NATIONAL ENTERPRISE ARCHITECTURE FRAMEWORK
KINGDOM OF BAHRAIN

Technology Standards and Guidelines

Business Domain

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Synopsis: Establishes technology standards and guidelines in Business Architecture and Process Domain for Information Systems

Document History

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Review and Approval History

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1.0	04/12/2013	ICTGC	Formal approval by ICTGC

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1. INTRODUCTION

This document covers tools, technologies and standards used in the Business domain. The process of arriving at these standards has been outlined in the NEAF - Technology Standards Methodology & Process document in Section 3 - Methodology and Approach. Some of the tools, technologies and standards have been identified as potential requirements and hence been incorporated in this document. These may be considered as recommendations for current and future use.

This document shall be considered for revision in conjunction with the NEAF - Technology Standards Methodology & Process document at appropriate intervals of time as decided by the ICT Governance Committee. Any addition or upgrade to these tools and standards may be incorporated by following the process described in the NEAF - Technology Standards Methodology & Process document in Section 6 - Review and Maintenance of Technology Standards and Guidelines.

2. SUMMARY OF TECHNOLOGY STANDARDS/SPECIFICATIONS AND TOOLS

This section contains a summary of standards and tools applicable to the Business domain. These have been grouped into sub-sections (categories), with each category addressing one aspect of the related standards and tools. Further details and links to these standards and tools have been provided in the following sections of this document.

The rationale for selection of these standards and tools are :
- Based on the usage across ministries as captured in the internal survey.
- Technology best practices.
- References from international standards bodies.

2.1. BUSINESS PROCESS MODELLING

Introduction to Sub - Category	▪ The business process and orchestration engines will provide the ability to develop orchestrate and automate the business processes. A standard Business Process Modelling Notation (BPMN) will provide businesses with the capability of understanding their internal business procedures in a graphical notation and will give organizations the ability to communicate these procedures in a standard manner. Furthermore, the graphical notation will facilitate the understanding of the performance collaborations and business transactions between the organizations. This will ensure that businesses will understand themselves and participants in their business and will enable organizations to adjust to new internal and B2B business circumstances quickly. ▪ WS-BPEL provides a language for the specification of Executable and Abstract business processes. By doing so, it extends the Web Services interaction model and enables it to support business transactions.
Applicable Standard(s)	▪ Business Process Modelling Notation (BPMN) – (Details) ▪ Business Process Execution Language (WS-BPEL) – (Details)
Remarks	
Exceptions	

2.2. BUSINESS ARCHITECTURE MODELLING AND SIMULATION

Introduction to Sub - Category	▪ The complexity, size, lifespan, and performance requirements of applications/solutions developed for ministries/agencies vary greatly. Business Architecture provides the ministries and the government as a whole, the ability to visualize and simulate their business architecture and processes, enabling them to take better decisions with regard to their strategy. ▪ The enterprise architecture (EA) tool market is evolving as EA teams, CIOs and tool providers grapple with unique challenges. For EA teams, these challenges include the growing need to: o Present analyses, recommendations and scenarios to multiple stakeholders

	who require different levels of detail and context-setting
	   o Support their analyses and recommendations with increasingly sophisticated forms of decision analysis
	   o Run and test a range of possible scenarios that describe alternative investment plans

Applicable Standard(s)	▪ Software AG ARIS Business Architect – (Details) ▪ Mega Modelling Suite – (Details) ▪ Metastorm Suite – (Details) ▪ Alfabet Enterprise Architecture Management – (Details) ▪ IBM Rational System Architect – (Details) ▪ Casewise Modeller – (Details) ▪ QualiWare Enterprise Architecture – (Details) ▪ QualiWare Business Modeller – (Details)
Remarks	
Exceptions	

2.3. BUSINESS PROCESS RUNTIME	
Introduction to Sub - Category	▪ The business process and orchestration engines will provide the ability to develop orchestrate and automate the business processes.
Applicable Standard(s)	▪ Oracle BPM Suite – (Details) ▪ IBM Websphere Business Process Manager – (Details) ▪ Software AG BPM Suite – (Details)
Remarks	
Exceptions	

3. DETAILS OF STANDARDS / SPECIFICATIONS AND ASSOCIATED GUIDELINES

This section provides a brief description of the relevant standards listed in section 2 along with links for references to these standards.

3.1. BUSINESS PROCESS MODELLING NOTATION (BPMN)

Description	- Business Process Model and Notation (BPMN) is a graphical representation for specifying business processes in a business process model. It was previously known as Business Process Modeling Notation. - Business Process Management Initiative (BPMI) developed BPMN, which has been maintained by the Object Management Group since the two organizations merged in 2005. The current version of BPMN is 2.0.
Applicable to	Business Process Modelling
Reference(s)	- BPMN specification – http://www.omg.org/spec/BPMN/2.0/ - Wikipedia - http://en.wikipedia.org/wiki/Business_Process_Model_and_Notation
Remarks:	

3.2. BUSINESS PROCESS EXECUTION LANGUAGE(BPEL)

Description	- Business Process Execution Language (BPEL), short for Web Services Business Process Execution Language (WS-BPEL) is an OASIS standard executable language for specifying actions within business processes with web services. - Processes in BPEL export and import information by using web service interfaces exclusively. - WS-BPEL is meant to be used to model the behavior of both Executable and Abstract Processes. - WS-BPEL defines an interoperable integration model that should facilitate the expansion of automated process integration both within and between businesses.
Applicable to	Business Process Modelling
Reference(s)	- Wikipedia - http://en.wikipedia.org/wiki/Business_Process_Execution_Language - OASIS BPEL specification - http://www.oasis-open.org/committees/wsbpel
Remarks	

4. DETAILS OF TOOLS SUPPORTING RECOMMENDED STANDARDS

This section provides a brief description of the relevant tools listed in section 2 along with links for references to these tools.

4.1. ARIS PLATFORM

Description	- ARIS Platform enables you to do: - What-if analyses, timeline studies and scenario comparisons for strategic decision-making - The ability to bring in data from a wide range of sources, such as ARIS models and Microsoft Excel - Perform strategic analysis and to investigate your position in the market - Design to-be scenarios to help top-level managers make strategic decisions - Benchmark your business performance compared to competitors - Derive critical success factors for your strategy - Design strategy models to communicate your strategy among different stakeholders - Plan and implement a Balanced Scorecard as a proven management system
Applicable to	Business Architecture Modelling And Simulation
Reference(s)	ARIS Stratgey Platform - http://www.softwareag.com/corporate/products/aris_platform/aris_strategy/business_strategy/capabilities/default.asp
Remarks:	

4.2. MEGA SUITE

Description	The MEGA Suite provides repository-based modeling tools to support projects ranging from process analysis to risk and control mapping to application analysis and design.
Applicable to	Business Architecture Modelling And Simulation
Reference(s)	Mega Modelling Suite - http://www.mega.com/en/c/product/p/modeling
Remarks:	

4.3. METASTORM

Description	

	▪ Metastorm provides a comprehensive solution that allows organizations to discover, model, analyze and optimize their business processes. Metastorm has deep integration into related enterprise architecture capability allowing organizations to understand the relationship between their processes and the broader enterprise and business architecture.
Applicable to	▪ Business Architecture Modelling And Simulation
Reference(s)	▪ Metastorm Suite - http://www.metastorm.com/products/business_process_analysis.asp ; http://www.metastorm.com/products/provision_ea.asp ;
Remarks:	

4.4. ALFABET ENTERPRISE ARCHITECTURE MANAGEMENT

Description	▪ Alfabet's Enterprise Architecture Management allows organizations to effectively and consistently map their applications to business processes so they can assess the performance of their current IT landscape. By mapping applications to business processes and showing which applications depend on which technologies, the suite helps Enterprise Architects manage application, technology and information portfolios effectively.
Applicable to	▪ Business Architecture Modelling And Simulation
Reference(s)	▪ Alfabet - http://www.alfabet.com/en/offering/product/enterprise-architecture-management/
Remarks:	

4.5. IBM RATIONAL SYSTEM ARCHITECT

Description	▪ Rational System Architect is enterprise architecture management software. Typical users are the enterprise architects who have a business view of the enterprise and technology solutions to support those business needs. You can use this tool to generate a heat map of impacted systems based on predefined analysis (for example, a heat map of systems affected due to license end dates or a disaster management plan, or such similar conditions). You can also use Rational System Architect to draw different kinds of diagrams with IT assets in them.
Applicable to	▪ Business Architecture Modelling And Simulation
Reference(s)	

	▪ IBM Rational Software Arhitect - http://www.ibm.com/developerworks/rational/products/rsa/
Remarks:	

4.6. CASEWISE MODELLER

Description	▪ A complete solution, the Casewise Modeler links together business and IT modeling within one multi-user environment for Business Process Analysis and Improvement, Business Process Management, and Enterprise Architecture as well as Governance, Risk & Compliance efforts. With the Casewise Modeler you can:
	  o Capture the 'As-Is' situation
	  o Test out 'What-if?' scenarios
	  o Communicate, implement and manage 'To-Be' enterprise improvements
	  o Respond to challenges faster in the future
	  o Continually improve processes

Applicable to	▪ Business Architecture Modelling And Simulation
Reference(s)	▪ Casewise Modeler - http://www.casewise.com/products/modeler
Remarks:	

4.7. QUALIWARE

Description	▪ The QualiWare solution set enables flexibility such that a business can build its Enterprise Architecture incrementally. QualiWare EAM contains the QualiWare EA Framework which covers a wide range of modeling aspects in three levels of abstraction. The QualiWare Enterprise Architecture Framework is one method for building an enterprise architecture.. It is inspired by the work of John Zachman, www.zifa.com and it contains the building blocks needed to build enterprise architectures for the majority of QualiWare's customers.
Applicable to	▪ Business Architecture Modelling And Simulation
Reference(s)	▪ QualiWare Business Modeller and Enterprise Architecture – http://www2.qualiware.com/Document/cc0dc31a-0f44-4daa-8874-51a39c5994a0.htm
Remarks:	

4.8. ORACLE BPM SUITE	
Description	▪ Oracle Business Process Management Suite, is a complete set of tools for creating, executing, and optimizing business processes. The suite enables unparalleled collaboration between business and IT to automate and optimize business processes. ▪
Applicable to	▪ Business Process Runtime
Reference(s)	▪ Oracle BPM Suite - http://www.oracle.com/us/technologies/bpm/overview/index.html?origref=http://www.oracle.com/index.html
Remarks	

4.9. IBM WEBSPHERE BPM SUITE	
Description	▪ IBM Business Process Manager is a comprehensive BPM platform giving you visibility and insight to manage business processes. It scales smoothly and easily from an initial project to a full enterprise-wide program harnesses complexity in a simple environment to better meet customer needs.
Applicable to	▪ Business Process Runtime
Reference(s)	▪ IBM Websphere Business Process Manager - http://www-01.ibm.com/software/integration/business-process-manager/
Remarks	

4.10. SOFTWARE AG BPM SUITE	
Description	▪ Software AG offers a collaborative and fully integrated BPM Suite. Business and IT can innovate together using Business Process Management software to make your enterprise more competitive. It also offers real-time monitoring, to continually optimize processes.
Applicable to	▪ Business Process Runtime
Reference(s)	▪ Software AG BPM Suite - http://www.softwareag.com/corporate/products/wm/bpm/default.asp
Remarks	

5. APPENDICES

5.1. APPENDIX A: ABBREVIATIONS AND ACRONYMS

Abbreviation / Acronym	Collaboration And Productivity
BPMN	Business Process Modeling Notation
BPEL	Business Process Execution Language
BPM	Business Process Management

5.2. APPENDIX B: RELATED DOCUMENTS / LINKS

Acknowledgement of major references for international technology standards and Specifications:

- Internet Engineering Task Force (IETF)
  http://www.ietf.org

- International Standards Organization (ISO)
  http://www.iso.org

- World Wide Web Consortium (W3C)
  http://www.w3c.org

Acknowledgement of other references for international technology standards and specifications:

- American National Standards Institute (ANSI)
  http://www.ansi.org

- Institute of Electrical and Electronics Engineers (IEEE)
  http://www.ieee.org

- National Institute of Standards and Technology (NIST)
  http://www.nist.gov

- Object Management Group (OMG)
  http://www.omg.org

- Organization for the Advancement of Structured Information Standards (OASIS)
  http://www.oasis-open.org