Investment Evaluation Summary

Project Details:

Project Name:	*Enterprise Reporting Platform*
Project Id:	IT.BSS.02
Thread:	Information Technology
CAPEX / OPEX:	*CAPEX*
Scope Type:	C
Service Classification:	Standard Control
Work Category Code:	ITC
Work Category Description:	IT & Communications
Record Point ID:	R0000171718
Preferred Option Description:	The preferred option is to add new data sets and reports to the reporting system delivered by the integrated business systems project to end up with an enterprise reporting landscape for TasNetworks.

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Estimate ($)	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M
Total ($) 2017-2019	1,200,000 (comprised of $1,020,000 CAPEX, and $180,000 OPEX)									
Total ($) 2017-2027	6,000,000 (comprised of $1,740,000 CAPEX, and $4,260,000 OPEX)									

Governance:

	IES Section 1		IES Section 2	
Business Unit Review:	[redacted]		[redacted]	
Thread Endorsed:	[redacted]	18/05/2015	[redacted]	18/05/2015
Project Approver:				

Document Details:

Version Number:	1.0

Section 1 (Gated Investment Step 1)

1. Background

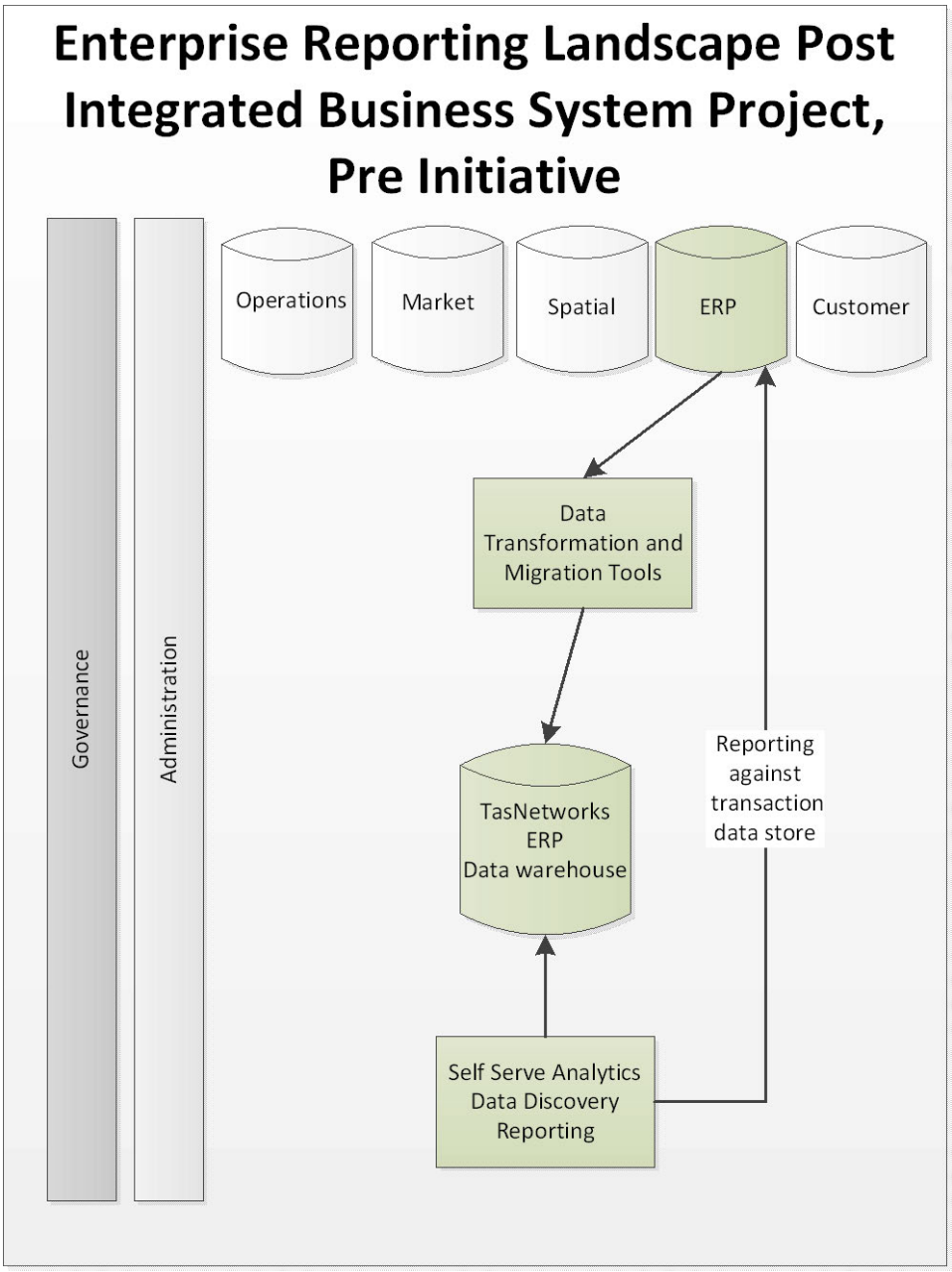
TasNetworks currently does not have a single enterprise reporting platform. The current reporting landscape is a mixture of technologies and single purpose databases.

It is a legacy born out of numerous historical organisational splits and mergers and also many short term solutions to solve an immediate reporting need. This has led to a complex reporting framework which does not effectively allow reporting across data sets and is complex to maintain.

TasNetworks needs an Enterprise reporting data warehouse that will allow TasNetworks to leverage all corporate data and allow flexible reporting across the whole business.

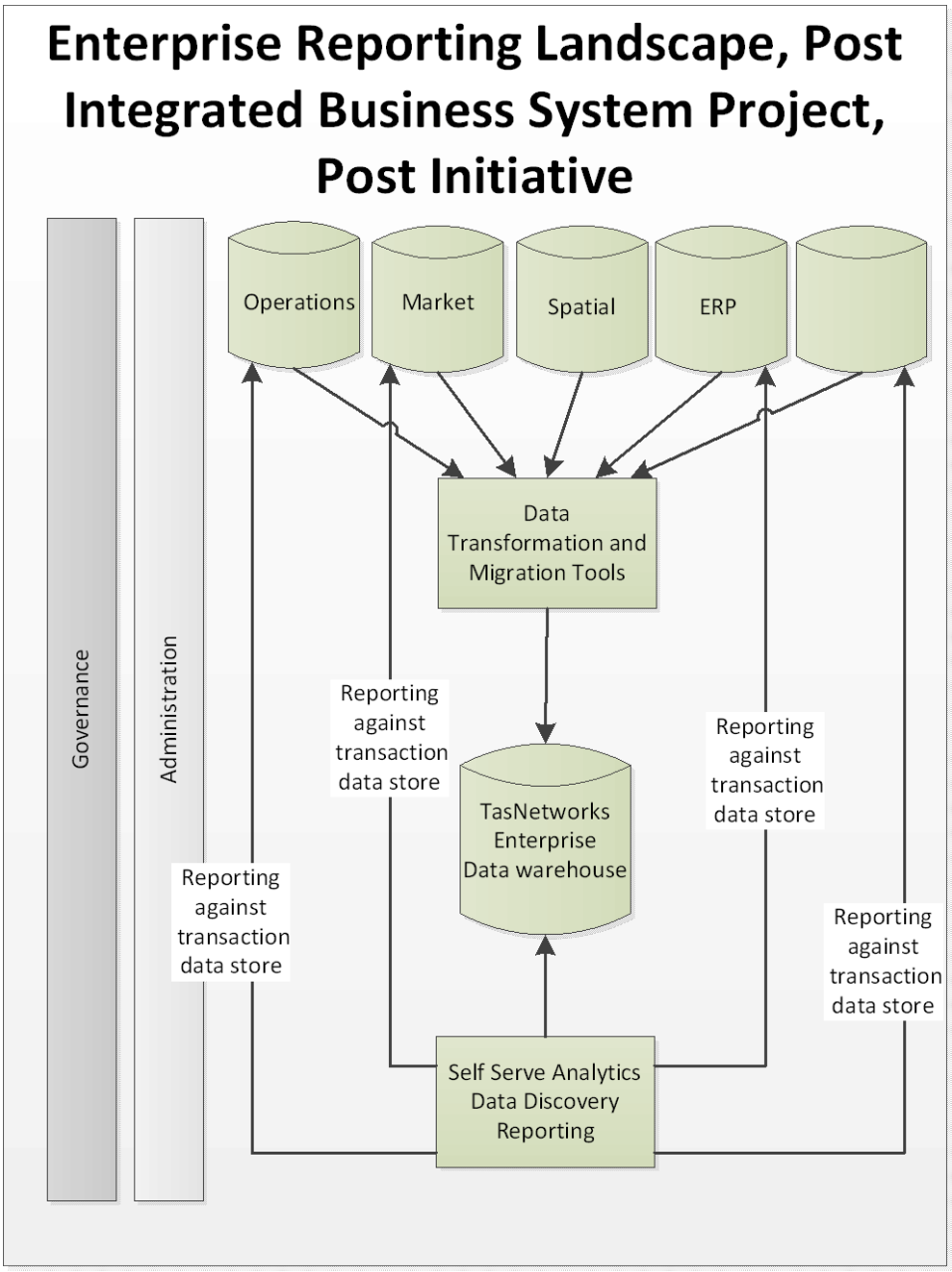
The TasNetworks integrated business systems project[1] will be significantly progressed by the start of the distribution period. Part of the integrated business systems project will be an enhanced end to end reporting platform that will serve reporting for the ERP data as shown in the following diagram.

[1] The integrated business systems project is a TasNetworks business transformation project in the enterprise resource planning (ERP) space. A business case will be developed by August 2015.



The integrated business systems project will only deliver reporting for the business functions in scope for the ERP. There are 4 other significant TasNetworks data sets that need to be included to produce the desired TasNetworks enterprise reporting scope including operations, market, spatial and customer.

This initiative is about creating a single Business Intelligence (BI) environment, using one technology and having a single TasNetworks enterprise data warehouse (EDW) store as shown in the diagram below.



1.1 Investment Need

TasNetworks needs a reporting platform that can leverage all company wide information and allow flexible reporting for the whole business.

The key drivers for this initiative include:

- **Eliminate information silos** - Common and consistent information brings coherence to the way an enterprise is managed. Users can quickly access accurate, real-time information, and collaborate effectively using shared information across departments and divisions. Key people can have a holistic view of the enterprise which empowers them to think beyond their immediate field of responsibility.

- **Enhanced business intelligence -** By providing data from various sources, managers and executives will no longer need to make business decisions based on limited compromised data.
- **Saving Time -** Since business users can quickly access critical data from a number of sources all in one place, they can rapidly make informed decisions. They won't waste precious time retrieving data from multiple sources. They can also query the data themselves with little or no support from IT, saving more time and more money. Business users won't have to wait until IT develops new reports.
- **Enhanced data quality and consistency -** A data warehouse implementation includes the conversion of data from numerous source systems into a consistent data architecture. Through a consistent data architecture each department will produce results that are in line with all the other departments. There can be more confidence in the accuracy of the data which is needed for substantiated business decisions.
- **Historical Intelligence -** A data warehouse stores large amounts of historical data so users can analyse different time periods and trends in order to make future predictions. Such data typically cannot be stored in a transactional database or used to generate reports from a transactional system. A data warehouse can store vast amounts of historical data, enabling advanced business intelligence analysis of different time periods and trends, which allow future predictions. A transactional database is not normally able to store this amount of data and a transactional system cannot usually generate trend reports.

1.2 Customer Needs or Impact

Indirectly, the users of the Tasmanian distribution network, i.e. our customers, will be impacted by how compliantly, efficiently and effective our market systems operate.

1.3 Regulatory Considerations

TasNetworks has many reporting obligations as being a DNSP in the national electricity market. For example, TasNetworks needs to provide the Australian Energy Regulator annual reports on various complaints statistics. Some types of supply breaches also need to be reported to the AER as they are identified. TasNetworks also participates in the Service Target Performance Incentive Scheme' (STPIS) of the National Electricity Rules, where TasNetworks are required to demonstrate improvements in various aspects of the business including supply reliability.

There are also some quarterly reporting obligations for the Office of Tasmanian Energy Regulator with regard to supply reliability.

2. Project Objectives

The project objective is to put in place an Enterprise Reporting Platform for TasNetworks.

3. Strategic Alignment

3.1 Business Objectives

The following table highlights how the initiative will assist in achieving TasNetworks corporate vision.

Strategic Goal	How this initiative will address the strategic goals
"we understand our customers by making them central to all we do"	• TasNetworks business applications and IT infrastructure have been selected to maximise efficiency whilst delivering sustainable predictable pricing.
"we enable our people to deliver value"	• An EDW will eliminate information silos allowing the organisation to report across all data sets. • An EDW will provide enhanced business intelligence capability for the business through better standard reports, ad hoc reporting capability and data mining opportunities. • Improved reporting will lead to better efficiency in operations for various business units. • An EDW will lead to enhanced data quality and consistency across the organisation. • An EDW will provide a mechanism for managing historical intelligence.
"we care for our assets, delivering safe and reliable network services while transforming our business"	• TasNetworks business applications and IT infrastructure have been selected to ensure compliance with industry standards and regulations and ensuring robust governance processes.

3.2 Business Initiative Alignment

In improving staff efficiency and decision making, this initiative supports the aims of lowest sustainable pricing.

4. Current Risk Evaluation

This chapter details the risk of 'Do Nothing'.

The TasNetworks Risk Framework details the level of risk the business finds acceptable in each category (Safety, Environment, Financial, Regulatory, Legal and Compliance, Customers, Assets, Reputation and People).

This initiative addresses financial risks, of which TasNetworks has a [redacted]

Creation of an enterprise reporting platform will allow better decision making and business efficiencies from being able to gather data from multiple sources and limiting manual handling and extracts.

4.1 Risk Matrix

TasNetworks business risks are analysed utilising the corporate risk matrix, as outlined in TasNetworks Risk Management Framework.

Relevant strategic business risk factors that apply are follows:

Risk #	Risk Category	Risk	Impact	Likelihood	Consequence	Risk Rating
IT-042	Financial	[redacted]	Staff are not able to perform their roles as efficiently and effectively as possible as they have to access data from multiple sources in differing formats.	Possible	Negligible	Low

Section 1 Approvals (Gated Investment Step 1)

Business Unit Review:	[redacted]	**Date**	
IT Project Initiator:	[redacted]	**Date**	18/05/2015
IT Thread Approved:	[redacted]	**Date**	18/05/2015
Manager (Network projects) or Group/Business Manager (Non-network projects):		**Date**	
[Send this signed and endorsed Summary to the Capital Works Program Coordinator.]			

Actions			
CWP Project Manager commenced initiation:		Assigned CW Project Manager:	
PI notified project initiation commenced:		Actioned by:	

Section 2 (Gated Investment Step 2)

5. Preferred option

The preferred option is to add new data sets and reports to the reporting system delivered by the integrated business systems project to end up with an enterprise reporting landscape for TasNetworks.

This option has been selected because it has best alignment with the investment need whilst:

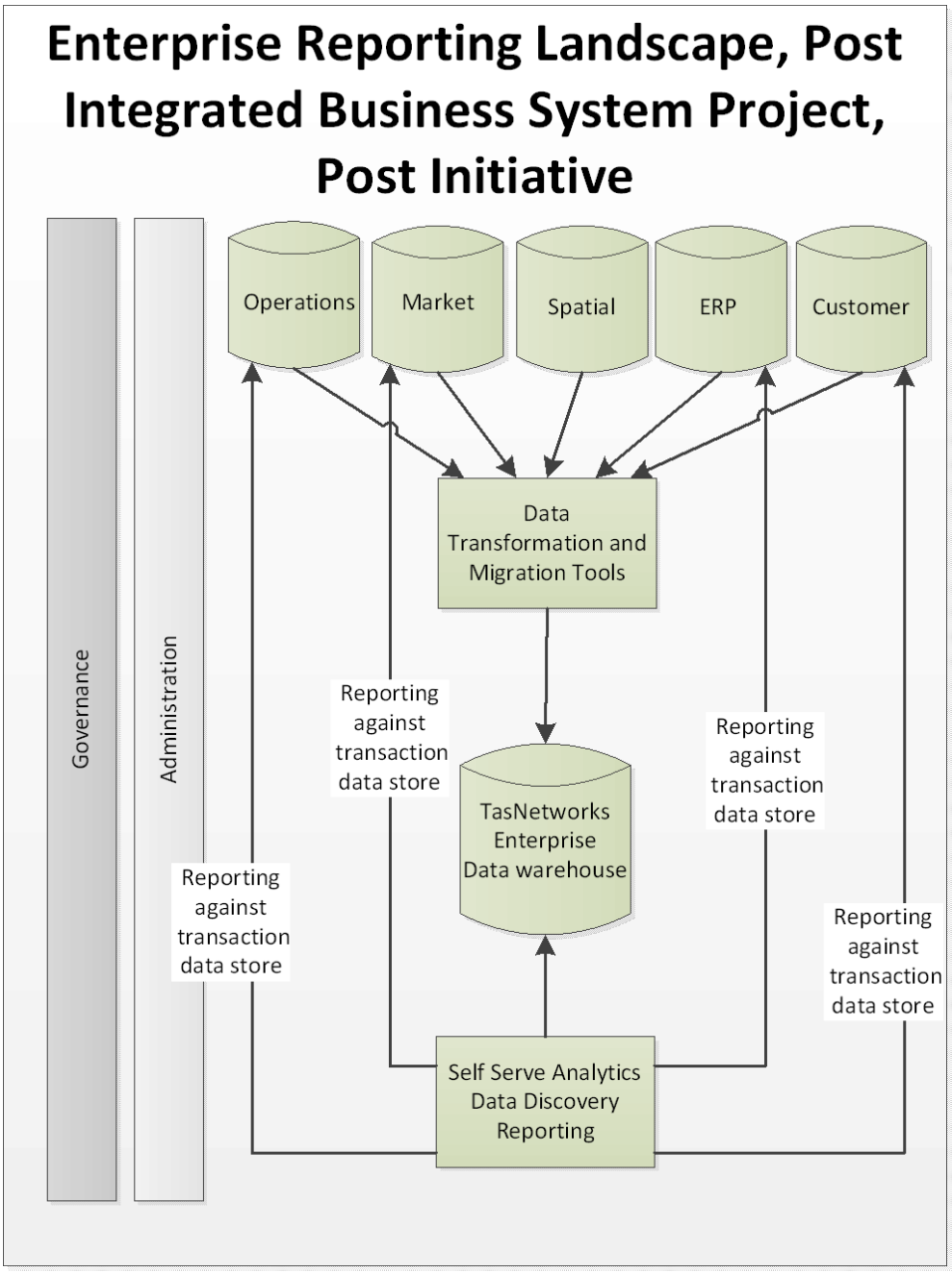
- Minimising the cost.
- Minimising the negative business impacts and maximising the positive business impacts.
- Maximising the strategic alignment.
- Maximising the IT strategic alignment[2].
- Minimising the project complexity.
- Minimising the risk to the organisation.

5.1 Scope

The scope of this initiative is about establishing a TasNetworks Enterprise Reporting Landscape. The high level components of the Enterprise Reporting Landscape are diagrammatically shown in the diagram below.

[2] This is a test against criteria including:

- Solutions will leverage the expertise and conformity of vendor products designed for NEM market interfaces.
- Solutions are designed for TasNetworks work practices and work processes to be as efficient and effective as possible without compromise.
- Solutions are maintainable and supported.
- Solutions are 'fit for purpose'.
- Alignment with current IT infrastructure.
- Alignment with other IT roadmap initiatives.



The high level scope is to implement the following reporting sets:

- Operations.
- Market.
- Spatial.
- Customer.

It is expected that the integrated business systems project will use an enterprise business intelligence tool (such as Business Objects) for its data transformation. The enterprise data warehouse will likely use the same data transformation tool.

It is expected that the integrated business systems project will use an enterprise database such as SQL server or Oracle as the storage technology for its data warehouse. This initiative will likely use the same data warehouse technology to store in the additional data sets.

It is expected that the integrated business systems project will use an enterprise business intelligence tool (such as Business Objects) for its reporting layer (including self-serve analytics and data discovery). This initiative will likely use the same data presentation tool.

High level implementation activities

To implement the desired reporting landscape the following will need to occur:

- Design end to end enterprise reporting landscape including confirming what technologies will serve what parts of the process.
- The implementation for a single data set will then be structured into a number of phases as follows:
    - Identification of reporting requirements for selected data set.
    - Technical design and implementation of data warehouse structures for selected data set.
    - Technical design and implementation of Extract Transform and Load (ETL) to populate data warehouse structures from source systems for selected data set
    - Design and implementation of actual reports for selected data set.
    - Before the reporting landscape is migrated into production a governance framework needs to be established for the ongoing management of the data set.

5.2 Expected outcomes and benefits

The outcomes and benefits are considered from a TasNetworks' perspective and from an external stakeholder perspective, in this case the customer.

Outcomes and benefits have also been segregated into tangible (i.e. measureable) and intangible (not measureable). Tangible benefits will be used as part of the NPV calculations in chapter 6.

TasNetworks' perspective	**Tangible benefits** The potential benefits of the preferred option have no tangible bottom line direct savings that can be derived, but rather productivity gains provided via process and efficiency improvements from have timely, accessible and quality data available. Since business users can quickly access critical data from a number of sources all in one place, they can rapidly make informed decisions. They won't waste precious time retrieving data from multiple sources. They can also query the data themselves with little or no support from IT, saving more time and more money Unquantifiable benefits of the options are listed below. **Intangible benefits** This will have many intangible benefits including:

	• Elimination of information silos allowing reporting across data sets allowing more holistic views, thus providing enhanced business intelligence capability. • Enhanced data quality and consistency as reporting data will be brought together into a common format using standardised processes. • Better access to historical data sets allowing better temporal analysis. • Quicker delivery of new reports from inception through to implementation. There will be a consistent report design, creation and implementation processes that can be made accessible to the business by dedicated trained resources. • Access to better report delivery methods. There will be opportunities for all parts of the organisation to make use of more reporting delivery capabilities such as scheduled emails, event triggered emails, events triggered SMS notifications etc. • The ability to deliver accurate data in a timely manner. • Increase employee confidence in market systems, leading to a reduction in stress, frustration, overtime, retention issues of employees. • Decrease the likelihood of human error. • Employees will feel more valued. • Reduced reliance of working outside of systems and processes • Adds value to our assets by enabling reliable services.
Customer perspective	Better reporting can lead to TasNetworks targeting customer needs better.

5.3 Regulatory Test

N/A

6. Options Analysis

Three options have been considered as described in the following chapter:

- Option 0 - Do Nothing.
- Option 1 – to add new data sets and reports to the reporting landscape delivered by the integrated business systems project (preferred option).
- Option 2 - design and build a new enterprise reporting landscape for TasNetworks.

Each option has been assessed with regard to the following criteria:

- Solution effectiveness. Solution effectiveness is tested against the 'Investment Need' (detailed in chapter titled 'Investment Need'). In simple terms, does the option achieve the project objectives?
- Cost.
- Business impact – the selected option will consider the level of change to TasNetworks environment (including during project implementation and post implementation).
- Business Strategic alignment – does the option fulfil the business objectives and current business initiatives (detailed in chapter titled 'Strategic Alignment').
- IT strategic alignment.
- Project complexity – solutions will not be un-necessarily complex. Complexity introduces risk through combination of resource requirements, increased change etc.
- Risk profile – solutions will be risk adverse.
- Ability to achieve compliance – solutions will be fully compliant with all regulatory requirements and applicable industry standards.
- Time – ability to implement within deadline. Solutions will be implemented within a suitable timeframe to ensure compliance (where relevant), minimise disruption to the business and reduce the likelihood of project requirements becoming dated.

6.1 Option Summary

Option 0 – Do Nothing

The option of 'Do Nothing' assesses the scenario where this initiative is not approved.

The 'Do Nothing' option will have a cost and business impact. Reporting requirements are continually evolving with changing business practices and regulatory reporting requirements.

Criteria	Advantages	Disadvantages
Solution effectiveness	N/A	N/A
Cost	No initial CAPEX cost to consider.	Reporting requirements are continually evolving with changing business practices and regulatory reporting requirements. Cross data set report creation will continue to be difficult.
Business impact		Reporting requirements are continually evolving with changing business practices and regulatory reporting requirements. Cross data set report creation will continue to be difficult.
Business strategic	N/A	N/A

alignment		
IT strategic alignment	N/A	N/A
Project complexity	N/A	N/A
Risk profile		See chapter titled 'Current Risk Evaluation'.
Ability to achieve compliance	N/A	N/A
Time - ability to implement within a deadline	N/A	N/A

Option 1 – to add new data sets and reports to the reporting landscape delivered by the integrated business systems project.

As this is the preferred option, the scope has already been covered in detail in the chapter titled 'Preferred Option'.

Criteria	Advantages	Disadvantages
Solution effectiveness	This option addresses the investment needs outlined in section 1.	
Cost	This option is the most cost effective option compared with option 2 due to the narrower scope.	
Business impact	This option is assessed as having a lower impact on the business compared with option 2 due to the narrower scope.	
Business Strategic alignment	It will fulfil the business objectives of *'we understand our customers by making them central to all we do', 'enable our people to deliver value', 'we care for our assets, delivering safe and reliable network services while transforming our business'* detailed in the chapter titled 'Business Objectives'. It will align with the business initiatives detailed in the chapter titled 'Business	

	Initiative Alignment'.	
IT strategic alignment	It will be designed to suit TasNetworks work practices and work processes so as to be as efficient and effective as possible without compromise. It will be maintainable and supported. It will be 'fit for purpose'. It will align with current IT infrastructure. It will align with other IT road map initiatives.	
Project Complexity	This option has the least complexity compared with option 2 due to the narrower scope and no need to integrate with reporting already delivered for ERP.	
Risk profile		
Ability to achieve compliance	Vendor components will be selected to conform with regulatory and industry standards. In-house components will be built to conform with regulatory and industry standards.	
Time - ability to implement within a deadline	This option will be easier to implement within a timeline compared with option 2 due to the narrower scope.	

Option 2 – design and build a new Enterprise Reporting Landscape for TasNetworks.

The scope of this initiative is about establishing an Enterprise Data Warehouse for TasNetworks from scratch (i.e. don't leverage the reporting platform delivered by the integrated business systems project). This would exist separately to anything delivered by the integrated business systems project.

The scope for this option is far more expansive.

The design of the end to end enterprise reporting landscape would have to revise all technologies to be used including that used for the data integration, data base and presentation layers.

The implementation would require the installation of the landscape technologies and ensuring they will work with the existing IT infrastructure.

Each data set would have to be developed as for option 1 however a decision would have to be made with what to do with the ERP data set. The ERP dataset could remain as delivered by the integrated business systems project or it could be another data set to be migrated. Noting that the enterprise data warehouse needs to provide cross data set reporting capability it is likely that ERP reporting could not simply remain as delivered by the integrated business systems project. This design will be complex and perhaps inefficient.

Criteria	Advantages	Disadvantages
Solution effectiveness	This option addresses the investment needs outlined in section 1.	
Cost		Due to the more expansive scope, it is a higher cost option compared with option 1.
Business impact		With regard to implementation, due to the more expansive scope, the change impact will be higher compared with option 1 as it will require more time for business requirements gathering and UAT. Those parts of the business that deals with ERP data sets may have to be engaged again for reports definitions, which may cause some angst considering the high level of integrated business systems project consultation they would have just undergone.
Business strategic alignment	It will fulfil the business objectives of *'we understand our customers by making them central to all we do'*, and *'we care for our assets, delivering safe and reliable network services while transforming our business'* detailed in the chapter titled 'Business Objectives'.	It may not align with the business objective of *'enable our people to deliver value'* as the business may have to be engaged again for ERP reporting requirements and delivery.
IT strategic alignment	It will be designed to suit TasNetworks work practices and work processes so as to be as	It may not align with current IT infrastructure in that it may introduce new and different

	efficient and effective as possible without compromise. It will be maintainable and supported. It will be 'fit for purpose'. It will align with other IT road map initiatives.	reporting technologies to be maintained and supported.
Project complexity		This option has higher complexity compared with option 1 due to the more expansive scope. More specifically it may require duplication within the data warehouse to include ERP data, or presentation layer reports will need to be able to handle cross data warehouse source data.
Risk profile		This option adds significant additional risk with regard to cross data set reporting with ERP data. This may require duplication within the data warehouse to include ERP data, or presentation layer reports will need to be able to handle cross data warehouse source data.
Compliance	Vendor components will be selected to conform with regulatory and industry standards. In-house components will be built to conform with regulatory and industry standards.	
Time - ability to implement within a deadline		This option will be harder to implement within a timeline compared with option 1 due to the more expansive scope.

6.2 Summary of Drivers

The following table compares the options presented with regard to the criteria assessed in the previous chapter.

Criteria	Option 0	Option 1	Option 2
Solution effectiveness	N/A		
Cost			
Business Impact			
Business strategic alignment	N/A		
IT strategic alignment	N/A		
Project complexity	N/A		
Risk profile			
Ability to achieve compliance	N/A		
Time - ability to implement within a deadline	N/A		

Key			
Solution effectiveness	Addresses most requirements	Addresses some requirements	Addresses few requirements
Cost	Low	Medium	High
Business Impact	Low	Medium	High
Business strategic alignment	Good alignment	Partial alignment	Poor alignment
IT strategic alignment	Good alignment	Partial alignment	Poor alignment
Project complexity	Low	Medium	High
Risk profile	Low	Medium	High
Ability to achieve compliance	Easy	Moderate	Hard
Time - ability to implement within a deadline	Easy	Moderate	Hard

6.3 Summary of Costs

Option	Total Costs ($)
0 – Do Nothing	No Capital Expenditure
1 – Enhance reporting platform delivered by integrated business system project	1,200,000 (comprised of $1,020,000 CAPEX, and $180,000 OPEX)
2 - Design and build a new Enterprise Reporting platform	

6.4 Preferred Option Cost Breakdown

	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27
Estimate ($)	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M	0.6M
Total ($) 2017-2019	1,200,000 (comprised of $1,020,000 CAPEX, and $180,000 OPEX)									
Total ($) 2017-2027	6,000,000 (comprised of $1,740,000 CAPEX, and $4,260,000 OPEX)									

6.5 Summary of Risk

The preferred option addresses financial risks, as analysed utilising the corporate risk matrix, as outlined in TasNetworks Risk Management Framework.

Risk Category	Risk	Impact	Mitigation	Risk Rating
Financial	[redacted]	Staff are not able to perform their roles as efficiently and effectively as possible as they have to access data from multiple sources in differing formats.	Staff will have access to required information.	Low

6.6 Economic analysis

The net present value calculations below are not inclusive of the potential benefits of the options as there no tangible bottom line direct savings can be derived from the investments, but rather productivity gains provided via process improvements. Unquantifiable benefits of the options below include:

- Time saved.
- Improved output.
- Improved efficiency.
- Achieving the same with less staff.
- Achieving more with the same staff.

The following NPV calculations have been made over a 10-year period.

Option No.	Option description	NPV	Reason got selection/rejection
0	Do Nothing	$0	No business benefits
1	Enhance reporting platform delivered by integrated business system project	-$4,054,585	Greatest benefit for lowest cost and risk
2	Build new reporting platform		Greatest cost and risk

6.6.1 Quantitative Risk Analysis

N/A

6.6.2 Benchmarking

N/A

6.6.3 Expert findings

N/A

6.6.4 Assumptions

Assumption ID	Assumption Description
ITA-127	Introducing an enterprise reporting platform will provide many productivity and efficiency gains, however as no tangible bottom line direct savings that can be derived, these benefits have been omitted from the NPV Calculations.
ITA-128	The alternative option of building a new reporting landscape, as opposed to leveraging the integrated business system reporting landscape, would

	have both a CAPEX and OPEX component.
ITA-089	The TasNetworks integrated business systems project will be significantly progressed by the start of the distribution period. Part of the integrated business systems project will be an enhanced end to end reporting platform that can be used for other non ERP datasets.

Section 2 Approvals (Gated Investment Step 2)

Business Unit Review:	[redacted]	**Date**	
IT Project Initiator:	[redacted]	**Date**	18/05/2015
IT Thread Approved:	[redacted]	**Date**	18/05/2015
Manager (Network projects) or Group/Business Manager (Non-network projects):		**Date**	
[Send this signed and endorsed Summary to the Capital Works Program Coordinator.]			

Project Initiator:		**Date:**	
Project Manager:		**Date:**	

Actions			
Submitted for CIRT review:		**Actioned by:**	
CIRT outcome:			