

1Malaysia Government Enterprise Architecture (MyGovEA)

Current Architecture Definition

<Month, Year>

Project: <Project Name>

Agency: <Agency Name>

Reference Code: S2-R007

Document History

Document Information

This section provides a summary of information for this document.

Project Name:	<Project Name>		
Prepared By:		Document Version No:	0.1
Title:	Current Architecture Definition	Document Version Date:	
Reviewed By:		Review Date:	

Distribution List

This section provides a list of recipients of this document and individual key actions to be taken subsequently.

To	Action *	Phone/Fax/Email	Designation

Document Version History

This section provides a formal log of changes/revisions to any document that has been approved by the Agency Office of the Architect. The following guidelines should be employed when recording the document versions:

- a) Draft documents are to be labelled as version 0;*
- b) First draft document to be shared with the project team is to be labelled as version 0.9;*
- c) Final version of the document approved by the Central Office of the Architect will be labelled as version 1.0; and*
- d) Any subsequent revised versions of the document that has been approved by the Central Office of the Architect will be labelled as version 1.x.*

Version Number	Version Date	Revised By	Description	Filename

Document Sign Off

This section lists the key representatives responsible for acknowledging and approving all information detailed in this document.

Name	Role/ Title	Date	Signature

Table of Contents

1. Project Overview	9
1.1 Agency Overview	9
1.2 Project Outline	9
1.3 Project Objectives	9
1.4 Scope of Project	9
2. Purpose of the Document	10
3. Architecture Scope	11
3.1 Scope of Implementation Model	11
3.2 Architecture Sponsors	11
3.3 Statement of Requirements	11
3.4 Goals and Objectives	12
3.5 Constraints	12
3.6 Stakeholders and their Concerns	13
3.7 Capabilities	14
4. Compliance	15
4.1 Architecture Principles	15
4.2 Policies, Guidelines and Circulars	16
5. Risks and Issues	17
5.1 Assumptions	17
5.2 Risks	17
5.3 Issues	18
5.4 Dependencies	18
6. Current Architecture	19

6.1 Business Architecture	19
6.1.1 Conceptual Current Business Architecture	19
6.1.2 Logical Current Business Architecture	26
6.1.3 Physical Current Business Architecture	28
6.1.4 Cross-References within the Business Architecture	31
6.2 Data Architecture	32
6.2.1 Conceptual Current Data Architecture	32
6.2.2 Logical Current Data Architecture	36
6.2.3 Physical Current Data Architecture	38
6.2.4 Current Data Architecture Cross-References	38
6.3 Application Architecture	40
6.3.1 Conceptual Current Application Architecture	40
6.3.2 Logical Current Application Architecture	43
6.3.3 Physical Current Application Architecture	45
6.3.4 Current Application Architecture Cross-References	47
6.4 Technology Architecture	48
6.4.1 Conceptual Current Technology Architecture	48
6.4.2 Logical Current Technology Architecture	50
6.4.3 Physical Current Technology Architecture	52
7. Gaps and Opportunities	54
7.1 Overview	54
7.2 Approach	55
7.3 Solutions	56
8. Rationale and Justification for Architectural Approach	57
8.1 Rationale	57
8.2 Approach	57

8.3 Architecture Decisions	57
8.4 Architecture Governance	58
8.4.1 Agency Governance	58
8.4.2 Central Governance	58
9. Mapping to Architecture Repository	59
9.1 Artefacts	59
9.2 Mapping to Reference Models	59
10. Next Steps	60
10.1 1GovEA Methodology Cycle	60
10.2 Next Steps	60

List of Tables

Table 1: Statement of Architecture Requirements	11
Table 2: Architecture Goals and Objectives	12
Table 3: Architecture Constraints	12
Table 4: Stakeholders and Concerns	13
Table 5: Capabilities Requirement	14
Table 6: Architecture Principles	15
Table 7: Policies, Guidelines and Circulars	16
Table 8: Architecture Assumptions	17
Table 9: Architecture Risks	17
Table 10: Architecture Issues	18
Table 11: Architecture Dependencies	18
Table 12: Agency Business Functions Description	21
Table 13: Business Services Description	22
Table 14: Agency's Business Services Characteristics	23
Table 15: Agency's Business Interactions	23
Table 16: Business Services Security Classification	24
Table 17: Organisational Structure	26
Table 18: Business Locations	26
Table 19: Human and Computer Roles	26
Table 20: Human Actors	27
Table 21: Computer Actors	27
Table 22: Other Actors	28
Table 23: Business Processes	28
Table 24: Business Process by Location	28
Table 25: Physical Business Component RACI View	29
Table 26: Business Process by Actor	30
Table 27: Business Architecture Cross References	31
Table 28: Conceptual Data Architecture Areas	33
Table 29: Data Architecture User Satisfaction	34
Table 30: Data Architecture Security Classification	35
Table 31: Logical Data Architecture Entities	36
Table 32: Logical Data Characteristics	37
Table 33: Logical Data Entity Attributes	37

Table 34: Logical Data Entity Relationship	37
Table 35: Current Data Architecture Cross-References	39
Table 36: Application Architecture - Application Services	40
Table 37: Application Service Characteristics	41
Table 38: Application Service Contracts	41
Table 39: Application Services - User Satisfaction	41
Table 40: Application Service – Security Classification	42
Table 41: Logical Application Components	44
Table 42: Logical Application Component Characteristics	44
Table 43: Logical Application Component Interactions	44
Table 44: Physical Application Components	46
Table 45: Technology Architecture - Conceptual Technology Services	48
Table 46: Technology Service Characteristic	48
Table 47: Technology Services Interactions	49
Table 48: Technology Services Contracts	49
Table 49: Technology Services User Satisfaction	50
Table 50: Technology Architecture - Logical Technology Components	51
Table 51: Logical Technology Architecture Characteristics	52
Table 52: Logical Technology Architecture Component Contracts	52
Table 53: Physical Technology Components (PTC)	53
Table 54: Gap Analysis Matrix	55
Table 55: Proposed Solutions	56
Table 54: Historic Architecture Decisions	57
Table 55: Referenced Current Architecture Artefacts	59

List of Figures

Figure 1: Example Business Architecture Metamodel	20
Figure 2: Example of an Agency's Business Functions	21
Figure 3: Example of an Agency's Business Services	22
Figure 4: Example Organisation Structure	25
Figure 5: Example of Conceptual Current Data Architecture	33

Figure 6: Example Logical Current Data Architecture	36
Figure 7: Example Logical Application Architecture	43
Figure 8: 1MOCC Physical Application Architecture	46
Figure 9: Technology Architecture - Logical Technology Components	51
Figure 10: Example Physical Technology Infrastructure Architecture	53
Figure 11: 1GovEA Methodology	60

1. Project Overview

1.1 Agency Overview

This section provides a summary of the public sector agency, that is, what the agency does, its vision and objectives and a high-level overview of its operations. This provides readers with a basic understanding of the operations of the public sector agency.

1.2 Project Outline

This section provides an executive summary of the public sector agency's architecture initiative. It paints a high-level picture of the project for readers of this document to gain a basic understanding of the architecture work to be carried out.

1.3 Project Objectives

This section details the objectives of executing the architecture initiative.

1.4 Scope of Project

This section defines the areas of which the architecture project will encompass when it is executed.

2. Purpose of the Document

The Current Architecture Document is the deliverable for the baseline current architectural artefacts for the public sector agency's architecture. The Current Architecture Document spans all architecture domains (Business, Data, Application, and Technology) and also examines all relevant states of the baseline architecture.

The Current Architecture Document is a companion to the Architecture Requirements Specification, with the following objectives:

- *The Current Architecture Document provides a qualitative view of the solution and aims to communicate the intent of the architects; and*
- *The Architecture Requirements Specification provides a quantitative view of the solution, stating measurable criteria that must be met during the implementation of the architecture.*

This document will make reference to the various templates/artefacts proposed by the 1GovEA Methodology where applicable.

This deliverable template is designed to guide the architects on the general format and content required within the deliverable produced while executing the 1GovEA Methodology. It is intended that the agency architects should tailor the template accordingly based on the nature of the architecture work being performed and / or the agency environment. Any italicised text within this deliverable template is intended to guide authors on the content that should be developed in the respective sections.

3. Architecture Scope

3.1 Scope of Implementation Model

This section details those areas of the architecture which are in scope of this current architecture work for the public sector agency. For instance, the architecture deemed to be in-scope may be one or more of the Business, Data, Application and Technology Architecture.

3.2 Architecture Sponsors

This section defines the respective stakeholders that act as sponsors for the architecture project.

3.3 Statement of Requirements

This section looks at outlining the requirements of the architecture that are driving this exercise.

Rather than state in detail all of the architecture requirements in this section, the section should contain an overview of the architecture requirements and link back to the Architecture Requirements Document produced during Stage 1: Initiate of the 1GovEA Methodology

The Statement of Architecture Requirements can be summarised in a table as seen in Table 1 describing the architecture requirements.

Table 1: Statement of Architecture Requirements

Reference-ID	Title	Architecture Requirement

3.4 Goals and Objectives

This section looks at outlining the following information:

- *High-level business and technology goals that are driving this exercise; and*
- *Precise objectives (derived from the goals) that are driving this exercise.*

Table 2: Architecture Goals and Objectives

Reference-ID	Title	Architecture Goal or Objective

3.5 Constraints

This section contains all the constraints that are faced by the agency's Current Architecture environment. This section may potentially refer to the Request for Architecture Work document as that document captures the agency's operation, budget/financial and external constraints.

Table 3: Architecture Constraints

Reference-ID	Title	Architecture Constraint	Priority	Consequences

3.6 Stakeholders and their Concerns

The purpose of this section is to identify the stakeholders for the business architecture. This section should contain the following information:

- *The **RACI** (Responsible, Accountable, Consulted, Informed) model for the identified stakeholders. The definition of each category is as follow:*
 - a) ***Responsible** stakeholders are those that execute the action (doing the ground work);*
 - b) ***Accountable** stakeholders are those that are held answerable for the status and success of the initiative. Only one stakeholder should be given the accountable role for an exercise/deliverable. They may own the budget (e.g., an allocated amount of money) and/or have overall management responsibility for the exercise/deliverable;*
 - c) ***Consulted** stakeholders are parties whom input is gathered in order to produce a deliverable (e.g. subject matter experts in specific business areas or technologies); and*
 - d) ***Informed** stakeholders are those to whom the deliverable is distributed as they tend to have a dependency on its content.*
- *Stakeholders who need to review and approve the this document;*
- *Decision-making stakeholders in terms of governance and management (e.g. management of scope confirmation, issue escalation, and issue resolution (if not already defined elsewhere));*
- *Concerns of these stakeholders with regards to the business architecture or this exercise; and*
- *Issues of these stakeholders with regards to the business architecture or this exercise.*

Table 4: Stakeholders and Concerns

Division/Position	Concern	Position	Stakeholder Name	RACI

3.7 Capabilities

This section details the capabilities requirements that may be necessary in the realisation of the architecture based on Statement of Architecture Requirements documented in Section 3.3.

Table 5: Capabilities Requirement

Architecture Requirement	Capabilities Requirement

4. Compliance

4.1 Architecture Principles

This section documents the architecture principles that are adhered to or are practiced by the agency in its operation or architecture practice. The principles can be documented in a table, such as that of Table 6.

Table 6: Architecture Principles

Reference-ID	Name of Principle	Statement	Rationale

4.2 Policies, Guidelines and Circulars

This section defines the policies, guidelines and circulars that governs the public sector agency’s enterprise architecture or how the organisation’s architecture should be defined. These can be documented in a table such as that of Table 7.

Table 7: Policies, Guidelines and Circulars

Reference ID	Policies, Guidelines and Circulars Category	Policies, Guidelines and Circulars Title	Source	Owner

5. Risks and Issues

5.1 Assumptions

This section outlines any assumptions that are made whilst documenting the Current Architecture. These assumptions are used to form a rough overview of the agency's Current Architecture.

Table 8: Architecture Assumptions

Assumption -ID	Assumption	Description	Date	Source	Owner

5.2 Risks

This section documents risks that are identified while developing the agency's Current Architecture. Risks that are documented here are related to the architecture work excluding project risks.

Additional information for the risks such as description of the risk, the impact it has on the architecture work, the measure (extent of the impact) and the mitigation plan/action should also be included for future informed decision making.

The number of risks documented should reduce as the architecture project progresses.

Table 9: Architecture Risks

Risk- ID	Risk	Description	Impact	Measures	Mitigation Plan

5.3 Issues

This section outlines realised risks which are labelled as issues related to the agency's Current Architecture excluding project issues. These issues need to have associated additional information such as the status, dates realised and due for addressing, the owner and any notes on decision that was made on each of these issues.

Table 10: Architecture Issues

Issue -ID	Issue	Statu s	Inpu t Date	Due Dat e	Close d Date	Owne r	Work Group Owner	Meeting Notes/ Comments

5.4 Dependencies

This section documents all dependencies that are related to the architecture work excluding project dependencies. Additional information such as the description, impact level, measures and comments need to be documented here to facilitate an informed decision making in the future.

Table 11: Architecture Dependencies

Dependency-I D	Title	Description	Impact	Measures	Comment

6. Current Architecture

The following sections document the Current Architecture areas of the architecture that are within the scope of this architecture project.

The corresponding Business, Data, Application and Technology artefacts informing this document are referenced in Section 9.1 and should contain the latest up to date information.

6.1 Business Architecture

The following sub-sections document the findings for the Current Architecture within the Business Architecture Domain at the public sector agency.

6.1.1 Conceptual Current Business Architecture

This section describes the conceptual business architecture of the agency. This may be described using a metamodel, an example is shown in Figure 1. The metamodel contains the linkages between the various artefacts and how they are being provisioned or consumed by the respective components. Note that these relationships may change as the business landscape and requirements of the agency evolve over time.

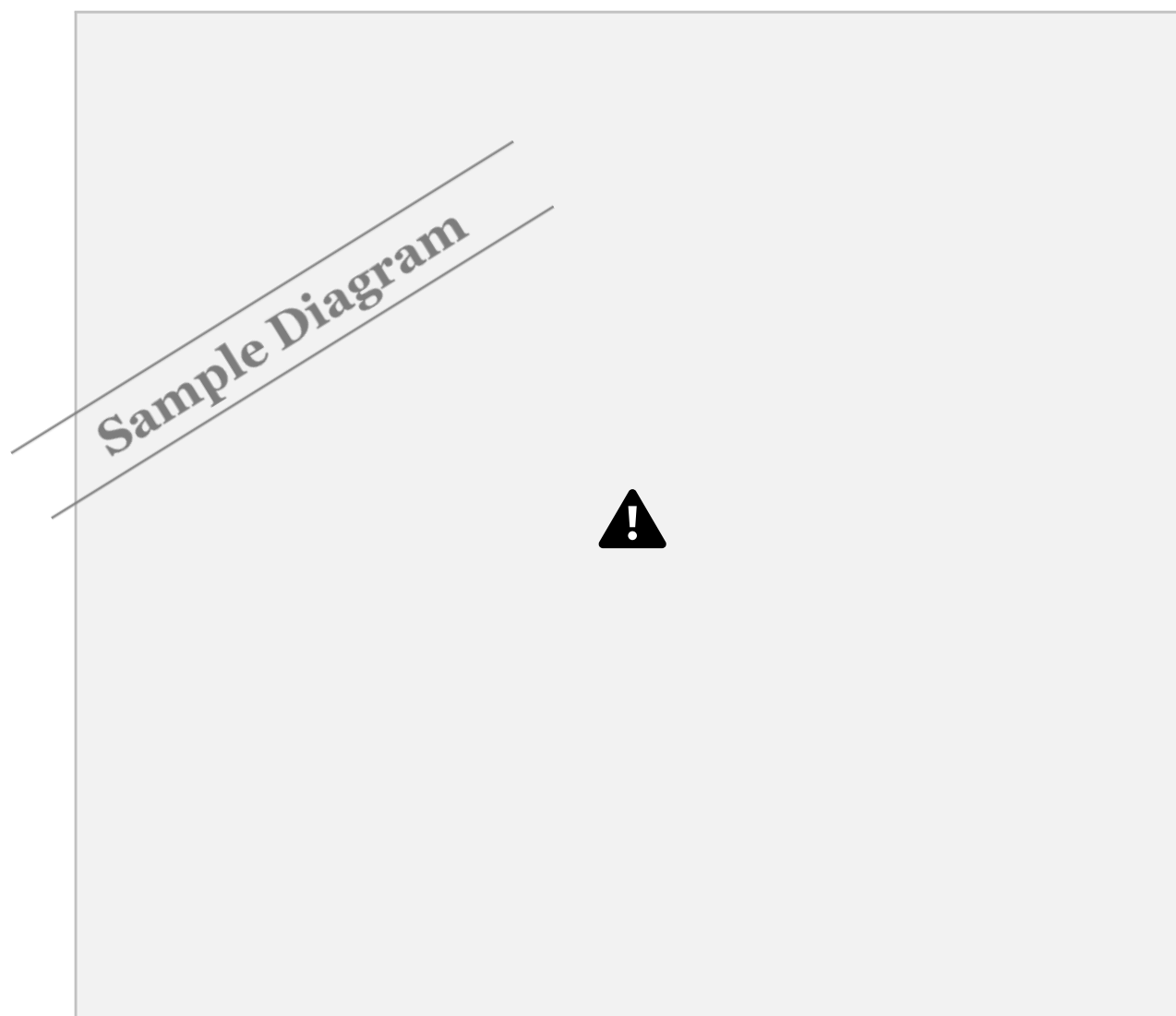


Figure 1: Example Business Architecture Metamodel

6.1.1.1 Current Business Functions

This section provides one or more business function diagrams depicting the current business architecture. Business functions are the business capabilities aligned to the organisation. Figure 2 provides an example illustration of the four (4) key business functions performed in an organisation. This provides an overview of all the business functions in the organisation, however, subsequent sub-sections in this document will mainly focus on the area in which is within scope of the architecture project.

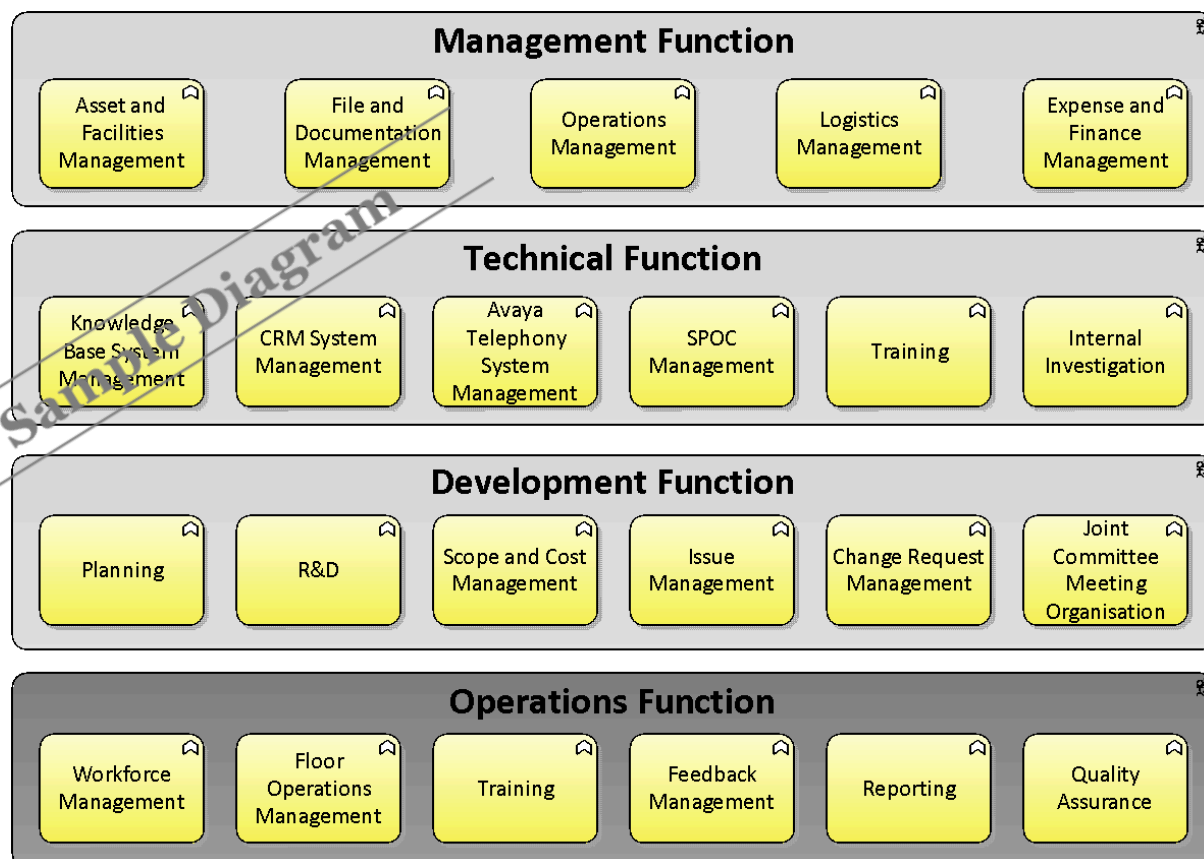


Figure 2: Example of an Agency's Business Functions

Each of the business functional units in the agency should also be documented in a table such as that of Table 12.

Table 12: Agency Business Functions Description

Business Function (Category) ID	Business Function Category	Business Function	Business Function Description

6.1.1.2 Current Business Services

This section describes the business services offered by the respective business functions within the agency. An example diagram illustrating the business services in an agency is seen in Figure 3.

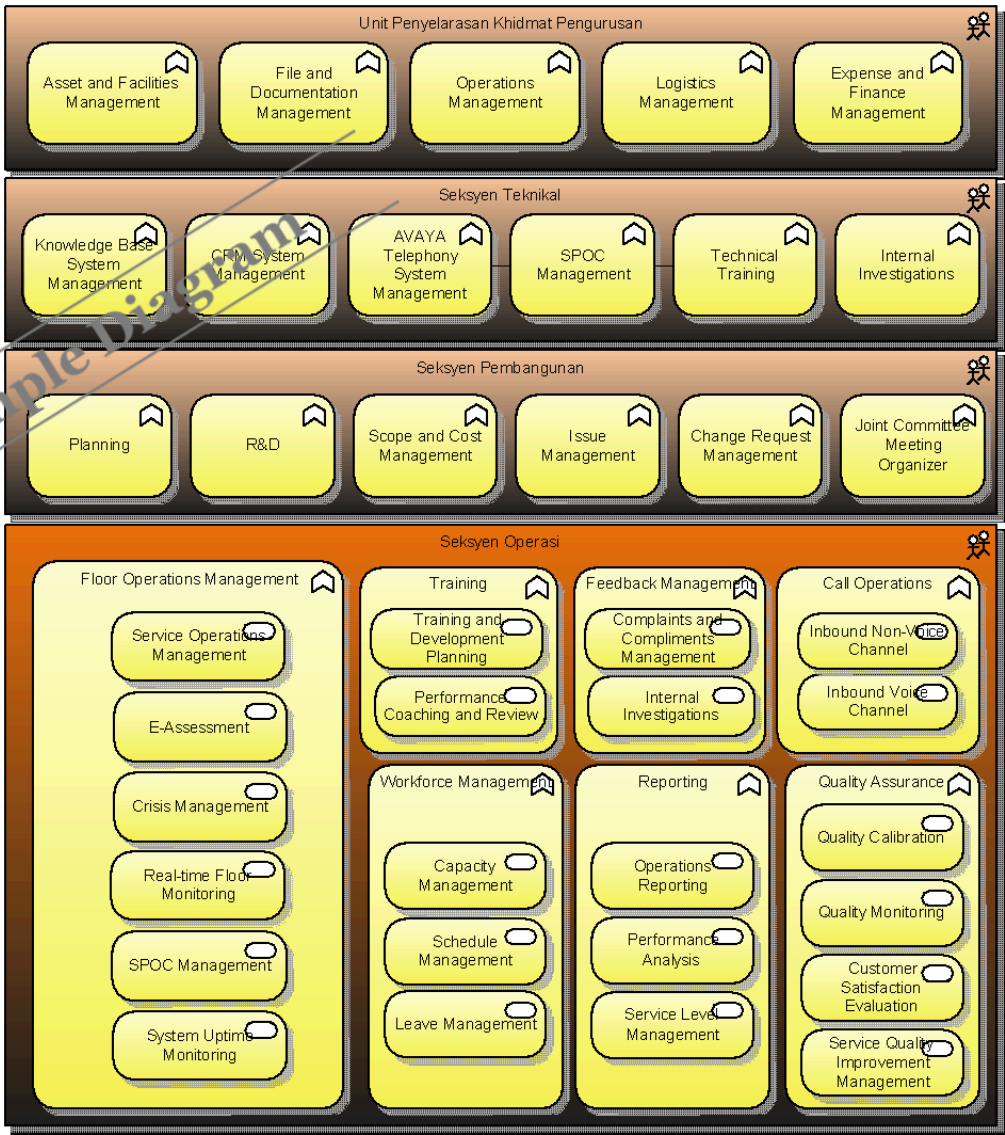


Figure 3: Example of an Agency’s Business Services

The business services within the current business function in scope to understand the architectural decisions that made and the impact on the stakeholders can be documented in Table 13.

Table 13: Business Services Description

Business Service (Category) ID	Business Service Category	Business Service	Business Service Description

A Business Service is defined to have the following characteristics as follows:

- *Standards class (Non-Standard, Proposed Standard, Provisional Standard, Standard, Phasing-Out Standard, Retired Standard);*
- *Standard creation date (If the product is a standard, when the standard was created);*
- *Last standard review date (Last date that the standard was reviewed);*
- *Next standard review date (Next date for the standard to be reviewed); and*
- *Retire date (Date when the standard was/will be retired).*

This section may also include characteristics for the business services.

Table 14: Agency's Business Services Characteristics

Business Service	Business Service Description	Business Service Characteristics

This section may also detail the relationship between the various business services as identified (the business service may be provided by an internal/external party) and how they interact.

Table 15: Agency's Business Interactions

Business Service Provisioning Unit	Business Service Consuming Unit	Business Service Interaction Description

Business Service Provisioning Unit	Business Service Consuming Unit	Business Service Interaction Description

6.1.1.3 Business Service Security Classification View

This section provides one or more views of security classification for the current business services. The security classification is derived based from existing practices. The definition of the business service security should be carried out before a project is initiated as part of a Business Impact Analysis.

The architect must consider the security classifications of the artefacts by identifying risk and impact to the project.

Table 16: Business Services Security Classification

Reference-ID *	Title	Subject	Confidentiality Classification	Integrity Classification	Availability Classification

6.1.1.4 Organisation Structure and Units

This section provides one or more views of the agency's structure and units for the current business architecture. This section needs to provide a description of the agency's structure and units view(s) for the current business architecture in order to understand the relevance to the identified stakeholders. This may be in the form of a diagram and/ or a table which provides an overview of each organisation unit.

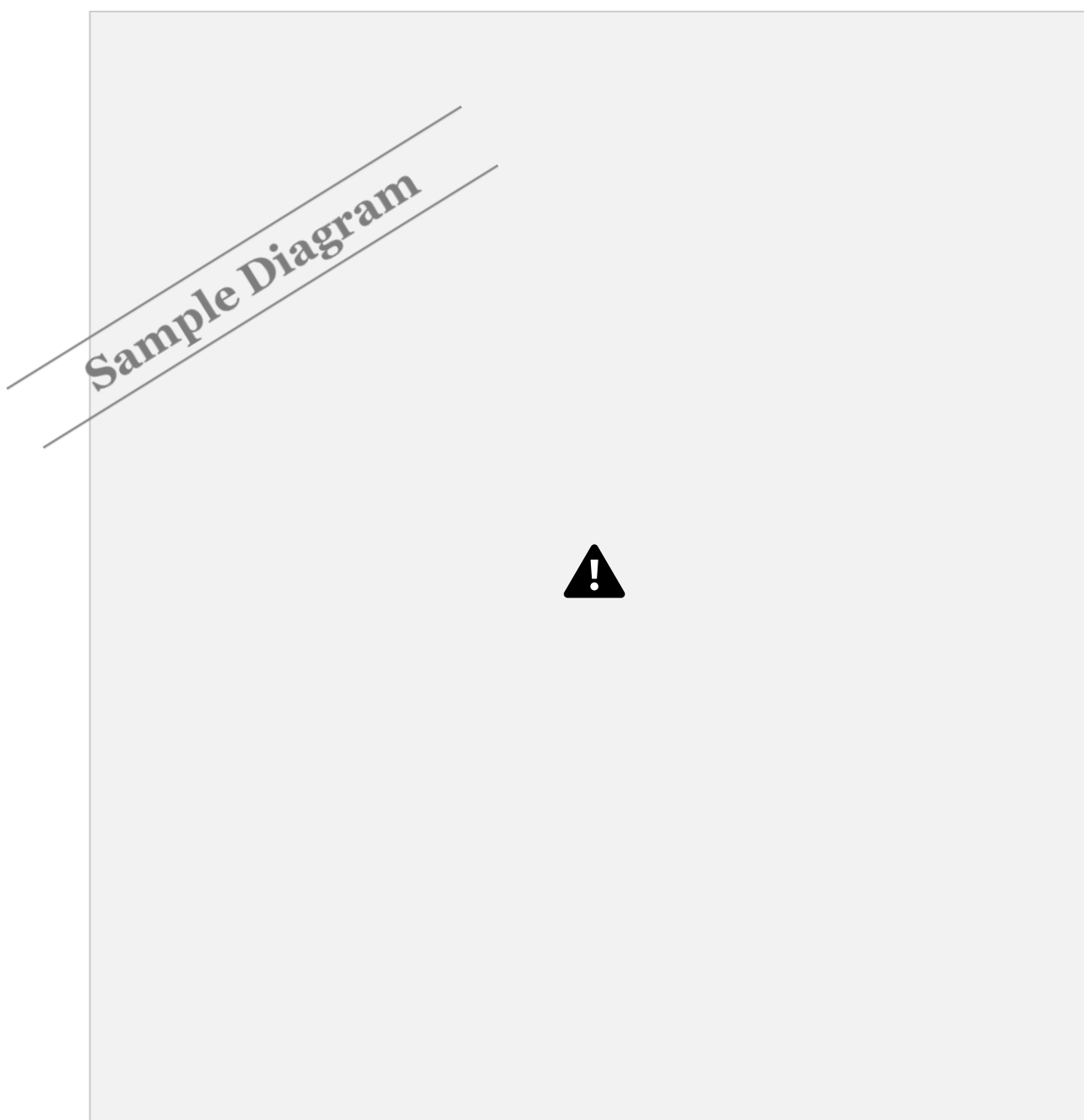


Figure 4: Example Organisation Structure

A description of their function for each of the main organisation units identified in Figure 4 can be documented in Table 17.

Table 17: Organisational Structure

Reference ID	Organization Unit Name	Organization Unit Description

6.1.1.5 Business Location

This section details locations in which the organisation operates.

Table 18: Business Locations

Reference ID	Location Name	Description	Category	Status

6.1.2 Logical Current Business Architecture

6.1.2.1 Roles

The purpose of this section is to describe the roles in the agency's Current Architecture. This may be human and/ or computer roles.

Table 19: Human and Computer Roles

Role Reference ID	Role Category	Role Name	Role Description

Role Reference ID	Role Category	Role Name	Role Description

6.1.2.2 Actors

6.1.2.2.1 Human Actors

The purpose of this section is to identify and define the human actors that exist in the Current Architecture and their respective relationships to the roles identified. Table 20 can be used to document these relationships between the identified human actors and roles.

Table 20: Human Actors

Actor	Actor 1	Actor 2	Actor 3
Business Role			
Role 1			
Role 2			
Role 3			

6.1.2.2.2 Computer Actors

The purpose of this section is to identify and define the computer actors that exist in the Current Architecture with the respective relationship to the roles identified. Table 21 can be used to document these relationships between the identified computer actors and roles.

Table 21: Computer Actors

Actor	Actor 1	Actor 2	Actor 3
Business Role			
Role 1			
Role 2			
Role 3			

6.1.2.3 Other Actors

The purpose of this section is to define any other actors whom are external and is not controlled by the agency however interacts with the architecture.

Table 22: Other Actors

Actor	Actor 1	Actor 2	Actor 3
Role			
Role 1			
Role 2			
Role 3			

6.1.2.4 Business Processes

This section describes the business processes covered in the current business architecture.

Table 23: Business Processes

Reference ID	Process Category	Process Name	Process Description

6.1.3 Physical Current Business Architecture

6.1.3.1 Process Allocation

This section documents the physical location of the processes found in an agency. The choice of representation depends on the key point(s) of the model.

Table 24: Business Process by Location

Location	Location 1	Location 2	Location 3
Physical Process			
Process 1			
Process 2			
Process 3			

6.1.3.2 Physical Business Component RACI View

This section identifies and documents the accountability and responsibility of physical agency activities, containing agency's services by operation areas or other external actors that interact with the agency's activities. This should be documented based on the RACI model, in which:

- (R) Responsible – The actor that executes actions or initiatives to operationalise the activity;
- (A) Accountable - The actor that is ultimately held to the actions or results of the activity;
- (C) Consulted – The actor that has information and advice to complete the activity; and
- (I) Informed – The actor that is notified of the progress or result of the activity.

Table 25: Physical Business Component RACI View

	Business Unit Actors			Third-Party Actors	Implementation Actors		
Activity	Actor 1	Actor 2	Actor 3	Actor 4	Actor 5	Actor 6	Actor 7
Activity 1							

Activity 2							
Activity 3							
Activity 4							
Activity 5							
Activity 6							

6.1.3.3 Actor/Role Allocation

This section looks at identifying and documenting the actor/role breakdown for the individual actors/roles within the organisation that are involved in the architecture scope. This view provides a clear pinpoint of work allocation within the agency.

Table 26: Business Process by Actor

Staff Type	Staff Type 1	Staff Type 2	Staff Type 3
Physical Process			
Actor/ Role 1			
Actor/ Role 2			
Actor/ Role 3			

6.1.3.4 Physical Agency Model

This section identifies and develops the agency's physical model that depicts an accurate representation of the existing agency operation. This view may include depiction of activities such as task allocation, coordination between the actors and the reporting/supervising structure. Such architecture views require the involvement of the HR department and senior managers.

6.1.4 Cross-References within the Business Architecture

This section describes the overall business functions in the agency by breaking down its business services and grouping to the respective function.

Table 27: Business Architecture Cross References

Business Function & Service Descriptions			
Business Function Category	Business Function	Business Service Group	Business Service
Business Function Category Name 1	Business Function Description		
	Business Function Name 1	Business Function Description	
		Business Service Category Name 1	Business Service Category Description

Business Function & Service Descriptions				
Business Function Category	Business Function	Business Service Group	Business Service	
			Business Service Name 1	Business Service Description
			Business Service Name 2	Business Service Description
			Business Service Name 3	Business Service Description

6.2 Data Architecture

The following sub-sections document the findings for the agency's Current Architecture within the Data Architecture Domain.

6.2.1 Conceptual Current Data Architecture

The Conceptual Data Architecture defines the types of data required by the agency to continue to maintain its operations. The conceptual architecture layer exists to propose the general data concepts supported by the Data Architecture at the agency. The conceptual data architecture describes how the data from each business function and service communicates with one another. This may be represented using one or more conceptual-level diagrams that provide views of the current data architecture at the planning level which could consists of information subject areas and the relationships between them. An example diagram is seen in Figure 5.

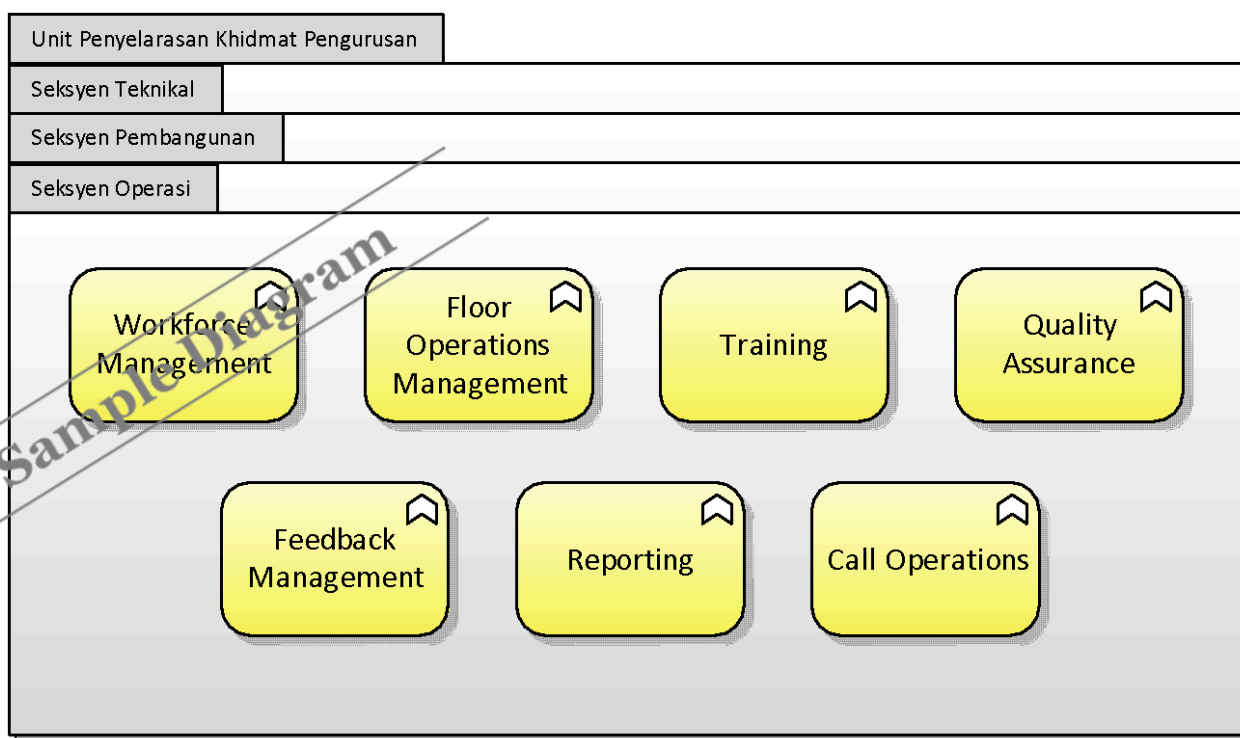


Figure 5: Example of Conceptual Current Data Architecture

This section may provide (in table format) definitions for the information subject areas in scope for the current data architecture.

Table 28: Conceptual Data Architecture Areas

Information Subject Area Id	Information Subject Area	Information Subject Area Description

6.2.1.1 User Satisfaction

This section provides a view of current user satisfaction rates for the information subject areas. It contains qualitative user satisfaction data or analysis for any of the identified Data Architecture such as detailed information about complaints and positive features of the current subject areas.

Table 29: Data Architecture User Satisfaction

Information Subject Area	User Satisfaction (Scale 1-10)	Notes, Specific Issues

6.2.1.2 Data Service Security Classification View

This section documents information related to security classification from the current data services perspective. The following table identifies the data services that needs to be secured thus require assignment of security attributes. The definition of the data service security should be carried out before a project is initiated as part of a Data Impact Analysis.

Table 30: Data Architecture Security Classification

Reference-ID Component	Title* Component	Reference ID*	Title*	Subject	Confidentiality Classification	Integrity Classification	Availability Classification

6.2.2 Logical Current Data Architecture

This section provides one or more logical-level views for the current data architecture that supports the agency’s services. This section normally contains a diagram that consists of logical data entities and the relationships between them. An example diagram can be seen in Figure 6.

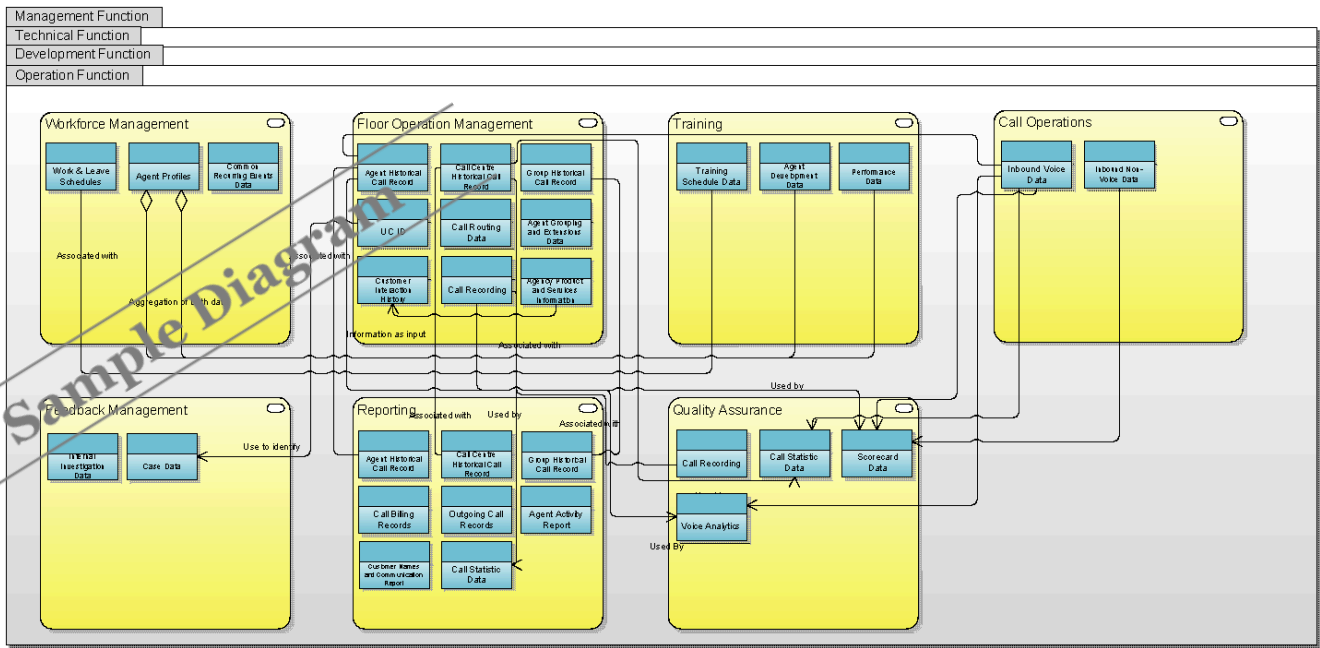


Figure 6: Example Logical Current Data Architecture

Further details and information on the identified data entities in Figure 6 can be described in a table such as that of Table 31.

Table 31: Logical Data Architecture Entities

Logical Data Entity ID	Logical Data Entity	Logical Data Entity Description

Table 32 can be used to describe the data entity characteristic as the artefacts. The characteristics classifies whether the data entity is accordance to standard or non-standard.

Table 32: Logical Data Characteristics

Logical Data Entity	Logical Data Entity Characteristic	Logical Data Entity Characteristic Value

The definition for the attributes of the logical data entities (a detailed representation of the agency's data or data management tools involved described in a business language) can also be captured in Table 33. A separate table may be produced per logical data entity.

Table 33: Logical Data Entity Attributes

Logical Data Entity	Logical Data Entity Attribute	Logical Data Entity Attribute Description

Table 34 describes the relationships between the logical data entities. It describes the connection and use of each data entity that are related.

Table 34: Logical Data Entity Relationship

Logical Data Entity 1	Logical Data Entity 2	Logical Data Entity Cardinality	Logical Data Entity Relationship Description

6.2.3 Physical Current Data Architecture

This section describes the interaction between data models that cross ownership boundaries (e.g. different units or division have interacting relationship between the business process and the data models). This can be represented using one or more logical-level diagrams for the current data architecture.

This section aims at determining the interaction between data entities such as the selection and visualisation of the interactions that cross logical ownership boundaries. On top of that, its secondary objective is to determine the impact of information ownership on these interactions.

On top of that, this area can also capture the descriptions and definitions of the physical-level view(s) for the current data architecture to understand the architectural decisions that have been taken and the relevance to the identified stakeholders.

6.2.4 Current Data Architecture Cross-References

This section details the current Data Architecture cross-references between the Logical Data Entities and the identified Conceptual Data Entities. This can be documented in Table 35.

Table 35: Current Data Architecture Cross-References

	Conceptual Data Entity 1	Floor Management Operations	Training
Data Entity 1	Work & Leave Schedules MAMPU-1MOCC-DA_LDC _009	Agent Historical Call Record MAMPU-1MOCC-DA_LDC _004	Training Schedule Data MAMPU-1MOCC-DA_LDC _019
Data Entity 2	Agent Profiles MAMPU-1MOCC-DA_LDC _010	Call Centre Historical Call Record MAMPU-1MOCC-DA_LDC _006	Agent Development progress MAMPU-1MOCC-DA_LDC _020
Data Entity 3	Common Recurring Event Data MAMPU-1MOCC-DA_LDC _011	Group Historical Call Record MAMPU-1MOCC-DA_LDC _005	Performance Data MAMPU-1MOCC-DA_LDC _021

6.3 Application Architecture

The following sub-sections document the findings for the agency's Current Architecture within the Application Architecture Domain.

6.3.1 Conceptual Current Application Architecture

The Conceptual Application Architecture defines which types of Application Services are currently provided in order to assist the agency in providing its business services. This section provides one or more conceptual-level views for the current application architecture. The conceptual design is normally represented through a diagram that gives a view of the current application architecture at the conceptual level (mostly consisting of application services).

6.3.1.1 Current Application Services

This area documents the definitions for the application identified in the Current Architecture.

Table 36: Application Architecture - Application Services

Application Service ID	Application Service	Application Service Description

An Application Service is defined to have the following characteristics. The characteristics for the Application Services identified can be found in the **Application Portfolio Catalogue** Artefact.

- *Standards class* - Non-Standard, Proposed Standard, Provisional Standard, Standard, Phasing-Out Standard, Retired Standard;
- *Standard creation date* - If the product is a standard, when the standard was created;
- *Last standard review date* - Last date that the standard was reviewed;
- *Next standard review date* - Next date for the standard to be reviewed; and
- *Retire date* - Date when the standard was/will be retired.

Table 37: Application Service Characteristics

Application Service	Application Service Characteristic	Application Service Characteristic Value

6.3.1.2 Application Services Contracts

This section documents the identified Application Service contracts (interactions between the Application Services).

Table 38: Application Service Contracts

Contract Name	Contract ID	Definition	IS Service 1	IS Service 2

6.3.1.3 User Satisfaction

This section provides a view of current user satisfaction rates for each of the identified Application Services. It contains qualitative user satisfaction data or analysis for any of the identified Application Services such as detailed information about complaints and positive features of the current subject areas.

Table 39: Application Services - User Satisfaction

Application Services	User Satisfaction (Scale 1-10)	Notes, Specific Issues

6.3.1.4 Application Service Security Classification View

This section documents information related to security classification from the current application services perspective. The following table identifies the application services that needs to be secured thus require assignment of security attributes.

Table 40: Application Service – Security Classification

Reference-ID* Component	Title* Component	Reference ID*	Title*	Subject	Confidentiality Classification	Integrity Classification	Availability Classification

6.3.2 Logical Current Application Architecture

The Logical Application Architecture defines how the Application Architecture Services discussed in Section 6.3.1.1 above are realised by the lower-level classes of Application. For example, a conceptual Customer Relationship Management Service could be realised by a logical CRM Application.

The information under this section is normally represented in a graphical form of the logical setup. It provides a view of the current application architecture at the logical level which consists of logical application components (without their associated application services).

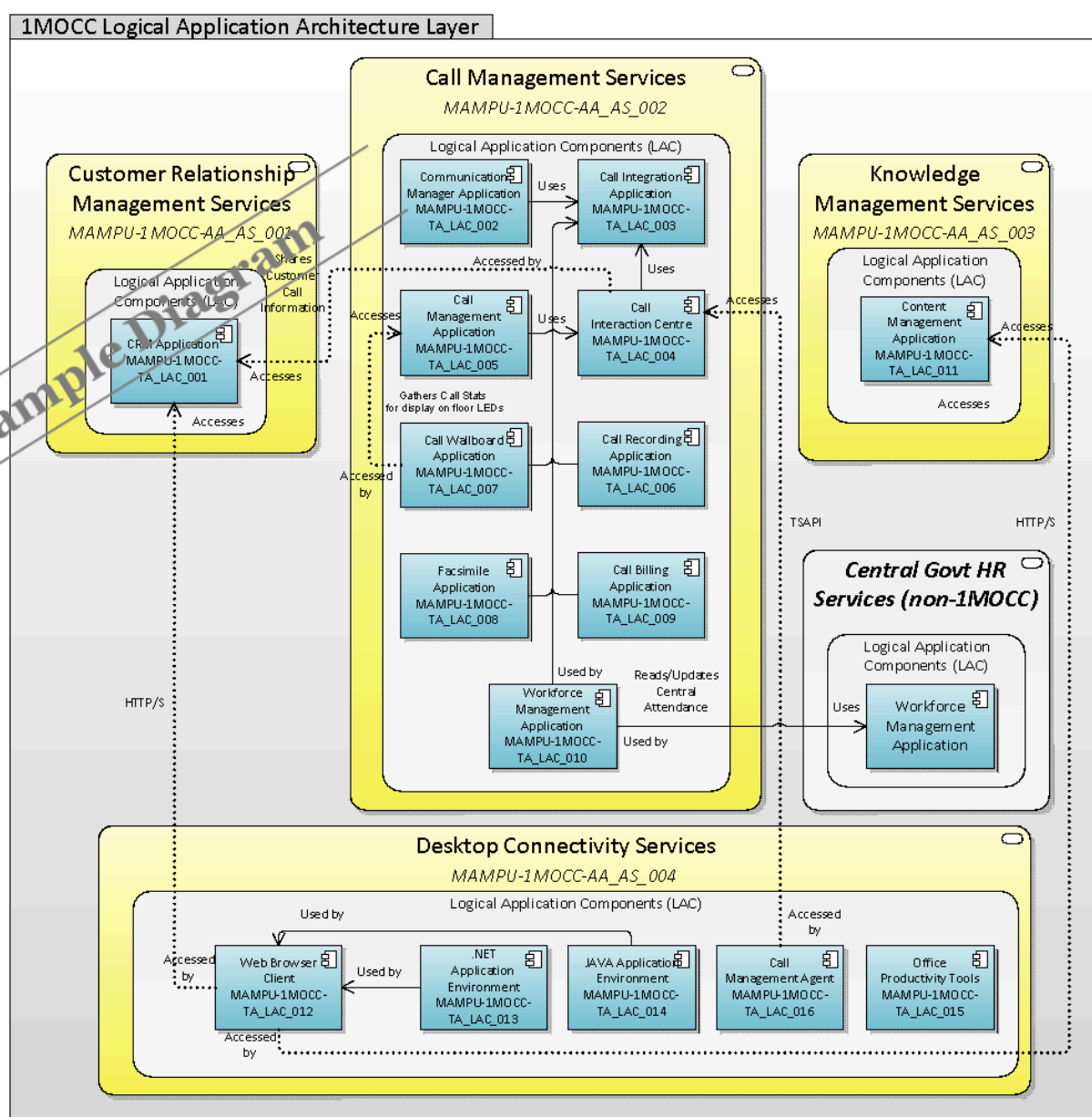


Figure 7: Example Logical Application Architecture

This section also captures in Table 41 the definition of Logical Application Components that have been identified within the agency's Application Architecture.

Table 41: Logical Application Components

LAC ID	Logical Application Component (LAC)	Logical Application Component (LAC) Description

Characteristics of the identified Logical Application Components identified can also be documented in this section in Table 42.

Table 42: Logical Application Component Characteristics

Logical Application Component (LAC)	LAC Characteristic	LAC Characteristic Value (Options)

Table 43 can be used to document the contracts (e.g. Interactions/relationships) between the identified Logical Application Components.

Table 43: Logical Application Component Interactions

LAC Contract ID	LAC Contract	Logical Application Component 1	Logical Application Component 2	LAC Contract Description

6.3.3 Physical Current Application Architecture

The Physical Application Architecture defines the actually implemented software application components which provide the functionality of the Logical Application Components described in Section 6.3.2 above. For example, a Customer Relationship Management (CRM) Logical Application Component could be realised by the physical Microsoft Dynamics v2011 software in conjunction with the Microsoft SQL Server Database software.

The currently physical Application Architecture of the agency can be represented in a graphical format. These are essentially the LACs identified previously that are then further broken down into the Physical Application Components (PACs).

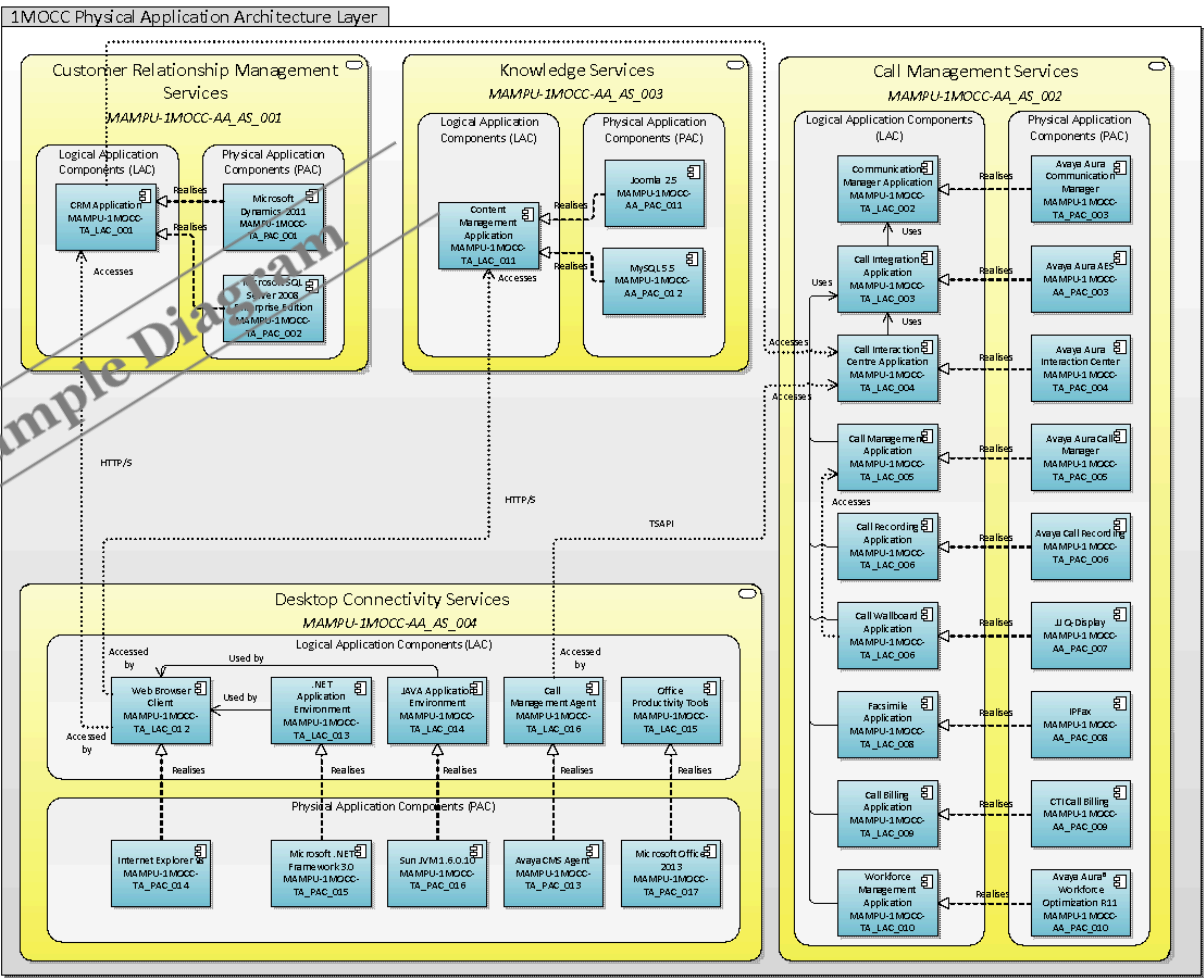


Figure 8: 1MOCC Physical Application Architecture

The definition of the Physical Application Components that have been identified within the physical Application Architecture and their mapping to the Logical Application Components (LACs) identified in Section 6.3.2 can be documented in Table 44.

Table 44: Physical Application Components

ID	Physical Application Component (PAC)	PAC Description	Mapping to Logical Application Component

6.3.4 Current Application Architecture Cross-References

This section captures the cross reference relationships in the current application architecture. These relationships help to identify the dependency across the domains and the boundaries of change.

6.4 Technology Architecture

The following sub-sections document the findings for the agency's Current Architecture within the Technology Architecture Domain.

6.4.1 Conceptual Current Technology Architecture

The Conceptual Technology Architecture defines what types of technology capabilities are required at the agency in order to provide the technology infrastructure to support their Application Services. As an example, Network Services is a technology capability that describes what is required at the highest level but does not elaborate on how this capability is to be realised.

This section provides one or more conceptual-level views for the current technology architecture. The information is normally represented in the form of a diagram that provides an overall view of the existing technology environment.

Table 45 can be used to document definitions for the Technology Services that are made available by the agency at the highest conceptual level.

Table 45: Technology Architecture - Conceptual Technology Services

Technology Service ID	Technology Service	Technology Service Description

This section also documents the characteristics of Technology Services in scope for the current technology architecture in the agency. However, the technology architect will need to decide whether characteristics are needed at the conceptual services level, logical component level, or both. The technology architect also needs to determine which characteristics they wish to capture.

Table 46: Technology Service Characteristic

Technology Service	Technology Service Characteristic	Technology Service Characteristic Description

6.4.1.1 Technology Services Interactions

This section documents the interfaces (interactions) between Technology Services and the characteristics of those interactions for the Technology Services.

Table 47: Technology Services Interactions

Interaction ID	Definition	Technology Service 1	Technology Service 2

6.4.1.2 Technology Services Contracts

This section documents the contracts between technology services and the characteristics of those contracts for the technology services. However, the domain will need to decide whether characteristics are needed at the conceptual services level, logical component level, or both. The domain also needs to determine which characteristics they wish to capture.

Table 48: Technology Services Contracts

Contractor Name	Contract ID	Definition

6.4.1.3 User Satisfaction

This section provides a view of current user satisfaction rates for each of the identified Technology Services. It contains qualitative user satisfaction data or analysis for any of the identified Technology Services such as detailed information about complaints and positive features of the current subject areas.

Table 49: Technology Services User Satisfaction

Technology Services	User Satisfaction (Scale 1-10)	Notes, Specific Issues

6.4.2 Logical Current Technology Architecture

The Logical Technology Architecture defines how the Conceptual Technology Architecture Capabilities discussed in Section 6.4.1 above are realised by the lower level of types or classes of technology as opposed to the exact technology products and version numbers. For example, a conceptual Network Service could be realised by a logical Internet Protocol (IP) Network.

This can be represented by one or more diagrams that normally provide a view of the current technology architecture at the logical level which consists of logical infrastructure components with their associated infrastructure services.

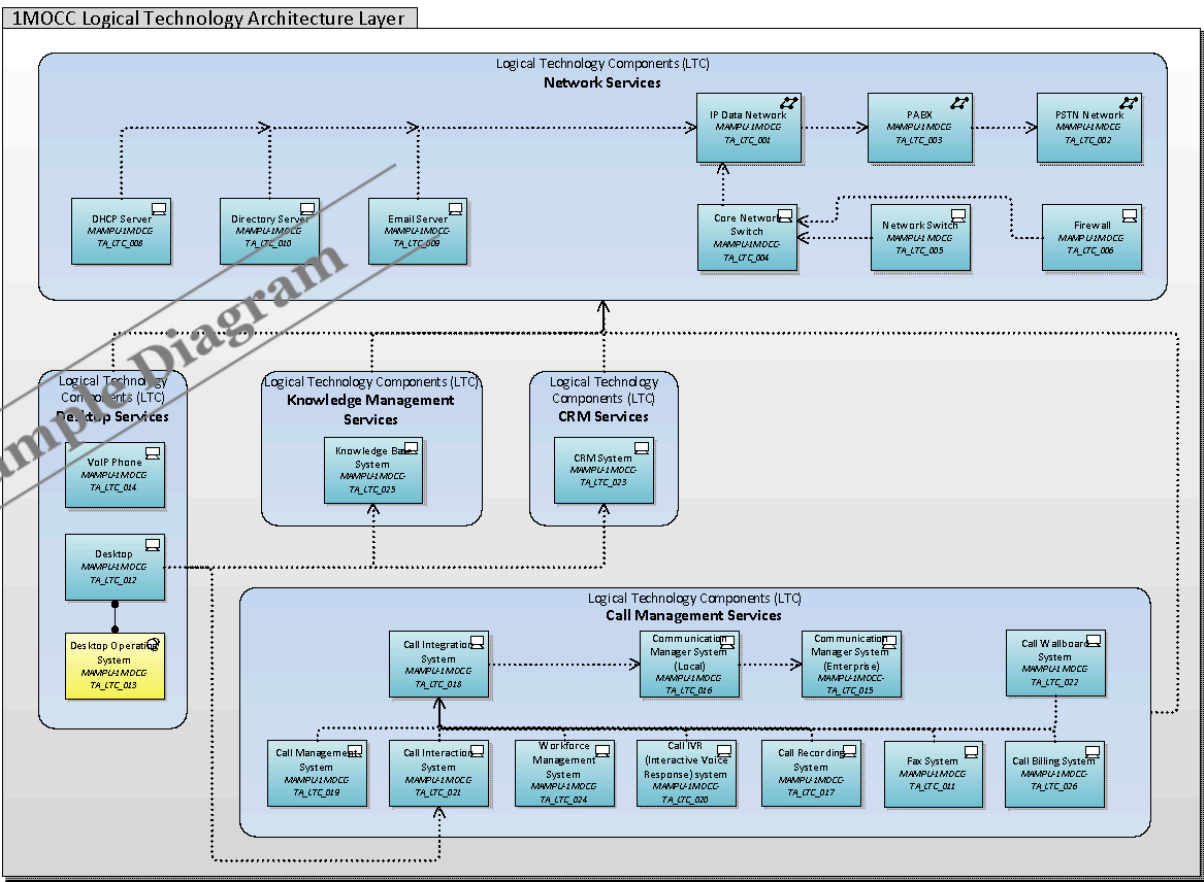


Figure 9: Technology Architecture - Logical Technology Components

This section is also used to documents those Logical Technology Components (e.g. hardware, software, network or administrators) identified within the current Technology Architecture. This can be documented in Table 50.

Table 50: Technology Architecture - Logical Technology Components

LTC ID	Logical Technology Component (LTC)	Logical Technology Component (LTC) Description

The characteristics associated with the identified Logical Technology Components (e.g. hardware, software, network or administrators) should also be documented in this section.

Table 51: Logical Technology Architecture Characteristics

Logical Technology Component (LTC)	LTC Characteristic	LTC Characteristic Value

Table 52 can be used to document the descriptions of the contracts (e.g., interactions/relationships) between the Logical Technology Components.

Table 52: Logical Technology Architecture Component Contracts

LTC Contract ID	Logical Technology Component 1	Logical Technology Component 2	LTC Contract Description

6.4.3 Physical Current Technology Architecture

The Physical Technology Architecture defines the actual implemented hardware (physical or virtual) components which provide the functionality of the Logical Technology Components described in 6.4.2 above. This can be represented by one or more diagrams that normally provide a view of the current technology architecture at the physical level.

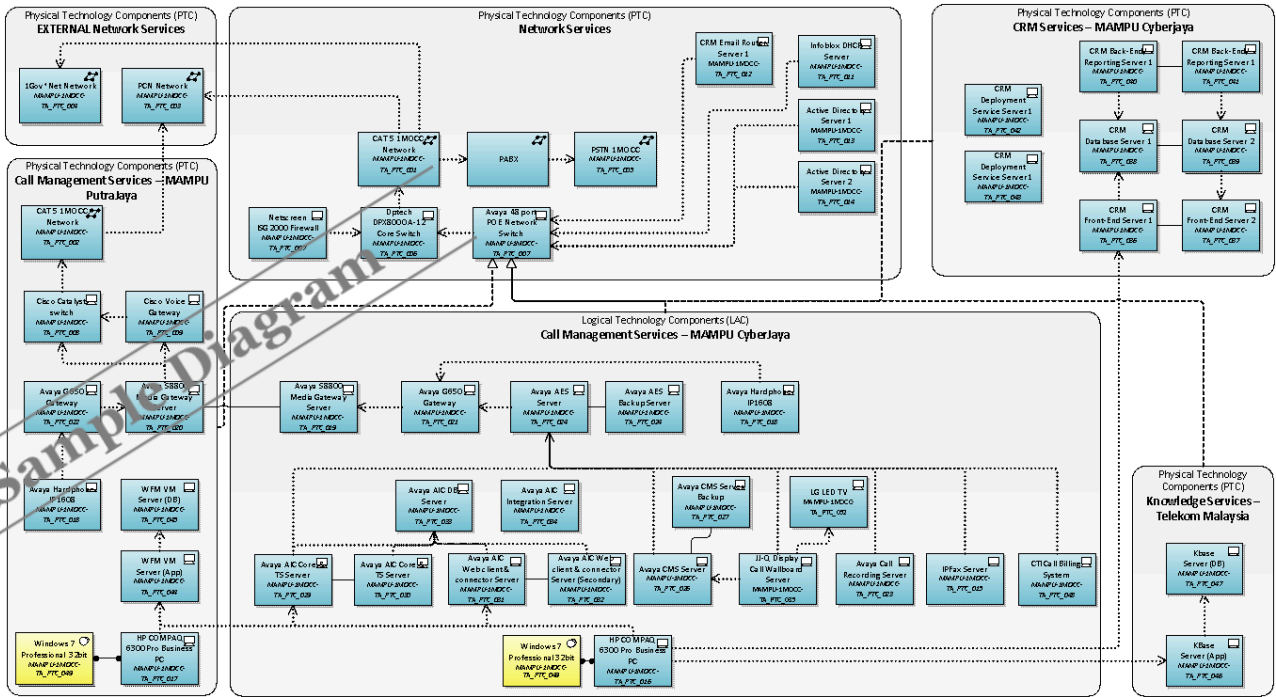


Figure 10: Example Physical Technology Infrastructure Architecture

This section provides a catalogue of the currently used infrastructure by the agency in the existing technology architecture.

Table 53: Physical Technology Components (PTC)

PTC ID	Physical Technology Component (PTC)	Physical Technology Component (PTC) Description	Mapping to Logical Technology Components (LTC)	Tech nical Fitne ss Scor e (1-10)	Busi ness Fitne ss Scor e (1-10)	Busi nes s Imp orta nce (1-10)

7. Gaps and Opportunities

This section documents any identified gaps in the current architecture that need to be addressed for the agency to achieve its vision. Gaps that are identified in this step will translate into potential opportunities. The following actions are required to populate this section:

- 1. Conduct focus group sessions with the top management to brainstorm/discuss on the agency's envisioned environment (e.g. business strategy and future service offerings).*
- 2. Conduct research on business and technology trends that may be relevant to the agency's businesses.*
- 3. Conduct a Visioning Session/Workshop to obtain agreement on the preliminary envisioned environment.*
- 4. Identify gaps within the agency's current architecture in order to achieve its vision.*
- 5. Formulate possible business and technology initiatives for the agency to enhance its current architecture to achieve its vision.*

7.1 Overview

This section should provide an overview of the results of the gap analysis exercise that was carried out. The following section (Section 7.2) documents the method used to conduct the gap analysis.

Justifications for any eliminated or new building block should also be included in this section. The resulting matrix can be included in this section to provide an overview of the analysis result.

Potential gaps in each architecture domain (Business, Data, Application and Technology) include:

- *Business Architecture:*
 - *Skills/ Capabilities*
 - *Processes*
 - *Tools*
 - *Information*
 - *Facilities that support business operations*

- *Data Architecture:*
 - o *Misplaced data*
 - o *Incorrect data*
 - o *Unreliable source of data*
 - o *Data relationship gaps.*
- *Applications impacted, eliminated, or created; and*
- *Technology impacted, eliminated, or created.*

7.2 Approach

This section should provide a clear explanation on the method used to conduct the gap analysis. This provides a clear understanding to the user on how the differences between the current and target architecture have been identified.

An example guideline to conduct the gap analysis can be found below. Agencies should update this section based on the approach/ method that they will be using.

Table 54: Gap Analysis Matrix

Target Architecture				
Current Architecture	<Component 1>	<Component 2>	<Component 3>	Removed
<Component 1>				
<Component 2>				
<Component 3>				
Additional				

Construct a matrix similar to that of Table 54. Replace the <Component n> parameters with potentially reusable components in all four (4) architecture domains of the current architecture and target architecture respectively. Fill the matrix based on the following guidelines:

- i. If a component is available in both the current and target architectures, note that the component is included in the intersecting cell.
- ii. If a component in the current architecture is not included in the target architecture, note if it has been intentionally or unintentionally removed in the corresponding cell in the 'Removed' column. This should include a comprehensive explanation/ comment on whether it has been intentionally removed or unintentionally removed i.e. a gap in the architecture.
- iii. If a component in the target architecture is not available in the current architecture, note this in the corresponding cell in the 'Additional' row and state how the gap will be addressed.

Once the gap analysis is completed, components tagged as 'Removed' or 'Addition' are considered to be a gap between the current and target architecture.

7.3 Opportunities

This section should document potential opportunities to address the gaps that have been identified previously. It should contain high-level descriptions on how the gaps in the current architecture can be resolved/ managed to align towards the agency's vision as well as highlight any dependencies to other gaps.

This can be presented in a table format as illustrated in Table 55.

Table 55: Proposed Opportunities

No.	Architecture Domain (i.e. Business, Data, Application, Technology)	Gap	Proposed Opportunities	Dependencies

8. Rationale and Justification for Architectural Approach

8.1 Rationale

This section documents the rationale behind the conceptualisation of the Current Architecture. The information stored here would provide reasons to the state in which the existing architecture came to be. Rationale such as budget, technology or expertise constraints may be document here as part of the moulding factor of the Current Architecture.

8.2 Approach

This section documents the approach that was taken to establish the Current Architecture by the agency or vendor. Additional information such as critical success factors and lessons learnt are also supplemented to the approach.

8.3 Architecture Decisions

This section documents the historic architecture decisions taken to date which have shaped the current architecture.

Table 56: Historic Architecture Decisions

ID	Decision Item	Decision Made	Completion Date	Source	Owner/Major Contributors

8.4 Architecture Governance

8.4.1 Agency Governance

This section documents any existing governance structure that has been set up to oversee and govern the agency's existing architecture. A future agency-level EA Governance Model that is proposed by 1GovEA Framework can be used as a basis to develop the agency's Governance structure

8.4.2 Central Governance

This section provides an overview of the overall EA governance structure of 1GovEA. It should include high-level descriptions on how components within the structure are interrelated as well as how the agency will interact with the governance body.

9. Mapping to Architecture Repository

9.1 Artefacts

This section describes and documents the artefacts that are relevant for developing the Current Architecture. This section may either provide references to the relevant documentation that has been produced separately by the domains, or provide the necessary information such as:

- *Any domain-specific or enterprise architecture-level artefacts that have been used to help define the architecture;*
- *Any domain-specific or enterprise architecture-level artefacts that can be derived from the architecture;*
- *Any deviance from existing business artefacts and the reasons; and*
- *Any assumptions regarding the artefact or their documentation.*

For reference purposes, the relevant artefacts should be provided along with this document or the location in which the artefacts can be obtained should be included in this document.

Table 57: Referenced Current Architecture Artefacts

Artefact-ID	Architecture Domain (BDAT)	Artefact Name	Description	Date	Author

9.2 Mapping to Reference Models

This section documents any external reference models that have been referenced during the documentation of the Current Architecture for the agency.

10.1 1GovEA Methodology Cycle

```

graph TD
    subgraph Stage1 [Stage 1 Initiate]
        S1_1[1.1 Define Architecture Scope]
        S1_2[1.2 Confirm Governance and Stakeholders]
        S1_3[1.3 Define Architecture Vision and Requirements]
    end

    subgraph Stage2 [Stage 2 Assess]
        S2_1[2.1 Assess Current Architecture]
        S2_2[2.2 Gaps and Opportunities]
        S2_1 --- S2_2
        S2_1 --- BA[Business Architecture]
        S2_1 --- DA[Data Architecture]
        S2_1 --- AA[Application Architecture]
        S2_1 --- TA[Technology Architecture]
    end

    subgraph Stage3 [Stage 3 Define]
        S3_1[3.1 Define Target Architecture]
        S3_2[3.2 Develop Solutions]
        S3_3[3.3 Plan Migration]
        S3_1 --- BA2[Business Architecture]
        S3_1 --- DA2[Data Architecture]
        S3_1 --- AA2[Application Architecture]
        S3_1 --- TA2[Technology Architecture]
        S3_1 --- S3_2
        S3_2 --- S3_3
    end

    subgraph Stage4 [Stage 4 Build/Operate]
        S4_1[4.1 Govern Implementation]
        S4_1 --- ID[Implementation Delivery Methodology]
    end

    subgraph Stage5 [Stage 5 Monitor]
        S5_1[5.1 Manage Architecture Change]
        S5_2[5.2 Undertake Knowledge Transfer]
        S5_3[5.3 Conduct Post Implementation Review]
        S5_4[5.4 Continuously Monitor Performance]
        S5_1 --- S5_2
        S5_2 --- S5_3
        S5_3 --- S5_4
    end

    S1_3 --- S2_1
    S2_2 --- S3_1
    S3_3 --- S4_1
    S4_1 --- S5_1
    S5_4 --- S1_1
    
```

Stage 1 Initiate

- 1.1 Define Architecture Scope
- 1.2 Confirm Governance and Stakeholders
- 1.3 Define Architecture Vision and Requirements

Stage 2 Assess

- 2.1 Assess Current Architecture
 - Business Architecture
 - Data Architecture
 - Application Architecture
 - Technology Architecture
- 2.2 Gaps and Opportunities

Stage 3 Define

- 3.1 Define Target Architecture
 - Business Architecture
 - Data Architecture
 - Application Architecture
 - Technology Architecture
- 3.2 Develop Solutions
- 3.3 Plan Migration

Stage 4 Build/Operate

- 4.1 Govern Implementation
 - Implementation Delivery Methodology

Stage 5 Monitor

- 5.1 Manage Architecture Change
- 5.2 Undertake Knowledge Transfer
- 5.3 Conduct Post Implementation Review
- 5.4 Continuously Monitor Performance

Ongoing Requirements Management

Figure 11: 1GovEA Methodology

10.2 Next Steps

- Review and revise the 1GovEA Framework document to ensure that the architecture framework is suitable for the agency;

- Review and revise the existing Post Implementation Report to ensure that it is able to fit the artefacts and deliverables selected for this architecture work;
- Develop and obtain approval for the Statement of Work document; and
- Develop the Draft Requirements document.