSA
National Archives of South Africa Act 43 of 1996
The Protection of Personal Information Act no 4 of 2013(POPI)

Foreword

Purpose of a Business Case
The primary aim of a business case is to provide information on the benefits, costs and risks involved with a proposal. It forms the basis for effective decision making as the province mobilises into the era of 4IR.

The business case must capture the reasoning for initiating the investment. Whenever resources are consumed, they should be in support of a specific business need. A compelling business case adequately captures both the business need and how the proposed investment meets that need.

The business case provides a basis for planning and implementation. It provides the justification for the investment, so the ongoing viability of the investment should be measured against the business case.

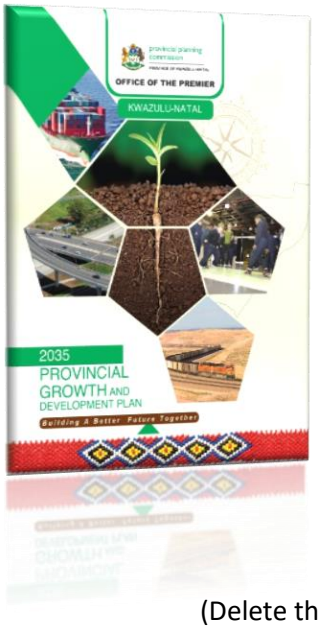
Business cases are evaluated to ensure:

- *the investment has value, importance and relevance*
- *the implementation will be properly managed*
- *the organisation has the capability to deliver the benefits*
- *the organisation's resources are working on the highest value opportunities*
- *initiatives with inter-dependencies are undertaken in the optimum sequence*
- *is aligned to the correct provincial initiatives*
- *the investment can be substantiated for audit purposes*
- *is aligned to a provincial program, avoiding irregular expenditure*
- *can be embedded to the annual GWEA execution artefacts : Appendix F1*

Executive Summary

Provide a brief description of the current on-premise or existing cloud situation here and why the proposed response is being mobilised.

PGDP and APP plan alignment



Select which of the PGDP Goals are being targeted by this intervention. (Delete the tick not applicable)

1	**Inclusive Economic Growth**	
2	**Human Resource Development**	✓
3	**Human and Community Development**	✓
4	**Strategic Infrastructure**	✓
5	**Environmental Sustainability**	✓
6	**Governance and Policy**	✓
7	**Spatial Equity**	✓

The following PGDP 2025 **strategic objectives** are expected to be impacted by this business case.
(Delete the tick not applicable)

High Impact, High Value Initiatives		
Inclusive Economic Growth	1.1 Develop and Promote the Agricultural Potential of KZN	✓
	1.2 Enhance Sectoral Development through Trade Investment Business Retention	✓
	1.3 Enhance Spatial Economic Development	✓
	1.4 Improve the Efficiency, Innovation and Variety of Government-led Job Creation Programme	✓
	1.5 Promote SMME and Entrepreneurial Development	✓
	1.6 Enhance the Knowledge Economy	✓
Human Resource Development	2.1 Improve Early Childhood Development, Primary and Secondary Education	✓
	2.2. Support Skills alignment to Economic Growth	✓
	2.3 Enhance Youth and Adult Skills development and Life-Long Learning	✓
Human and Community Development	3.1 Eradicate Poverty and Social Welfare	✓
	3.2 Enhance the health of communities and citizens	✓
	3.3. Safeguard and enhance sustainable livelihoods and food security	✓
	3.4 Promote sustainable human settlements	✓
	3.5 Enhance safety and security	✓

	3.6 Advance social cohesion and social capital	✓
	3.7 Promote Youth, gender and disability advocacy and the advancement of women	✓
Strategic Infrastructure	4.1 Development of Seaports and airports	✓
	4.2 Develop Road and Rail networks	✓
	4.3 Develop ICT Infrastructure	✓
	4.4 Ensure Availability and sustainability management of water and sanitation for all.	✓
	4.5 Ensure access to affordable, reliable, sustainable and modern energy for all	✓
	4.6 Enhance KZN Waste management capacity	✓
Environmental Sustainability	5.1 Enhancing Resilience of Ecosystem services	✓
	5.2. Expand Application of Green Technologies	✓
	5.3 Adapt and Respond to Climate Change	✓
Governance and Policy	6.1 Strengthen policy and Strategy Coordination and inter-governmental relations	✓
	6.2 Build Government Capacity	✓
	6.3 Eradicate Fraud and Corruption	✓
	6.4 Promote participative, facilitative and accountable governance	✓
Spatial Equity	7.1 Enhance the resilience of new and existing cities, towns and rural nodes, ensuring equitable access to resources, social and economic activities	✓
	7.2 Ensure integrated land use management across the Province, ensuring equitable access to goods and services, attracting social and financial investment	✓

The following provincial priorities are expected to be impacted by this business case.
(Delete the tick not applicable)

Priority	Target	
Priority No.1 – Basic Services	• Provision of clean water, sanitation, electricity	✓
Priority No.2 – Job Creation	• Infrastructure • Manufacturing – clothing and textile, • SEZ's • Support to farmers	✓
Priority No 3 – Growing the Economy	• Implement all catalytic investment projects with permanent coordination mechanisms • District Industrial Hubs and comprehensive support for industrial parks such as KwaSithebe, Ladysmith and Newcastle. • Linkage to Special Economic Zones namely Dube Trade Port and Richards Bay.	✓
Priority No.4 - Growing SMMEs and Cooperative	• Fight unemployment and eradicate poverty • Radical economic transformation programme – Operation Vula. • Promote small enterprise development and build a cooperative movement • Develop rural areas and township economy	✓

Priority No. 5 – Education and Skills Development	• Promote adult education • Improve quality of education – ECD, primary, Secondary and Tertiary education • Develop Technical skills and the evolving technological development which is part of Fourth Industrial Revolution	✓
Priority No. 6 – Human Settlement and sustainable livelihood	• Build Houses and target transit camps • Provision of health services • Provision of sports facilities, recreational facilities • Ensure all facilities are functional and provide services in an efficient and effective manner	✓
Priority No. 7 – Build a Peaceful Province	• Monitor functionality of police stations and police structures • Community Policing Forums to be functional	✓
Priority No. 8 - Build a caring and incorruptible government	• All departments are fully functional, effective, and strictly adhere to the public service principles of Batho-Pele • Operation Siyahlola which will focus on the functioning of the departments, government service centres and monitoring the implementation of government projects.	✓

ICT Goals, Objectives and Primary Indicators

State which ICT Goals, Objectives and Primary Indicators that this business case aligns to.

ICT Goal	ICT Objective	ICT Primary Indicators

Summary of Options

Use the executive summary to provide a brief description of the current situation and the proposed response. Provide a summary of the options including initial cost estimates and the strengths and weaknesses of each option. Where possible, rely on graphical representation more than text description. As a start, consider using a table format similar to the one below.

Tangible Financial Benefits

No.	Name	Description	NPV	IRR	Strengths	Weaknesses
1						
2						
3						
4						
5						

<Please arrange the table sorted by highest NPV>

<Insert a graph here to graphically depict>

Eliminated Providers

Cloud service providers that do not adhere to the ISO accredited and other criteria listed in the Cloud Policy should be eliminated and listed here.

Total Cost of Ownership

		Year 1	Year 2	Year 3	Year 4	Year 5	Total
Option One	Once off Capex						
NPV: R XXm	Operating Expenses						
	Total						
Option Two	Once off Capex						
NPV: R XXm	Operating Expenses						
	Total						
Option Three	Once off Capex						
NPV: R XXm	Operating Expenses						
	Total						
Option Four	Once off Capex						
NPV: R XXm	Operating Expenses						
	Total						
Option Five	Once off Capex						
NPV: R XXm	Operating Expenses						
	Total						

(Insert graph here to support metrics above)

Important Financial Benchmarks

Metric	Value	Note
Weighted Average Cost of Capital	6.0%	Obtained from Finance/Treasury department and used for NPV/IRR calcs
Exchange Rates (where applicable)	R/$ etc	Reliable source of rates to be indicated here with date and time of quoted rate.
Current CPIX	5.0 %	Indicate CPIX with source and date of rate
Current Reserve Bank Repo Rate	4.5 %	Indicate repo rate with source and date of rate

Financial Metric Assumptions and Implications

State all the relevant assumptions made in the calculations with the implications the executives need to know. A sample is provided below.

Assumption	Implications
Virtual Machine Mappings were done to the closest cloud provider equivalent.	The technical feature configuration is a consideration item for resolution with the technical deployment teams.
Remaining Useful Life Depreciation resale	The possible resale of assets with remaining useful life has not been factored into the discounted cash flow calculations as the resale potential remains unqualified.

Anticipated Savings Areas

The tangible benefits summarised below are moderated with qualifiers of :

Observable, Measurable, Quantifiable and Financial.

Benefit category	Benefit	Moderation
Capital Cost Reduction	• Hardware reduction costs • Software costs • Reduced Storage infrastructure • Environmental Impact – Power and Cooling etc • Upgrades vs Updates recurring project costs • Reduced Server Procurement Cycles	Measurable, Financial
Strategic	• Software licensing Optimisation • Strategic Digital Transformation Scenarios can be embraced, like e-Retailing, facial recognition of customers in store, precision promotion campaigns et • Business Intelligence Capability at a reduced cost overhead.	Measurable, Financial
Time to Value	• Computing Power scalability – mobilise projects immediately without major computing capex expenditure	Measurable, Quantifiable
Operational Cost Reduction	• Reduced costs of Administration • Staff costs – future and current • Reduced Audit Costs • Electricity costs • Server room maintenance costs • Reduction of IT Technical Debt	Measurable, Financial
Risk Reduction	• ISO Accredited Security Centres • ISO Managed Data centres • Reduced dependency on skills and aptitude deficits	Observable, Quantifiable

Intangible Benefits

Decreasing the weighting of services provided by the province from its own data centres will realise the material savings anticipated. There are both tangible and intangible benefits that are envisaged to be realised from this initiative. The tangible benefits above are now qualified with the associated intangible benefits that also plays a material role in decision making.

Non-Tangible Benefit Realization	Benefit Description	Benefit Realized
Digital Transformation – 4th Industrial Revolution	The 2018 Presidential State of the Nation address has emphasised the global opportunity and called for an embrace of the 4th digital revolution – to use digital transformation to empower and better lives of citizens. This business case aligns to this call to action. Savings from this exercise could be used in part to propagate the brand and promotional campaigns apart of the 2018 Scorecard Priorities.	✓
Security	The Cloud computing capability considered brings a new level of ICT security to the province which can only be embraced at significant cost to The province, let alone long-term commitment to skills and people to maintain & upgrade the security capability. The proposed cloud provider capability has a complex team of security experts that service this capability daily.	✓
ISO accreditations	There are over 70 trust accreditations globally including the following ISO accreditations which the cloud provider must have acquired. ISO 9001 ISO 20000-1:2011 ISO 22301 ISO 27001 ISO 27017 ISO 27018 The full list reference list is available here.	✓
Reduced Audit Non-Compliance	As a result of the host of accreditations held by the technology provider, audit costs and findings would be better mitigated by the audit concept of Audit Control-Reliance. The province is expected to spend less time mitigating the basic audit requirements of having IT infrastructure on-site with associated auditor savings.	✓
GDPR	The cloud provider must have extensive expertise in protecting data, championing privacy, and complying with complex regulations, and currently complies with both EU-U.S. Privacy Shield and EU Model Clauses. The province has a large European Union presence and this partnership mitigates The province being fully burdened by GDPR pre-requisites.	✓
Traditional IT Skills Deficit	As The province starts to scale to embrace the 4th industrial revolution opportunities, digital transformation capability will require additional skills if the traditional ICT approach is maintained. This will call for many additional skills withing the	✓

	province which will increase the annual salary bill by many posts and many millions of Rands – this is apart from facing skill deficit challenges in the local province geography.	
Artificial Intelligence (AI)	Artificial Intelligence is a leading global capability that will feature in many different scenarios at The province in the future. The province cannot easily embrace this capability internally – it will literally hundreds of millions of Rands to implement in-house but can be used at cheap commodity prices from the cloud provider. There are various scenarios with artificial intelligence that can contribute to the province's drive towards industry leading citizen care and remains a discussion item for the province.	✓
Machine Learning (ML)	Machine Learning is another 4th industrial revolution concept that can bring pattern and data insights for a range of decision improvements within the province. Service delivery capability will increase en-masse. It remains core to the future of technology and cannot be fulfilled without Cloud computing capability. No-doubt, Machine Learning speaks directly to assisting with province's goals of increasing citizen health, skills, safety, harmony and other metrics	✓
Scalability	A core enablement of Cloud Computing is allowing the province to scale-as-needed and not have to worry about purchasing servers, computing power and other key pre-requisites as is the case now. Time to market and value realisation will contribute to quicker organic growth prioritised for the province.	✓
Asset Inventory Risk	The province is expected to have reduced overheads to managed ICT servers i.e. Asset Inventory, Asset Maintenance and Asset Decommissioning when end of life. This risk is now passed to the service provider. See Appendix A for a detailed ICT asset depreciation list within the department, if interested.	✓

*** A detailed list of Cloud First Benefits is detailed in Section 13 of the KwaZulu Natal Cloud First Policy.*

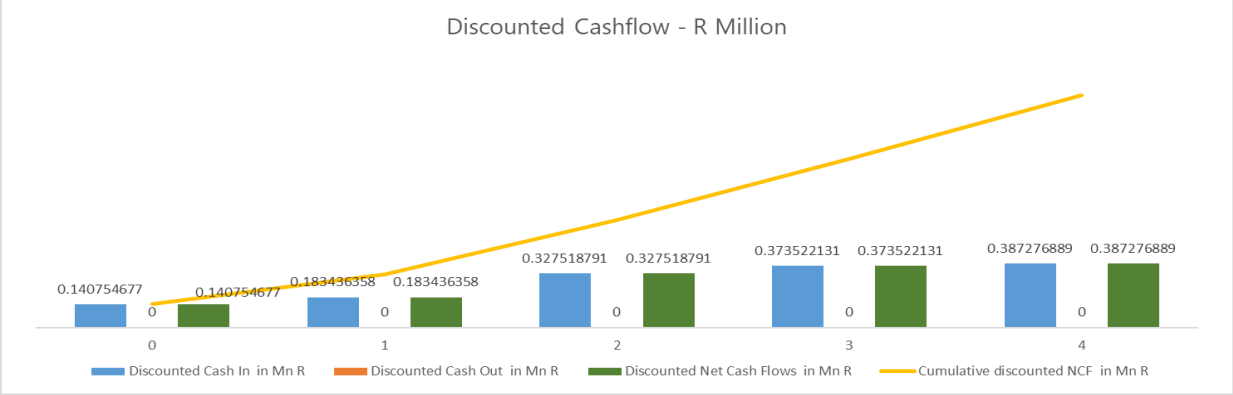
Recommendation

Insert rhetoric of why which selected option is recommended, taking into account the intangible benefits that need to be unlocked also.

Metric	Recommendation
Recommended Option	One, Two, Three, Four or Five?
NPV	
IRR	
Mitigating Intangible Benefits Summarised	
Most Important Reason for Cloud Provider Selection	
Recommend Risk Reserve Amount	
Resale/Redeployment of Existing Assets	State if assets can be sold to recover costs. If re-deployed, state the financial depreciation that can be recovered from the other state entity.

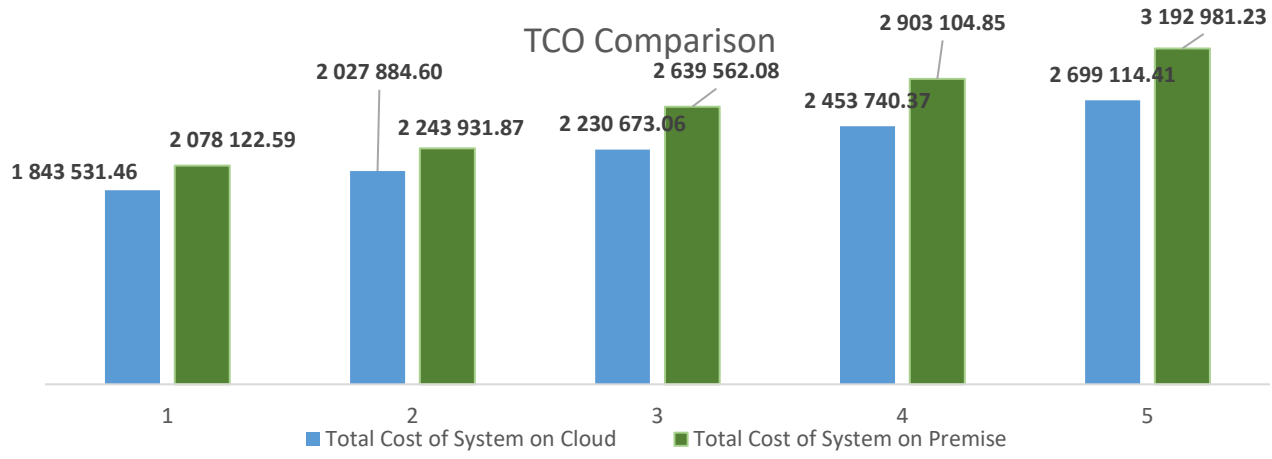
Expected Discounted Cash Flow of the investment

Graphically represent the cashflow of the investment.



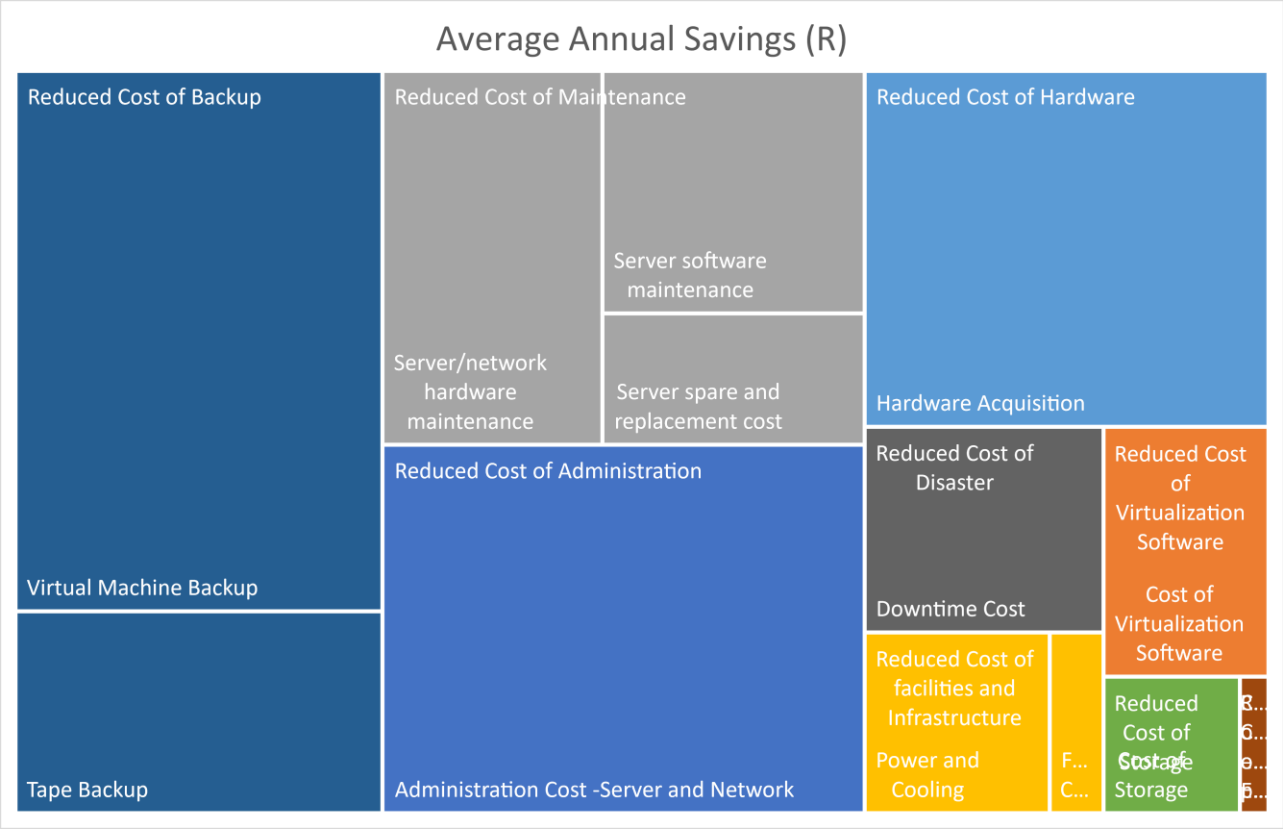
TCO Comparison

Graphically represent the TCO comparison for your recommendation



Highest Savings areas expected

<Insert a graph below of the biggest savings areas expected>

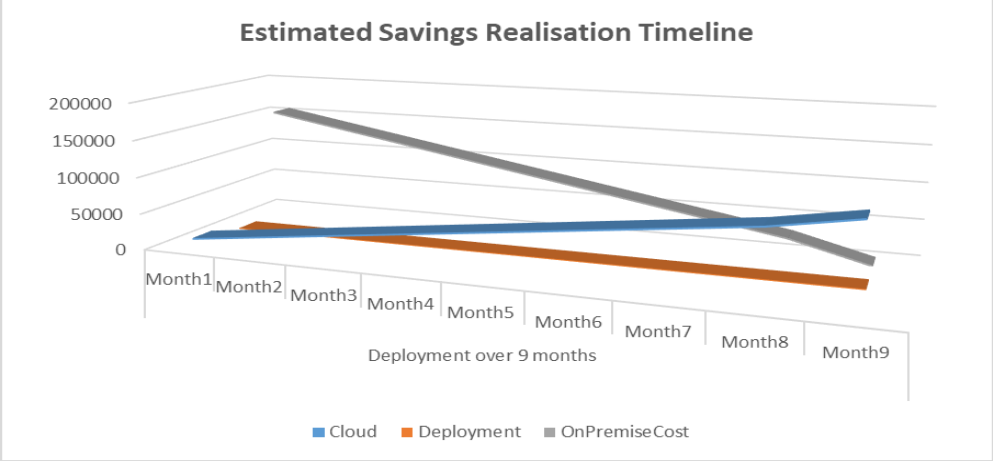


Probability of Success

Indicate your confidence factor on the probability of success after all the analysis is completed. Move the arrow.

Financial Savings Realisation Timeline

Provide an estimated timeline from when the cloud savings realisation will start being realised.



<Be sure to validate this projection against Appendix A and complete the risk log as applicable.>

Executive Top 3 Risks

The top 3 risks are highlighted here. A detailed risk register is presented below.

No.	Key strategic risk	Probability (1-5)	Impact (1-5)	Risk Score P x I	Mitigating action	Owner
1						
2						
3						

Project Execution Plan Summary

Provide a summary view of the project that will unlock the benefits of this recommendation.

Executive Summary Conclusion

State conclusion remarks for the recommended option.

Current Situation Contextualisation

This section sets out the problem that the Proposal is responding to, or the opportunity. Also, use graphs, reference material, images to tell the story of the current situation.

Insert context here

Policy/ Entity Context

State the business objective that would be realised through the available solution. Compare the proposed investment with your entity's strategic priorities. Refer directly to the outcomes and outputs in your department's Budget Statements, corporate plan and annual report. Include identification of any relevant entity risks that contribute to the triggering situation for the proposal.

Insert context here

Current Technical Environment

As a business case for a cloud solution is ICT enabled, describe the current situation not only from a business perspective – but also from a current technical perspective. The Technical Environment section should document relevant components of your current ICT baseline.

The section must describe any gaps that the project must address to meet the Statement of Success and performance indicators. Gaps may be specific elements or more general service levels related to current levels of interoperability, security and efficiency.

The purpose of this step is to clarify your ICT environment as it stands and any shortfalls. It is not useful to revisit past developments and events at this point. High level environment and architecture diagrams can be helpful, but keep in mind the audience for the document when thinking about the degree of technical detail to include.

Do not provide an empirical description of global computing or re-define technology indicators.

For example, the section should briefly describe:

ICT infrastructure (both hardware and software)
Insert text

Extent of virtualisation across the department
Insert Text

Voice and data communications facilities
Insert Text

Workforce skills and numbers
Insert Text

Network Performance Testing
Insert Text – has this been conducted ?

Security
Insert Text

Business Problem

Your cloud business case should begin by stating the practical business problem that options for a new ICT capability could help to overcome in achieving the government's policy and service delivery objectives.

Deployment of a cloud computing solution may address several business problems, including:

- *Facilitating virtualisation across the department (introductory, intermediate and advanced levels of virtualisation)*
- *Providing a low-cost option for systems development work through cloud computing options (rather than investing in ICT infrastructure for new development work)*
- *Enhancing the level of service delivered to stakeholders through rapid elasticity and flexibility of service provision utilising a cloud computing vendor*
- *Reducing agency and whole-of-government costs, such as:*
    - *reduced ICT costs through higher utilisation of infrastructure (optimisation) o re-use of existing assets*
    - *volume discounts*
    - *standardisation and simplification*
    - *Speed to implement*
    - *Overcoming the limitation and constraints of a current solution*

Insert Text Here

Stakeholder Impact

Describe the impact of the current situation on stakeholders. Where not applicable, state as n/a.

Stake Holder	Anticipated Impact
Political	
Social	
IT	
Legal	
Finance	
HR	
Administration	
Environmental	
Governance	
Citizen	

Current Situation Risks

Describe the risks that the current situation creates, and the risks of not responding to the current situation.

Include both business and technical risks. Note that this is a rhetoric of the current situation and not a tabulated risk table.

A few pertinent risk areas are proposed for attention here.

This section can be kept brief.

Current Cost

The ability to determine total cost of ownership (TCO) of existing systems will depend on the extent and maturity of the agency's ICT cost management practices. Data may be available from the Office of the Chief Financial Officer on:

- *annual ICT budgets for specific systems;*
- *charge-back costs to the business unit for specific systems or ICT business support;*
- *specific supplier expense costs such as hosting or consulting; and*
- *previous project costs to compare development alternatives.*

Where TCO or whole-of-life costs cannot be adequately determined due to a lack of data, a cost comparison of known costs may be sufficient to compare solutions. This involves a break-down of known or reasonably estimated costs for the legacy system and the Cloud solution alternative (e.g. licensing, development, customisation, hosting, maintenance etc). The business case should always attempt to compare like-for-like costs, and clearly identify where this is not the case, and where any assumptions have been made.

Downtime and breakages

State downtime and breakage issues.

Budget Availability

State overall budget issues that are unlocked.

Proposed Current Situation Response Summarised

Having identified the "Why" of the business case is being developed, the proposed response section outlines what is being proposed to be done in response.

This is about identifying the desired end state or destination, rather than the detail of "How" to get there.

Include a description of the proposed response, including any evidence that this will be an effective response to the current situation. This section should focus on 'what' is being proposed as a response, rather than 'how' that response can be delivered.

Strategic Alignment

Identify how the adoption of a cloud solution aligns with your department objectives listed in the policy/department strategic plan. Refer to your department's strategic plans to identify the outcomes that delivery of this response would support.

- Where relevant provide specific reference to the province's ICT strategic vision.

The technical environment and business environment sections that follow should describe the vision of the future state of the organisation, i.e. what will be different about the current situation from both a technical and business perspective as a result of the proposed response.

Technical Environment

Describe the future state of the technical environment based on the proposed response (not the specific options). High level environment and architecture diagrams can be helpful, but keep in mind the audience for the document when thinking about the degree of technical detail to include. This is optional. This section is not meant to be or replace a detailed technical architecture.

Business Environment

Describe the future state of the business operational environment based on the proposed response.

Benefits

Provide a statement of the benefits that the project will achieve and indicative timing for when they will be realised. Include information on how benefits will be measured and the expected targets to be achieved for each measure.

Include interim and longer-term benefits and include any identified disadvantages.

Proposal Summary

A summary of the information provided about the current situation, the proposed intervention using cloud solution options and the expected benefits.

A high-level visual representation of the cloud solution might be helpful.

Design Criteria

Include where possible the high-level requirements that any viable cloud computing solution will be expected to deliver against. Note the high-level business requirements that the solution must address.

These requirements provide the criteria for comparing options. Indications of relative value across the options will be informative. Consider areas such as:

Criteria	Selection note in context
Changes in business practices	
Transitional considerations	
Security considerations	
Dependencies across ICT platforms and architecture	
Reliability, availability and maintainability	
Usability, flexibility, scalability, interoperability	
Speed to deploy	
Major external interfaces	

Identified Options

The business case must consider the available options from a range of differing cloud computing approaches to using in-house or non-cloud capabilities. The agency's capacity to adapt business processes and support the introduction of changes in culture will also be important considerations in the evaluation of options.

The outcome will be a shortlist of options for analysis and comparison in the initial cost-benefit analysis. Normally this shortlist will include a base case (maintaining existing arrangements), a "do minimum" case (to address only urgent and unavoidable requirements) and two to three other options.

Provide the detail of each option in the Option Details section

Options Analysis

Summarise the most significant features of each option. Present a tabular comparison of the options against costs, savings, contract flexibility, implementation timeframe, design requirements listed above and risk. Note any preferences in a "Conclusions" line.

The table below presents a possible presentation.

Requirements	Option 1	Option 2	Option 3	Option 4	Option 5
Benefits					
Disadvantages					

Total Costs					
Totals Savings					
Flexibility of contract					
Estimated implementation timeframe					
Requirement 1					
Requirement 2					
Requirement N					
Implementation risks specific to the Option					
Conclusion Remark					

Critical success factors

An analysis of Critical Success Factors (CSFs) can be useful in determining how well each option compares against the project investment options and benefits criteria. CSFs are defined as:

> *"The attributes that are used to determine the successful delivery of the programme and which the available options are assessed against."*

CSFs will naturally vary from project to project and it is suggested that departments consider the CSFs for each project on a case by case basis and involve key stakeholders in determining the CSFs. An example of a CSF high level analysis is shown below. Suggestion is to score each provider out of 1-10 in the table below and obtain a rank score.

Key CSFs	**Option 1**	**Option 2**	**Option 3**	**Option 4**	**Option 5**
CSF1: Business needs *An identification of how the option meets agreed investment objectives, related business needs and service requirements*					
CSF2: Strategic fit *A description of how well the option aligns with the agency's ICT strategic plan and key elements of their forward work plan*					
CSF3: Value for Money *Identification of the option's value for money*					

CSF4: Achievability *A description of whether the option is considered to be achievable from the perspective of the agency's change management/adoption capabilities, whether the agency possesses the requisite skills to implement the option and whether key stakeholders support the option*					
CSF5: Supply side (vendor) capability and capacity to deliver services *A key element in any cloud computing proposal is an assessment of the cloud computing vendor capability and capacity to deliver contracted services.* *Part of this assessment should also consider the competitiveness of the specific segment(s) of the cloud market (e.g. IaaS, SaaS and PaaS) and whether market offerings are likely to provide a cost effective solution to the agency.*					
Total Score					

Implementation Approach

Having identified the problem to be solved and the options to be explored in response, this section of the business case is about confirming the agency's capability and capacity to deliver the preferred cloud solution.
Describe the implementation approach for delivering the cloud solution, including the approach to :

- *Market the implementation,*
- *The project/program management governance structures*
- *Key control and assurance processes,*
- *Describing variations for each identified option if different.*

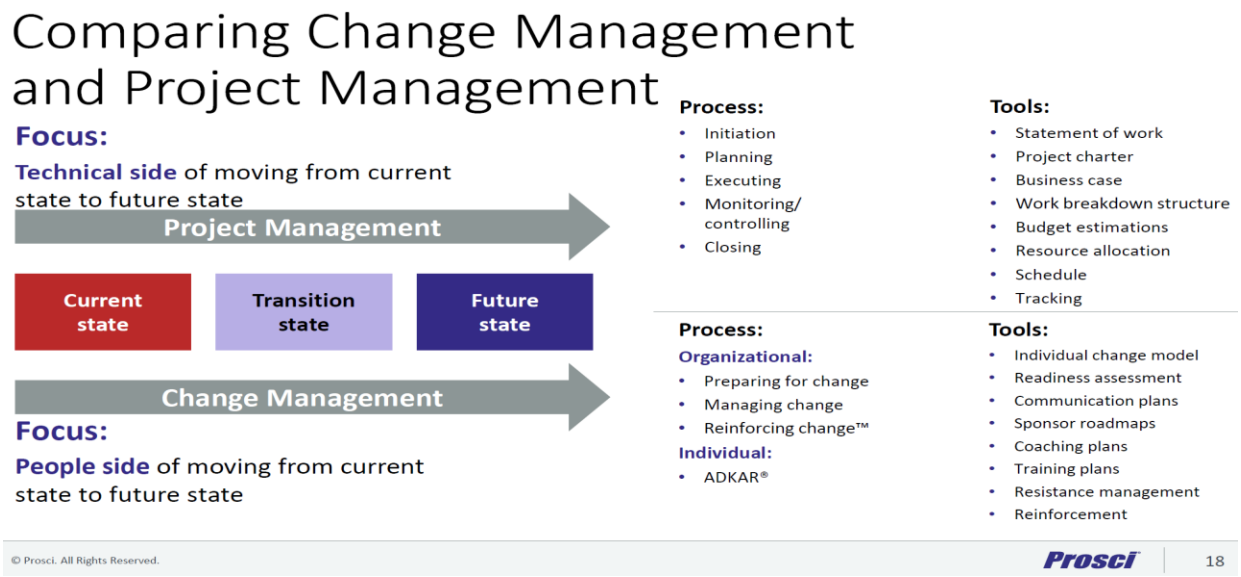
Implementation Approach Area	Proposed Response
Market the implementation	
The project/program management governance structures	
Key control and assurance processes	
..Add More	

Culture and Change Management

Make note of any changes that will occur in the organisation's culture that will support the deployment of the cloud solution

It may also be appropriate to provide a visual representation of the implementation through a roadmap, illustrating how the vision, implementation strategy and delivery strategy interrelate leading to the adoption of the solution. An industry Change Management methodology is recommended; Prosci as an example.

Be sure to include Change Management costs into the Project Budget but excluded from the TCO/NPV calculations when doing a comparison of cost heads.



Department Capability

The purpose of this section of the business case is to provide department decision makers and stakeholders with sufficient context to inform any decision it might make based on the department's organisational capability.

Identify targeted capability areas in project management, procurement/contract management, relationship management and service management which will have to be addressed. Identify required skill sets and determine which will need to be procured or developed in-house. Propose a high-level approach to mature capability in targeted areas. Include any costs in the business case.

Department should consider using tools such as the Portfolio, Programme and Project Management Maturity Model (P3M3®) as the common methodology for assessing organisational capability. The model can help departments identify capability areas which will need to be addressed.

Security and information assurance

This section is intended to discuss the issues associated with security and information assurance in respect of the proposed cloud solution.

Security Considerations

In terms of security, the business case should identify whether there are increased issues in relation to security arising from the move to a cloud solution rather than a non-cloud ICT solution. In particular, addressing the following areas in terms of security will be important:

- *The security classification/dissemination limiting marker and type of information being processed and stored.*
- *A summary of the security issues that relate to the proposed cloud solution. A risk-based assessment of the information to be stored in the cloud.*
- *An overview of the department's security assessment mechanisms that are used to determine whether CSPs have appropriate standards in place to meet the security requirements of customers.*
- *A CSP may have its own security standards frameworks, which can be summarised for this part of the business case, e.g. the CSP may use cloud encryption gateways to provide cloud security proxies or utilise specific quality assurance protocols for data transactions concerning individuals or businesses.*
- *A description of the type of security services offered by the preferred CSP, e.g. firewalls, intrusion detection systems, intrusion prevention systems, antivirus services, distributed denial-of-service protection services, messaging security and web gateway security services.*

The following security considerations are presented between on-premise and the cloud service provider.

Security Area	On-Premise Current	Cloud Service Provider
Security Standard Frameworks		
Legal		
Encryption		
Firewalls		
Intrusion detection and preventions		
Antivirus		
Auditor Overheads		
Advanced Threat Detection		
Dedicated Security Response Teams		
ISO accreditation		

Information Assurance

For information assurance, the business case should cover the following issues:

- *Department standards for information assurance and expectations that a cloud vendor will align with the standards as agreed in contractual arrangements.*
- *The steps that the department will take to ensure that the agreed information assurance standards are adhered to by the vendor during the life of the contract.*
- *Any department specific business processes that are used as part of an information assurance model that are to be replicated by the cloud computing vendor.*
- *An evaluation of information assurance for the CSP's services in comparison to the department's enterprise services.*
- *Focus on whether the cloud vendor offers high-assurance services that meet the department's requirements and whether a higher premium is paid by the client for high levels of assurance.*

Information Protection	On-Premise Current	Cloud Service Provider
Information Protection Standard		
Legal		
Department specific information protection consideration		
Information protection business process		
High-Assurance services		
Rights Protection Management Services		
Full user data classification capability (Classified, Confidential, Public etc)		

The KZN Cloud First Privacy Checklist is completed and attached as Addendum C of this Business Case.

Risks

A high-level risk analysis should be undertaken to identify the key risks and the potential mitigating actions associated with cloud computing options. Risks should be ranked according to the department's established risk management procedures. Refer to the National Treasury Risk Management Framework for more detailed guidance.

The following table provides some examples of risks and mitigating responses:

Key strategic risk	Probability (1-5)	Impact (1-5)	Risk Score P x I	Mitigating action	Owner
Business practices are not well understood prior to seeking cloud-based services via a vendor.				Department to conduct business processing mapping and analysis to identify business processes that will be efficiently managed through cloud computing solutions.	
Commercial arrangements for cloud-based services are not well understood by the department				Department to seek advice from their procurement area on the nature of commercial arrangements associated with contracts with cloud vendors.	
Business services with medium/high level risks are potentially identified for a cloud solution.				Departments to undertake scoping work to identify business services carrying low risk and potentially the most feasible services to transition to a cloud solution.	
Business continuity failure as a result of vendor with low capability.				Department to determine capability of CSPs during the commercial assessment of the tender evaluation.	
Security & information assurance failures				Department to determine the physical location of data storage under a cloud arrangement and to seek security/information assurance guarantees from cloud vendor. Only those services carrying low security risks should be in scope of provision via a cloud computing vendor.	
Asset Depreciation				Contextualise the asset depreciation against the projected benefit realisation timeline	

* Risks are rated according to the department's established risk management procedures.

RACI for Business Case Finalisation

The following RACI model is suggested and is not meant to supersede existing statutory roles and responsibilities. Items specific in this business case is mentioned in this RACI model.

Roles and structures ➢ / ICT Plan Functions ⮟	Senior Management	EXCO	ICT Management	Political Leadership	Strategic Leadership
Initialise business case aligned to APP and PGDP	R/I	A	R/I	R/I	R/I
Prepare Business Case with Technically evaluated options	R/I	A	R/I	I	I
Propose preferred technical solution aligned to financial analysis	R/I	A	R/I	I	I
Mitigate implications of non-tangible benefits	R/I	A	R/I	I	I
Engage with Treasury to confirm WACC Rate	R/I	A	R/I	I	I
Engage review of business case with legal dept	R/I	A	R/I	I	I
Engage review of business case with finance dept	R/I	A	R/I	I	I
Finance dept to verify NPV and IRR calculations of all options	R	A/R	R/I	I	I
Compare Global Benchmark Metrics (optional)	R/I	A/R	R/I	I	I
Mitigate existing hardware decommission (sale, transfer, recycle)	R/I	A	R/I	I	I

Appendix A : Existing ICT Asset Depreciation Horizon

The department is to provide a comprehensive list of applicable ICT inventory with remaining useful life. This will contextualise the capex spend risk being faced by the province and also qualify the timeline realisation anticipated as well as any risk mitigation expected.

Below is a sample of how the information should presented in a 6-month horizon period, with corresponding graph sample.

Pls highlight separately if straight line depreciation is not being used for selected assets.

AssetID	Asset description	Capex Date	Acquisition Value	Current Nett Book Val FYE	Note
6004340	Window server-computer centre	25 August 2009	R663 686.64	R0.00	Out of Depreciation
6004341	Window server-computer centre	26 August 2009	R663 686.64	R0.00	Out of Depreciation
6005524	San upgrade	30 August 2018	R2 607 817.93	R1 564 591	Within Depreciation
6005935	2x EMC Data Domain Backup Devices	31 March 2015	R1 531 536.00	R95 721.00	Out of Depreciation within 18 months
6006513	Avamar system	12 April 2015	R3 391 175.00	R847 793.75	Out of Depreciation within 18 months
6007827	Sap Hana hardware	29 April 2017	R2 933 196.00	R1 711 031.00	Depreciation greater than 18 months
		Total Asset	R40 564 044.19	R25 989 999.62	Remaining Depreciation
	Depreciated already	-R3 006 483.26			
	Depreciating in 18 months	R8 573 848.13			
	Depreciation Greater than 18 months	R17 416 151.49			

Depreciation Horizon

The depreciation horizon should be graphically represented as follows :

Re-Sale / Re-Deployment of Existing Assets

State if assets can be sold to recover costs.

If it can be re-sold, provide a quote or SCM procedure to dispose of the assets in a fair and equitable manner.

If re-deployed, state the financial depreciation that can be recovered from the other state entity and how this asset transfer was initiated.

Appendix B – International Benchmarks (Optional)

Whilst this section is optional, ideally the Cloud Service Provider should benchmark the costs and architecture against global research and best practices. The source of the benchmark should be quoted for reference and shown side-by-side for Year Zero costing. This insight will contextualise the purchasing parity and efficiency of the solution within a global context. Hyperscale cloud computing brings efficiencies and scalability that should also be realised locally in the province also.
Abbreviated samples are provided below.

Benchmark	Price	Source	Explanation of Variable
Server refresh rate	3	Forrester	Refresh rate for Server
Network equipment, % of physical server cost	20%	Forrester	Costs for switch ports, network interface cards, host bus adapters as a percentage of server acquisition cost
Annual server and LAN network software maintenance %	20%	Forrester	Annual server software maintenance including physical and virtual server software
Virtual servers managed per FTE (including LAN admin)	100	Forrester	Number of virtual servers managed per FTE including hardware, software, and network tasks

Sample Global Benchmark Comparison Sample

On-premise Cost	Cost Heads	Global Benchmark	Year 0 - USD	Year 0 - ZAR
Cost of Hardware				
This is straight line depreciation from The Province Inventory	*Current Hardware Acquisition (Depreciation)*	$ 613 542	$ 693 772	R8 112 808.84
Cost of Network				
	Network Cost	*$ 138 754*	$ 25 714	R360 000.00
Cost of Software				
* Per the Cloud Service Provider CPS	*Cost of Server Software - Windows*	$ 202 986	$ 176 524	R2 471 336.00
* Non Win-Tel benchmark license costs to be doubled per Greg. Actual not used.	*Cost of Support for RHEL, SUSE and Others*	$ 38 200	$ 76 400	R1 069 600.00
* VMware license costs reduced from original provision from The Province (was R1.8m)	*Cost of Virtualization - VMWare Annual Cost*		$ 55 440	R776 160.78
	Current Azure Consumption		$ 432 000	R6 048 000.00
Cost of Maintenance				
*The Province Provided	*Server/network hardware maintenance*		$ 211 429	R2 960 000.00
*Included in the blended cost provided above	*Server spare and replacement cost*	*$ 147 250*	$ -	
*RMS Cost per annum	*Operations and Maintenance (LSP SLA etc)*	*$ 121 792*	$ 83 786	R1 173 000.00
Cost of facilities and Infrastructure				
*Provided by The Province - includes carrier costs. Per month cost annualised	*Facilities Cost*		$ 262 286	R3 672 000.00
	Power and Cooling		$ 25 714	R360 000.00
Cost of Administration				
* One employees TCC annualised into dollars and then a quarter of his time (R35k per month), thereafter CPIX @5%. Global average estimates 1 FTE per 100 servers.	*Server and Network - Administration Cost*	*$ 106 875*	$ 7 500	R105 000.00
Cost of Storage				
Storage Costs blending in costs above.	*Storage Costs*	*$ 176 000*	$ -	
Cost of Backup*				
* Next Avamar Upgrade. Depreciation reduced before the next depreciation cycle.	*Backup Costs - Avamar Phase 2*	*$ 187 733*	$ 27 558	R385 810.60
Cost of Antivirus				
* Cloud Service Provider AV included in License cost above. The Province confirmed no other AV to be costed for non-Wintel platform	*Cost of end-point protection*	*$ -*	$ -	
Total Cost of System			$ 2 078 123	R29 093 716.21

Addendum C – Cloud First Privacy Checklist

Complete the KZN Cloud First Privacy Checklist Template and attach to this document.