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Title: **<Project Name>**

Unique Identifier: **206-1313**

Project Identifier: **<<Insert the project code in here>**

Area of Applicability: **Eskom**

Documentation Type:

Disclosure Classification: **CONTROLLED DISCLOSURE**

Project Stage Review

Lifecycle Phase	Lifecycle Stage	Stage Gate (after stage)	Deliverable	Appropriate Lifecycle Stage
Pre-Project Planning	Define Need		Project Statement of Work	
	Project Context	CRA	Statement of Architecture Work	
Concept	Feasibility			
	Concept Design	DRA	Conceptual Architecture Definition	
Definition	Logical (Basic) Design	ERA	Logical Architecture Definition	
Execution	Physical (Detailed) Design	IRA	Detailed Design	✓
Finalization	Pre-Transfer Design	FRA	Pre-Transfer Design	✓

Compiled By

Reviewed By

Approved By

**Initials and Surname
Lead Architect**

**Initials and Surname
Assessing Architect**

**Initials and Surname
ADR Chairman**

Date:

Date:

Date:

0 GUIDELINES FOR COMPLETION

Commonly used definitions are included in 14 APPENDIX A while commonly used definitions are included in 15 APPENDIX B (ABBREVIATIONS)

0.1 TABLE INDICATING COMPLETED SECTIONS

Table 0.1 Group IT Business Requirements Specification Template


Num	Section	Approved	Altered /	Not Completed
1.	CONTROL TABLE			
2.	CUSTOMER AND STAKEHOLDER DETAILS			
3.	ABBREVIATIONS			
4.	GLOSSARY OF TERMS / DEFINITIONS			
5.	BUSINESS REQUIREMENTS SPECIFICATION DOCUMENT OVERVIEW			
6.	BACKGROUND AND CONTEXT			
6.1	Business Strategy & Focus Areas supported			
6.2	Reason for the requirement			
6.3	Data flow diagram (DFD)			
7.	BUSINESS PROCESSES			
7.1	As-is business process			
7.2	To-be process			
8.	FORMAL BUSINESS REQUIREMENTS			
8.1	High level requirements			
8.2	Functional requirements			
8.3	Business Rules (basic)			
8.4	Use Case Model			
8.5	User interface requirements			
8.6	Reporting requirements			
8.7	Information/data requirements			
8.8	System Integration requirements			
8.9	System Performance requirements			
8.10	Security requirements			
8.11	Archiving requirements			

8.12	Operating environment			
9.	In/out of scope and preconditions			
10.	TRAINING			
10.1	Define the training requirements:			
10.2	Define the possible types of training that will be required:			
10.3	Define who will be designing the training, if known			
11.	Legal requirements (if applicable)			
11.1	Define the legal requirements.			
12.	Disaster recovery requirements			
12.1	Define the disaster recovery requirements (for new solutions this needs to be done together with Information			
13.	Business continuity			
13.1	Confirm that the business is aware that the solution resulting from this requirement need to form part of a			
14.	Capacity planning requirements			
14.1	Define the basic capacity planning requirements.			
15.	Environmental management			
15.1	Define the basic environmental management requirements.			
16.	Service level agreement			
16.1	Define the basic Service Level Agreement requirements.			
17.	Support and maintenance contract requirements			
17.1	Define the basic Support and Maintenance Contract Requirements			
18.	PROPOSED SOLUTIONS/ARCHITECTURE/TECHNOLOGY (to be			
18.1	Define the possible architecture (Graphically and/or text representation that could be used to meet the business			
18.2	List any technology which could be considered in the development of the proposed solution.			
19.	DEPENDENCIES			
19.1	Define the business activities, processes, people aspects, projects and technology that the proposed			
20.	ASSUMPTIONS AND CONSTRAINTS			
20.1	Define the assumptions or constraints that must be considered when designing and developing the			
21.	HIGH LEVEL DEFINITION OF QUANTIFIABLE AND NON QUANTIFIABLE BENEFITS (to be copied from the			
22.	HIGH LEVEL DEFINITION OF RISKS			
22.1	Define the risk associated to the dependencies, assumptions and constraints.			
23.	COSTING			
24.	POSSIBLE OPTIONS			
25.	DOCUMENTS TO BE UPDATED			


26.	REFERENCES			
27.	DOCUMENT ACKNOWLEDGEMENT			
28.	DOCUMENT APPROVAL			

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DOCUMENT HISTORY

Revision No	Date	Author/s	Description

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Give a one sentence description of what the project is intended to do. The project name is often comparatively meaningless to an outsider and this section gives a very quick description of the project.

Example: *“The KBS Project will monitor and control the consumption of bird seed by the Koeberg Nuclear Station”.*

1.2 DOCUMENT SCOPE/PURPOSE

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2 SUPPORTING CLAUSES

2.1 SCOPE


2.2 APPLICABILITY

2.3 NORMATIVE / INFORMATIVE REFERENCES

2.3.1 Normative

Ref #	Referenced Document	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		

2.3.2 Informative

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Ref #	Referenced Document	Description
1		
2		
3		
4		
5		


2.3.2 Documents submitted prior to physical Design

3 SOLUTION INFORMATION

3.1 APPLICATION ARCHITECTURE LANDSCAPE

3.1.1 Target Application Portfolio Catalogue


3.1.2 Target Application Portfolio Catalogue Gaps

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4 BUSINESS ARCHITECTURE

4.1 BUSINESS STAKEHOLDERS

4.2 TARGET STAKEHOLDER ANALYSIS DIAGRAM

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4.3 BUSINESS PROCESSES AND POLICIES

4.4 IS A SIGNIFICANT PART OF THE PROJECT IS TO RE-ORGANISE BUSINESS PROCESSES

4.5 TARGET APPLICATION USER LOCATIONS

4.6 DOES A MAP OF BUSINESS TO SYSTEMS ROLES EXIST?

5 BUSINESS INFORMATION ARCHITECTURE

5.1 BUSINESS INFORMATION FLOW & INVENTORY

5.1.1 Business Information Flow Diagram

5.2 IDENTIFICATION AND AUTHENTICATION

5.3 INFORMATION INTEGRITY AND CUSTODIANSHIP

5.4 INFORMATION RELATED BUSINESS CONTINUITY

>>

Has the BIA been done, if not state explicitly why?

5.5 REGULATORY

5.5.1 POPI

5.5.2 National Key Points

DATA ARCHITECTURE

6.1 DATA MODELS

6.2 DATABASE DEPLOYMENT DIAGRAM

6.3 DATA MIGRATION

7 APPLICATION ARCHITECTURE

7.1 WHAT SYSTEMS WILL BE AFFECTED BY THIS IMPLEMENTATION PROVIDE DETAILS ON THE IMPACT

7.2 HOW WILL THIS SYSTEM BE USED BY THE BUSINESS

7.3 SOLUTION MODULARITY

7.4 APPLICATION OVERVIEW

7.4.1 Use cases that are met by the application:

Any changes since CRA DRA need to be highlighted

7.5 APPLICATION STRATEGY AND PACKAGING

8 INTEGRATION ARCHITECTURE

8.1 INTEGRATION INTERFACE MAP


Figure 1 Integration Interface Map

8.2 LIST OF THE DETAIL INTEGRATION DESIGN DOCUMENTS

8.3 MESSAGE DATA MODEL/CIM MODEL

8.4 Interface Data Structure

Interface ID:	
Source System:	
Target System:	
Integration Mechanism:	
Interface Name:	
Interface Description:	
Data Format:	

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Direction:	
------------	--

8.4.1 Interface Data Schema

Business Rule	Description	Where to apply
1.		
2.		
3.		

8.4.2 Sample file

File Type	Description	SVN Location
1.		
2.		

8.4.3 Integration Services Directory/Catalogue

8.4.4 Integration sequence flow

8.5 INTEGRATION TECHNOLOGIES APPLIED

8.6 INTEGRATION DEPLOYMENT DIAGRAM

9 LOGICAL PHYSICAL STATUS

9.1 LIST PRODUCTS CURRENTLY BEING CONSIDERED

9.2 INDICATE WHAT DESIGNS STILL NEED TO BE COMPLETED

9.3 HAS AN ANALYSIS OF WHAT IS CURRENTLY IN PLACE AND THE STANDARDS BEEN PERFORMED?

9.4 WHAT PRODUCTS ARE BEING CONSIDERED

9.4.1 What are the constraints on product choices

9.4.2 Criteria of what your objectives are

9.5 CRITERIA


9.5.1 Are the proposals being measured by reference criteria weights scoring and gate keepers is this signed off

9.5.2 Functional Exclusions

9.5.3 Has or will the RFP / RFI be as per the standard template

9.6 THIS NEEDS TO INCLUDE ALL COMMERCIAL THINGS E.G. BRAND LONGEVITY AND ITEMS OTHER THAN TECHNICAL ISSUES

9.6.1 Brand Longevity

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9.6.2 Support In South Africa

9.6.3 Where does the solution lie in the Gartner magic quadrant

9.6.4 Any additional issues covered

9.7 USER EXPERIENCE

9.7.1 Describe the proposed interface and its ease of use

9.8 ARE THERE ANY VENDOR LOCK IN ISSUES

9.9 DOES THE PRODUCT USE OPEN STANDARDS

9.9.1 Indicate All Open Standards used

9.9.2 Indicate Proprietary standards /systems used

9.10 IF RELEVANT EXPLAIN YOUR CHOICE OF DEVELOP / BUY

9.11 WHAT SUPPORT MODEL HAS BEEN DEVELOPED

9.12 WHAT NEEDS TO BE COMPLETED BEFORE INITIATIVE CAN PROCCEED

TECHNICAL ARCHITECTURE

10.1 Basic Infrastructure

10.1.1 Existing Infrastructure

10.1.1.1 Existing Infrastructure to be used as is

10.1.1.2 Existing devices to be upgraded

10.1.2 Transition Plan

10.2 INFRASTRUCTURE CHANGES

10.2.1 Infrastructure

Table 10.1 List Of Infrastructure Servers

New / Upgraded / Replaced	Previous serve`	Manufacturer	Model	Server Name	Primary Applications(s)	Operating System	IP Address	Site	Tier	Total No Of vCPU's	CPU Clock Speed	Total Shared Memory	Total Storage

10.2.2 Application server

Table 10.2 List Of Application Servers

New / Upgraded / Replaced	Previous serve`	Manufacturer	Model	Server Name	Primary Applications(s)	Operating System	IP Address	Site	Tier	Total No Of vCPU's	CPU Clock Speed	Total Shared Memory	Total Storage

10.2.3 Database Server

Table 10.3 List of Database Servers

New / Upgraded / Replaced	Previous serve`	Manufacturer	Model	Server Name	Primary Applications(s)	Operating System	IP Address	Site	Tier	Total No Of vCPU's	CPU Clock Speed	Total Shared Memory	Total Storage

10.2.4 Web Server

New / Upgraded / Replaced	Previous server	Manufacturer	Model	Server Name	Primary Applications(s)	Operating System	IP Address	Site	Tier	Total No Of vCPU's	CPU Clock Speed	Total Shared Memory	Total Storage

10.2.5 Integration Server

New / Upgraded / Replaced	Previous server	Manufacturer	Model	Server Name	Primary Applications(s)	Operating System	IP Address	Site	Tier	Total No Of vCPU's	CPU Clock Speed	Total Shared Memory	Total Storage


10.3 DESKTOPS

10.3.1 Client Devices to be replaced

Type Of Device	Site	Number of devices

10.3.2 Client devices to be upgraded

Type Of Device	Site	Number of devices

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10.3.3 Client devices to be added

Type Of Device	Site	Number of devices

10.4 NETWORK AND TELECOMS

10.4.1 LAN Services

10.4.2 WAN Services


10.4.3 Applied Technologies

The existing deployment technologies that will be applied during this deployment include the following:

10.5 SIZING

10.5.1 How was the server sizing determined

10.5.2 How were the client requirements determined

	<p style="text-align: center;"><Phase> EAAB Submission: <Title></p>	<p style="text-align: center;">Group IT: BSDS-EA</p>
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10.6 PHYSICAL DESIGN

10.6.1 The Physical Design is depicted below. (Multiple diagrams may be used where needed)

10.6.1.1 WAN Diagram(s)

10.6.1.2 LAN Diagram(s)

10.7 USER BASE

10.7.1 User Base

10.7.2 Transactions

10.8 SOFTWARE AND REQUIREMENTS

10.8.1 Servers (Software)) (DB/Web/App etc.), Platform, OS, Hardware and Virtualisation

Server Name	Software Category	Software Package A and its exact version number	Software Package A
		JRE 2.0.0.430	

10.8.2 Desktops

e.g. JRE 2.0.0.430 the details are to be completed in section 13.3 Standards Used / Created

10.9 BUSINESS CONTINUITY AND DISASTER RECOVERY

For pre-transfer stage as above but with emphasis on “as built”

10.9.1 Criticality

Category	Mission-critical	Vital	Important	Non-critical
Percentage of Systems	15%	20%	25%	40%
Recovery Objective Time	Immediate	Seconds	Minutes	Hours or evendays
Availability index	99.999+	99.99	99.9	<99.0
Data Retention period	hours	days	years	infinite

10.9.2 Risk


10.10 LICENCING

10.10.1 What server side licences are required, indicate if the licences exist or will be new, if reusing existing licences please include if there are any changes to the licencing model

10.10.2 What current licences will be required and reused

10.10.3 What desktop licences (if any) are required indicate the licencing model used

10.10.4 Has a licence audit been performed

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10.11 VERSION CONTROL

10.12 SUPPORT

10.12.1 What support agreements are in place for supporting this application. Indicate which of the following are needed and who is supply the support for that

10.12.1.1 *End User*

10.12.1.2 *Servers*

10.12.1.3 *Other Hardware*

10.12.1.4 *Software support*

10.12.1.5 *Software Development*

10.12.2 **Expansions / Upgrades**

What provision has been made for expansion of the system due to

10.12.2.1 *Upgrades of Software*

10.12.2.2 *Increased user count*

10.12.2.3 *Additional system functionality being used*

10.12.2.4 *Changes in functionality*


10.13 DATA MANAGEMENT, STORAGE AND BACKUP AND HIGH AVAILABILITY

10.13.1 Data Backup and Recovery Backup and Recovery

10.13.1.1 *Server backup requirements*

10.13.1.2 *End user backup requirements*

10.13.1.3 *Redundancy / Course of action in event of failure*

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11 SECURITY

11.1 INFORMATION SECURITY POLICIES

Is the design impacted by any of the Security Standards?

Will this have an adverse effect on the design?

11.2 ASSET MANAGEMENT

Will this design include any Data / Information Architecture?

Has the Data Stewards or Data Owner been identified?

Will there be any external data send to Eskom?

11.3 ACCESS CONTROL

Will the users of the system need to be authenticated?

Will external users require access to the system?

Has any roles and responsibilities been identified?

Has any authorisation to systems been identified?

11.4 COMMUNICATIONS SECURITY

Will 3rd Party Access be required to Eskom Systems

Will any of the applications require Mobile Device connectivity?


Are there any Cloud Services connectivity required?

Will the architecture require external facing services?

11.5 CRYPTOGRAPHY

Will the architecture require any Multi-Factor Authentication?

Will the architecture require any form of User Digital Signatures?

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Will the traffic traversing the network require any form of privacy? Compliance

11.6 COMPLIANCE

Will the architecture require any form of Log Maintenance?

Will the architecture require any form of audit trails?

Will the architecture require any form of Security Monitoring?

11.7 SECURITY OPERATIONS AND DEVELOPMENT

Will the architecture require any Software Development?

Will the architecture require any Disaster Recovery requirements?

Has the proposed architecture any clearly identified Threats?

Has any clear security risks been identified within the proposed architecture?

11.8 AUTHENTICATION AND CONFIGURATION

Provide information ownership and custodianship. Highlight possible conflicts, including potential future conflicts, which may arise as a result of ownership and custodianship assignments and include strategies for mechanisms to resolve these conflicts.


11.8.1 Information Security, Access and Confidentiality

11.8.1.1 Information Confidentiality Matrix

Table 11.1 Information Confidentiality Matrix

S = Secret;
 C = Confidential;
 CD = Controlled Disclosure;
 PD = Public Domain

<p>Information Objects</p>

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12 TESTING

12.1 FUNCTIONAL TEST RESULTS

12.1.1 Summary of Tests

12.1.2 Results of Tests


12.1.3 Have all functional tests been signed off and accepted

12.2 TECHNICAL TEST RESULTS

12.2.1 Summary of Tests

12.2.2 Results of Tests

12.2.3 Have all technical tests been signed off and accept

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13 ADDITIONAL REQUIRED DOCUMENTATION

13.1 AS BUILTS

13.2 CONFIGURATION INFORMATION


13.3 STANDARDS USED / CREATED

13.3.1 Which standards have been used?

13.3.2 What additional standards are required

13.3.2.1 Supply detailed configuration information recommended for the standard

What other standards are impacted need to be reviewed as a result of 13.3.2 above?

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14 APPENDIX A (DEFINITIONS)

14.1 DEFINITIONS

14.1.1 Architecture Specific Definitions

14.1.1.1 Architecture

A formal description of a system, or a detailed plan of the system at component level, to guide its implementation. The structure of components, their inter-relationships, and the principles and guidelines governing their design and evolution over time (TOGAF).

14.1.1.2 Architecture Vision

A succinct description of the Target Architecture that describes its business value and the changes to the enterprise that will result from its successful deployment. It serves as an aspirational vision and a boundary for detailed architecture development (TOGAF).

14.1.1.3 Architecture Development Method (ADM)

A step-by-step approach to develop and use the enterprise architecture (TOGAF).

14.1.1.4 Baseline Architecture

A specification that has been formally reviewed and agreed upon, that thereafter serves as the basis for further development or change and that can be changed only through formal change control procedures or a type of procedure such as configuration management (TOGAF).

14.1.1.5 Integration


This is the linking of multiple application systems and their subsystems to communicate together seamlessly.

14.1.1.6 Target Architecture

The description of a future state of the architecture being developed for an organization. There may be several future states developed as a roadmap to show the evolution of the architecture to a target state (TOGAF).

14.1.1.7 Work Package

A logical group of architecture development work identified to achieve one or more objectives for the business. A work package can be created as result of a business

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request for IT work, an approved change request, terms of reference for architecture work or from migration planning (TOGAF)

14.1.2 Other Definitions

14.1.2.1 Big Data

Big data is high-volume, -velocity and –variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making (Smith, David M., 2012).

14.1.2.2 Data Centre

A data centre is a special building constructed to house servers. The data centre consists of a number of rooms with special filtration and air conditioning to keep servers free of dust and at their optimum operating temperature, and preventing the significant quantities of heat they generate from building up and damaging the equipment. The building provides special electricity supplies, with generators that supply power in the event of a power cut, and provide physical security in the form of guards and locks to ensure that only the owners of the servers and their appointed staff can gain access to a server, to prevent theft. Lastly, data centres have multiple high-quality Internet connections with backups, allowing the servers within to remain connected to the Internet at high speed, even if faults or accidents break one or more of the connections.


14.1.2.3 Disaster Recovery

Disaster recovery is the process, policies and procedures related to preparing for recovery or continuation of technology infrastructure critical to an organisation after a natural or human-induced disaster. Disaster recovery is a subset of business continuity. While business continuity involves planning for keeping all aspects of a business functioning in the midst of disruptive events, disaster recovery focuses on the IT or technology systems that support business functions.

14.1.2.4 Gartner Hype Cycle

*A **Hype Cycle** is a graphical depiction of a common pattern that arises with each new technology or other innovation. A technology (or related innovation) passes through several stages (technology trigger, peak of inflated expectations, trough of disillusionment, slope of enlightenment, and plateau of productivity) on its path to productivity:*

Technology Trigger: *The Hype Cycle starts when a breakthrough, public demonstration, product launch, or some other event generates press and industry interest in a technology innovation.*

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Peak of Inflated Expectations: A wave of “buzz” builds and the expectations for this new technology rise above the current reality of its capabilities. In some cases an investment bubble forms, as happened with the Web, social media and cloud computing.

Trough of Disillusionment: Inevitably, impatience for results begins to replace the original excitement about potential value. Problems with performance, slower-than-expected adoption or a failure to deliver financial returns in the time anticipated all lead to missed expectations, and disillusionment sets in.

Slope of Enlightenment: Some early adopters overcome the initial hurdles, begin to experience benefits and recommit efforts to move forward. Drawing on the experience of the early adopters, understanding grows about where and how the technology can be used to good effect and, just as importantly, where it brings little or no value.

Plateau of Productivity: With the real-world benefits of the technology demonstrated and accepted, growing numbers of organizations feel comfortable with the now greatly reduced levels of risk. A sharp uptick (“hockey stick”) in adoption begins, and penetration accelerates rapidly as a result of productive and useful value.

14.1.2.5 Real-Time Infrastructure

Real-Time Infrastructure (RTI) represents a shared IT infrastructure in which business policies and SLAs drive the dynamic allocation and optimization of IT resources, so that service levels are predictable and consistent, despite the unpredictable IT service demand. RTI provides the elasticity functionality and dynamic optimization and tuning of the runtime environment based on policies and priorities across private, public and hybrid cloud architectures. Where resources are constrained, business policies determine how resources are allocated to meet business goals

14.1.2.6 Server Room

A server room has the same function as a data centre but is much smaller and does not require the same level of availability as with a data centre.

14.2 PROJECT SPECIFIC DEFINITIONS

15 APPENDIX B (ABBREVIATIONS)

15.1 GENERAL GLOSSARY OF ABBREVIATIONS

Table 15.1 Glossary Of Abbreviations

Abbreviation	Description
ACF	Architecture Content Framework
ADM	Architecture Development Method
API	Application Programming Interface
BAM	Business Activity Monitoring
BC	Business Critical
Bpass	Business Process as a Service
BMS	Building Management System
BPEL	Business Process Execution Language
BPM	Business Process Management
CAD	Conceptual Architecture Definition
CAPEX	Capital Expenditure
CBS	Cloud Services Brokerage
CoE	Centre of Excellence
CFD	Computational Fluid Dynamic
CIM	Common Information Model
CIO	Chief Information Officer
COTS	Commercial off the Shelf
CN	Core Network
CRA	Concept Release Approval
DC	Data Centre
dbPaas	Database Platform as a Service
DMZ	Demilitarized Zone
DPRP	Disaster Prevention and Recovery Plan
DR	Disaster Recovery
DRA	Design Release Approval
EAI	Enterprise Application Integration
EHPUM	Eskom High Performance Utility Model




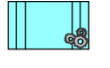












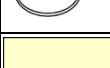
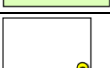

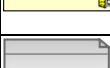







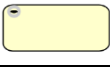




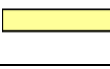






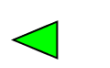
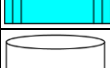

ESB	Enterprise Service Bus
ERA	Execution Release Approval
EUC	End User Computing
FBI	Fabric-Based Infrastructure
FIFO	First In, First Out
FTP	File Transfer Protocol
HTTP	Hypertext Transfer Protocol
IaaS	Infrastructure as a Service
IA	Information Assurance
ICoE	Integration Centre of Excellence
ICT	Information Communication Technology
IDE	Integrated Development Environment
IEP	Intelligent Event Processing
IRA	Implementation Release Approval
IS	Information System
IT	Information Technology
JavaCAPS	Java Composite Application Platform Suite
JBI	Java Business Integration
JMS	Java Message Service
LAD	Logical Architecture Definition
LAN	Local Area Network
LDAP	Lightweight Directory Access Protocol
MC	Mission Critical
MDM	Master Data Management
NC	Non-Critical Systems
NIST	National Institute of Standards and Technology
OPEX	Operating Expenses
OT	Operational Technology
PaaS	Platform as a Service
PAD	Physical Architecture Definition
POC	Proof of Concept
POJO	Plain Old Java Object
QA	Quality Assurance
RTI	Real Time Infrastructure


RTO	Return to Operation
SaaS	Software as a Service
SBB	Solution Building Blocks
SC	Safety Critical
SLA	Service Level Agreement
SMS	Short Message Service
SOA	Service-Oriented Architecture
SoAW	Statement of Architecture Work
SOP	Standard Operating Procedure
SQL	Structured Query Language
STCMS	SeeBeyond Technology Corporation Message Service
TBC	To Be Confirmed
TCoE	Testing Centre of Excellence
TCP/IP	Transmission Control Protocol and Internet Protocol
TOGAF	The Open Group Architecture Framework
UI	User Interface
UML	Unified Modelling Language
UNIX	Uniplexed Information Computing System
UPS	Uninterruptible Power Supplies
UX	User Interface
WP	Work Package
WSDL	Web Services Description Language
XML	Extensible Markup Language
XSD	XML Schema Definition
XSLT	Extensible Stylesheet Language Transformations

15.2 PROJECT SPECIFIC ABBREVIATIONS

<<Project Specific Abbreviations to be included here>>


16 SYMBOL REFERENCE SHEET

Symbol Name	Symbol	Symbol Name	Symbol	Symbol Name	Symbol
Application Function		Governance		Physical Hardware Technology Component	
Application Service		Governance Category		Physical Information Artefact	
Assumption		Information System		Physical Software Technology Component	
Benefit		Interface		Position	
Business Role		K Attribute (ERM)		Principle	
Constraint		Location		Requirement	
D Attribute (ERM)		Logical Information Artefact		Risk	
Data Entity		Logical Technology Component		Risk Category	
Data Subject Area		Measure		Stakeholder Group	
Driver		Objective		Stakeholder Role Description	
Eskom Managed Documents		Organizational Unit		Technology Service	
FK Attribute (ERM)		Person		VACD Process Interface	
Function		Physical Application Component		Value Added Chain (EA)	
Generalization		Physical Data Component		Work Package	

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17 ESKOM DOCUMENTATION (STANDARDS COMMONLY USED)

Document Number	Version	Title
32-389	1.12	Information security- Removable media standard.
32-385	1.14	IT Continuity/DR Standard
32-371	3.1	Group IT Change Control Standard
32-368	1.1	Information security: Incident management standard
32-369	2.4	Information security: Physical asset classification standard
32-351	2.8	Information security- Logical access control standard
32-723	1.1	Backup and Recovery Standard
240-44071782	1.11	Information Security Oracle Baseline 11g
240-86823222	1.7	Group IT: Eskom Linux 7 Technical Security Standard
240-87121701	1.6	Group IT: MySQL 4.1,5&5.1 Technical Security Standard
240-87121845	1.5	Group IT: Oracle Solaris 11 technical Security Standard
240-87121993	1.6	Group IT: Oracle Solaris 10 technical Security Standard
240-86966307	1.5	Group IT: Microsoft Exchange 2013 Technical Security Standard
240-86966667	1.5	Group IT: Microsoft IIS 7.0 Technical Security Standard
240-86966237	1.5	Group IT: Microsoft Server 2008 R2 Technical Security Standard
240-86966811	1.5	Group IT: VMWare ESXi 5.1 Technical Security Standard
240-87430851	1.5	Group IT: IBM AIX 7.0 Technical Security Standard
240-89612923	1.4	Group IT: Apache HTTP Server 2.2 Technical Security Standard
240-89613371	1.4	Group IT: Cisco Wireless LAN Controller 7 Technical Security Standard
240-90006778	1.4	Group IT: MS SQL Server 2000 Technical Security Standard
240-90041165	1.4	Group IT: MS SQL Server 2005 Technical Security Standard
240-90045717	1.4	Group IT: Apache Tomcat 5.5/6.0 Technical Security Standard
240-86830408	1.6	Group IT: Eskom Apache HTTP Server 2.4 Technical Security Standard
240-86832077	1.7	Group IT: Eskom Windows Server 2012 Technical Security Standard
240-89613769	1.4	Group IT: VMware ESX 3.5 Technical Security Standard
240-90040591	1.4	Group IT: VMware ESX 4 Technical Security Standard
240-95460364	1.3	Group IT: Eskom IIS 5&6 Technical Security Standard
240-96587315	1.4	Group IT: Oracle 12 database Technical Security Standard
240-102337621	1.2	Group IT: Oracle 8i Technical Security Standard
240-102337689	1.2	Group IT: Oracle Linux 5 Technical Security Standard

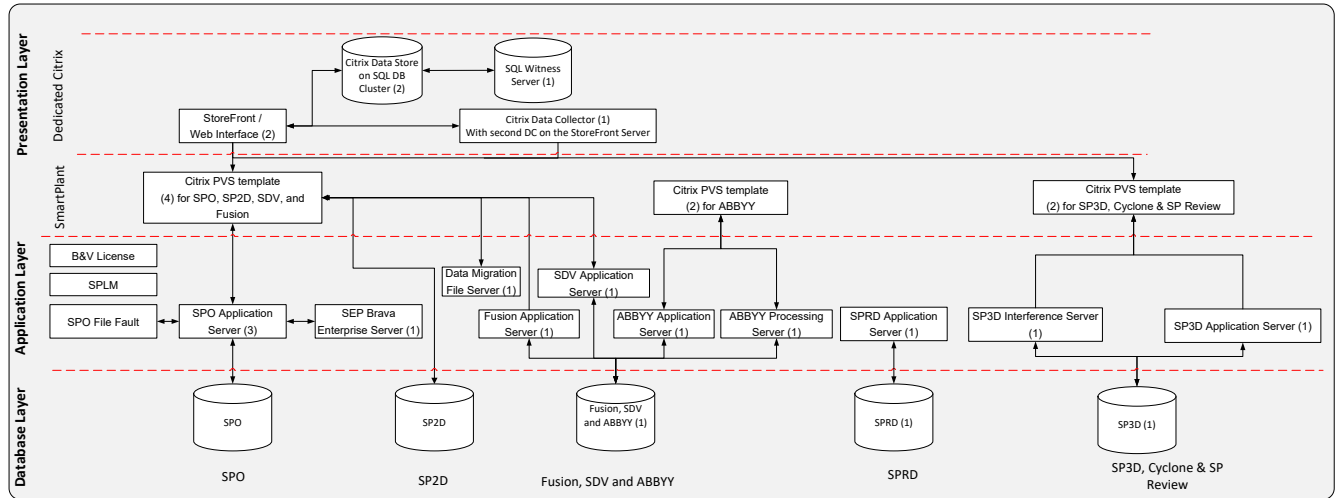
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240-102338299	1.2	Group IT : SUSE 9 Linux Technical Security Standard
240-102337250	1.2	Group IT: AIX 6.1 Technical Security Standard
240-102337440	1.2	Group IT :AIX 5.3 Technical Security Standard
240-102337524	1.2	Group IT: SUSE Linux Enterprise Server 11 Technical Security Standard
240-102337763	1.2	Group IT : Microsoft Windows Sever 2003 Technical Security Standard
240-102337811	1.2	Group IT: Red Hat Enterprise Linux 5 Technical Security Standard
240-102338007	1.3	Group IT: SUSE 10 Linux Technical Security Standard
32-373	4.4	Information security - IT/OT and third party remote access standard (Supersedes ESKASADE4)
240-103865868	1.3	Group IT: Windows 10 Technical Security Standard
32-377	1.16	Information Security - Firewall Standard
240-103865834	1.4	Group IT: Window 8.1 Technical Security Standard
240-97536243	1	Integration Security Standard
240-106727489	1.2	Information Security email archiving Standard
240-107007512	1.1	Database Security Standard
240-107007584	1.1	Web Services Security Standard
206-1461		Recipe - Statement of Architecture Work
206-1462		Recipe
206-1513		Conceptual Architecture Definition of an Application
		Logical Architecture Definition of an Application
206-1630		Logical Architecture Definition of a Data Interface
206-1241		TOGAF@E Architecture Content Framework
206-1443		TOGAF@E Content Metamodel

18 EXAMPLE DIAGRAMS

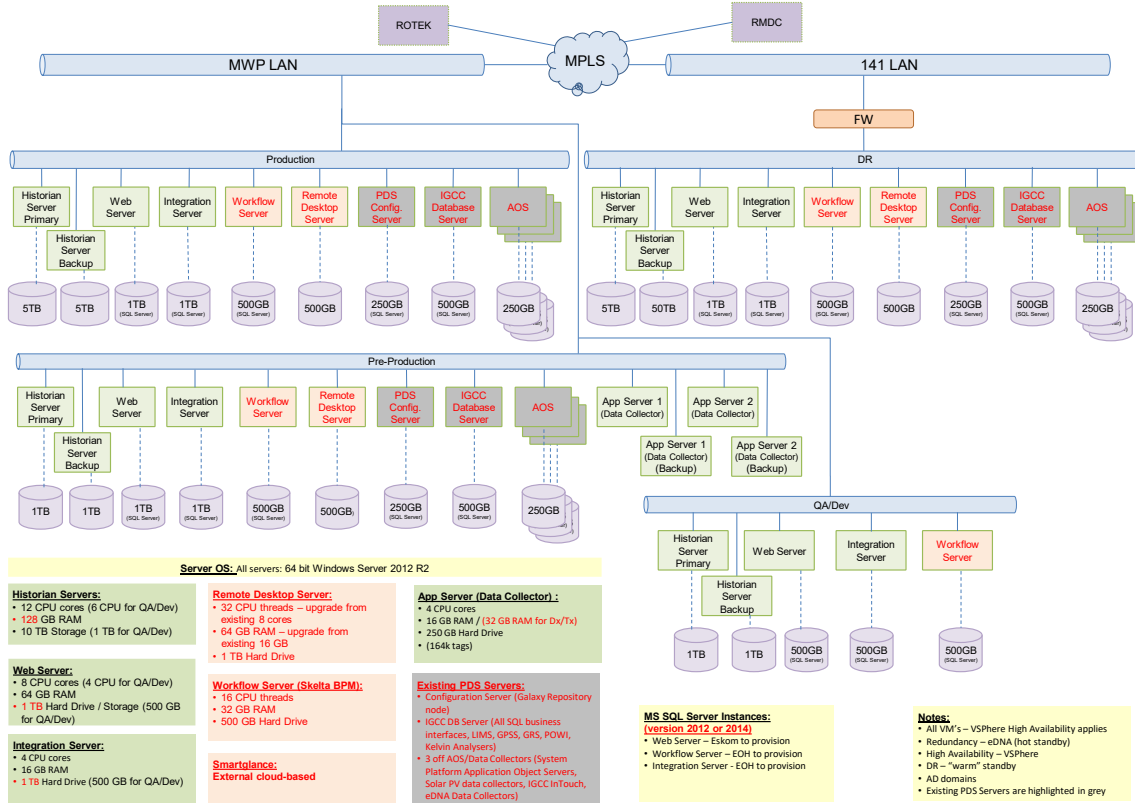
18.1 INFRASTRUCTURE

18.1.1 Logical view



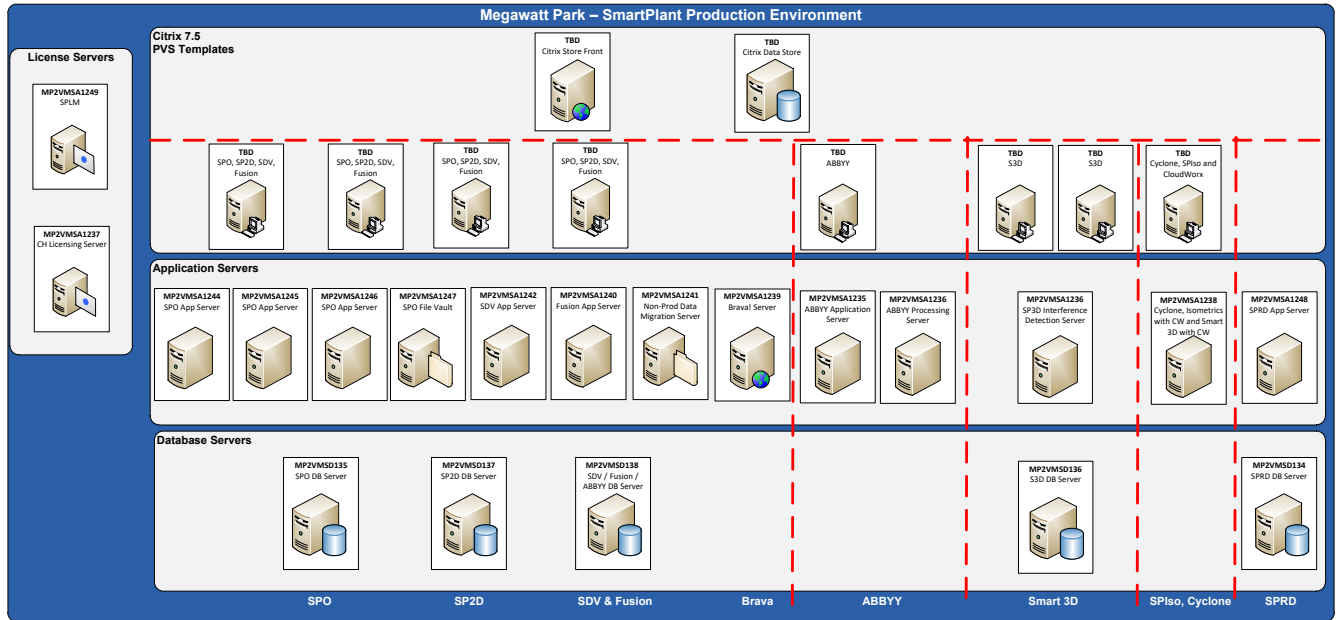
18.1.2 Hardware Configuration


Hardware Architecture – Wonderware eDNA – Centralised Servers



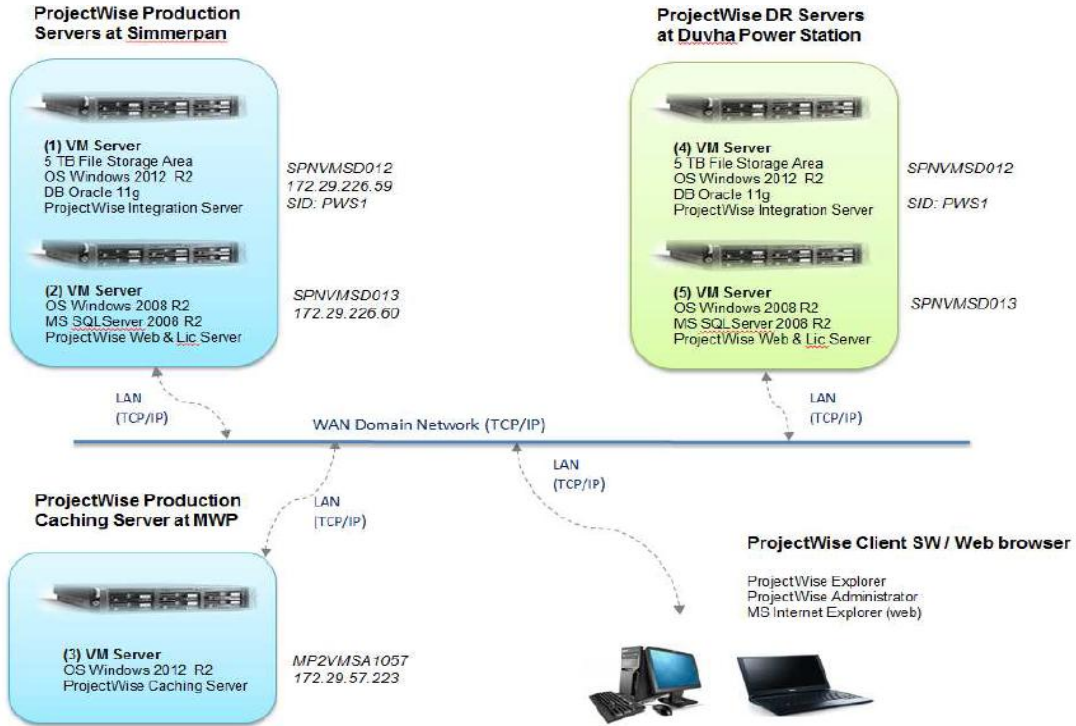
18.2 PRODUCTION ENVIRONMENT

18.2.1 Example A

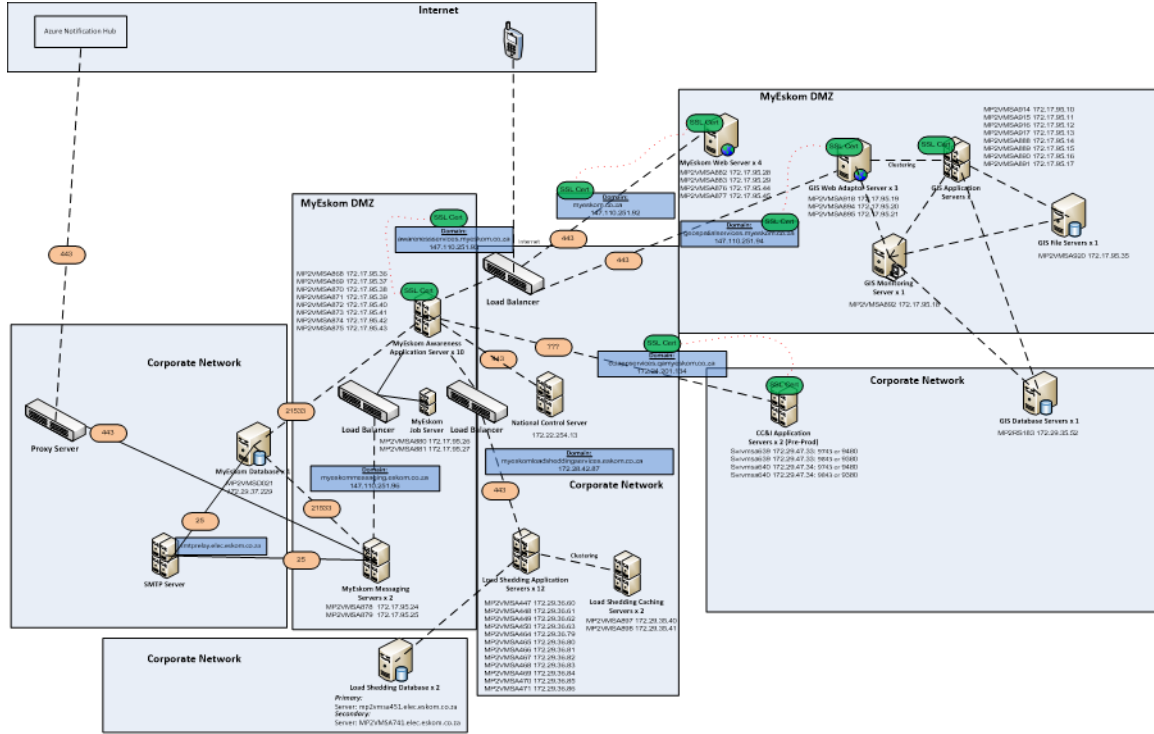



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18.2.2 Example B



18.3 WAN DIAGRAM



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ADDITIONAL PROJECT INFORMATION GUIDELINES

19.1 INTRODUCTION

This appendix is intended to help project and support architects, system designers and project managers to fill in the above project information template with sufficient information at each stage for a quick and efficient architecture review to be performed.


At any one stage the information needed for an architecture review should be no more than what is needed by the project at that stage in the project life cycle: the same information at the same level of detail is needed in documentation for the project environment as would be required for an architecture review. This means that a project should not have to do any rework or additional work in making an architecture submission.

Project reviews are required at the following stages although, for small projects, project stage reviews may be combined with the permission of the Architecture Manager.

19.1.1 Eskom's IS Project Life cycle

Project Stage	Governance Review
Opportunity Screening	No
Pre-Feasibility	Pre-Feasibility
Feasibility	Conceptual Design
System Design	System Design
Contract Conclusion	Pre-Commitment
Detailed Design	Detailed Design
Build and Test	Physical Design Pre-Transfer
Transfer	No
Close out	No

Functional reviews are the responsibility of the Architecture function of the division responsible for the application.

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19.2 DOMAIN TEMPLATES

There are 7 main domains or areas to be considered when supporting or automating a business process through acquiring or developing an IT system. In plain English one needs to:

- know the business (or segment of the business) *The Business Architecture*
- understand what information it needs *The Business Information Architecture*
- decide how to store and maintain the data *The Data Architecture*
- determine what functions are needed to support the business *The Application Architecture*
- integrate and share the above where necessary *The Integration Architecture*
- reuse tried and tested technology sets to implement it and run it on established infrastructure *The Technical Architecture*
- any application requires resources from the IT Infrastructure or elsewhere and these need to be sized and documented principally in the technical architecture

Each of these areas is covered by one of the Domains in of the Project Information Template as listed here.

The domains are:


- Business Architecture
- Business Information Architecture
- Data Architecture
- Application Architecture
- Integration Architecture
- Technical Architecture
- Resource Requirements

19.3 STAGE INFORMATION

19.3.1 Detailed Design

Indicate the detailed processes that are to be implemented and how the specific information system solution will enable the processes. Also include the RACI's indicating the roles and responsibilities associated with the new business processes. Detailed procedures that need to be reviewed and developed should be identified.

Detailed physical design information needs to be included to ensure proper integration and compatibility with existing systems.

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19.3.2 Pre-Transfer

Review the *Activity Level Detail* to ensure that it correctly reflects the “as built” view of the information systems enabling the project, i.e. that the correct system functions and screens are linked to the activities. Include the links to the developed and reviewed procedures. Along with all test results and general project completion information.

19.4 BUSINESS ARCHITECTURE

This section describes the impact that the project will have on the business architecture: on business strategies, policies, processes and organisation design. In short, it is a problem statement that describes what problem the project is addressing, how it will solve that problem and what benefits the project will bring. Much of this has been signed off and completed well prior to the physical design stage.

The reason for the business impact assessment is not to "judge the business case" of the project (as that is an investment and not an architectural issue) but rather to indicate the extent of the impact of the project on the business so that the project can be coordinated in relation to other projects, and the reference architectures can be updated as necessary.

19.4.1 Business Strategies and Plans


Describe here the manner in which the project will be aligned with the strategies and plans of the business. Typical questions that should be answered include:

- What strategies and plans does the project support?
- Does the project have any negative impact or contradict any strategies or plans?
- Will the project be able to support or enable future strategies?

If the project is not strategic in nature, but rather focussed at addressing specific operational or tactical business requirements these should also be described briefly in this section.

19.5 BUSINESS INFORMATION ARCHITECTURE

This section describes the business information architecture of the project. This includes the identification of business information flows and inventories, information integrity and custodianship issues, information access and confidentiality considerations and information related business continuity related considerations.

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19.6 DATA ARCHITECTURE

This section provides details of the data architecture for the project. It includes the data models as well as the Object and application service models for the solution. It should also establish compliance to the data architecture and Object and application services architecture specifications as defined in the reference architecture. Most if not all of this work should have been completed well prior to seeking Physical or pre-transfer design approval.

19.6.1 Data Migration

This deals with the design of the data migration solution. This would only apply if the particular solution is replacing an existing solution and a decision has been made to migrate the data from the existing system to the new system, or if any other similar need exists to load a set of data before going live. Note that periodic or repetitive updates of information in batch (or any other mode) are not considered to be data migration but should be addressed as an interface and described in the interface map section of the submission. Note that data migration could include both transactional data as well as master data or only the other.

19.7 APPLICATION ARCHITECTURE


The application architecture section should provide an overview of the application design being proposed for the project including the functional scope and boundaries, the application strategy, as well as development methods and languages to be used. It should also cover future strategy w.r.t. the application.

19.8 INTEGRATION ARCHITECTURE

This section is intended to define the integration points between the application and other applications or application components within the application. The intent is to illustrate compliance with the integration architecture specification as defined in the applicable reference architecture, or in cases of non-compliance, provide the supporting rationale.

19.8.1 Wide ranging information

Complete and comprehensive information with respect to integration needs to be supplied, details are stated within the integration information section above.

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19.9 TECHNICAL ARCHITECTURE

Here co-existence, integration with existing applications, performance, business continuity and other operational requirements take precedence.

19.9.1 Detailed Design

The exact technical architecture should be known at the Detailed Design stage and should be specified in detail in the architecture submission.

If there are deviations from Eskom's standards, the necessary Request for Exemption should be submitted **before the Detailed design architecture is submitted**.

It is possible that some parts of the technical architecture are still not completely known. This fact should not be hidden but the reasons for the omissions should be highlighted and the corrective action should be explained.

19.9.2 Pre-Transfer

At this stage the technical architecture is finalised and implemented. The only changes to the technical architecture will be minor changes at the *as built* rather than the *as planned* level. These differences should be highlighted for future reference. If there have been any fundamental changes to the technical architecture (such as an operating system change or a major change in the hardware requirements) these must be re-submitted to the governance process.

If you have any doubts about whether a change should be regarded as major or minor, please contact IS Architecture for guidance

19.10 INFORMATION SECURITY ACCESS AND CONFIDENTIALITY

Complete information with respect to the implementation of security controls throughout the system needs to be included here.