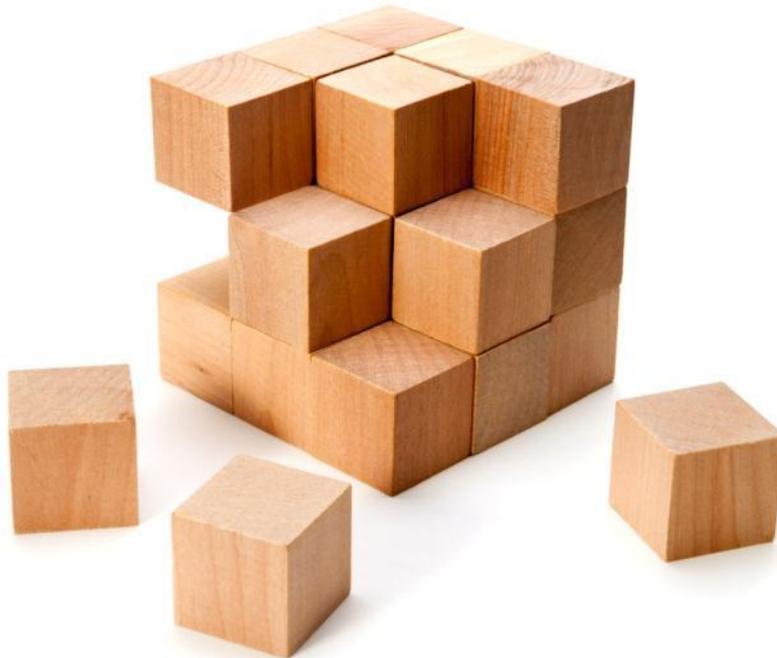


Digital Jewels

Q1 2015 IVC BREAKFAST FORUM



**Demystifying the CBN IT
Standards Blueprint**

**CHIDI UMEANO
HEAD, SHARED SERVICES
CBN**

Background & Objectives

- ❑ Information Technology has fundamentally transformed the business architecture of banks resulting in evolution of new business architectures and approaches to customer service, enterprise management and regulatory compliance.

- ❑ IT spend in the Nigerian financial services industry as a proportion of overall operating expenses is high and increasing, however, commensurate value is not realised from the investments. Some of the existing issues include:
 - Complex, duplicate, non-standard and costly processes
 - Non-standard systems and infrastructure
 - Inefficiency of electronic information exchange
 - Data integrity issues

- ❑ Industry leverage of IT lags global leading practices and is limiting banking operating efficiency, cost effectiveness, regulatory information and risk management practices.

- ❑ To address this gap and provide guidelines for application and utilisation of Information Technology, Industry IT Standards were defined to articulate and provide a point of reference for the utilisation of IT

Background & Objectives

- Issues

Prior to the drive by CBN on IT standards, there were no defined IT Standards driving interoperability, information exchange, enterprise architecture, and system integration amongst others in the industry with implications such as:

- ❑ High cost of integration as banks' IT Infrastructure cannot interact with each other or other third parties such as NIBSS, SWIFT, Interswitch e.t.c without the implementation of dedicated interfaces. Thus banks are forced to maintain different interfaces to different service providers thereby increasing cost of service.
- ❑ Interoperability and automation to drive straight through processing cannot be achieved leading to islands of automation but no integration.
- ❑ Quality and maturity of IT cannot be ascertained having no reference point to benchmark against.
- ❑ Poor customer experience in use of bank's IT infrastructure due to absence of a minimum IT standards driving governance, service management, and infrastructure
- ❑ Ad hoc implementation of CBN / regulatory policies and plans around IT (i.e. FSS2020

Background & Objectives

- Benefits of IT Standards to the Industry

- ❑ Increased up-time / availability of Banks leading to increased cost savings
- ❑ Establishment of a reference point for objective assessment of the IT function leading to improved IT performance measurement
- ❑ Improved data integrity and electronic information exchange
- ❑ Increased efficiency and productivity of staff due to interoperability of IT systems
- ❑ Business Continuity / Recovery and reduced risk of prolonged downtimes
- ❑ Improved data security assurance to customers leading to increased customer confidence

Some Case Studies

Nigeria is not the only country, where the Central Bank has had to enforce or drive certain IT Standards within their local industry.

| Country | Regulation | Authority | Summary |
|------------------|--|---|--|
| Australia | APS 232 | Australian Prudential Regulatory Authority (APRA) | APRA regulation for BCM in financial services firm |
| Bahamas | PU 19-0406 Supervisory and Regulatory Guidelines for BCM | The Central Bank of Bahamas | Apply to all commercial banks operating in the Bahamas, based upon Basel II |
| Brazil | NBR 15999-1 and NBR ISO/IEC 24672 | ABNT | Straight translation of the BS 25999 and ISO 24672 standards |
| China | a) HKMA BCP supervisory policy TM-G-2 b) IT Security Guidelines | a) Hong Kong Monetary Authority (HKMA) b) IT Services Dept. – The Government of Hong Kong Special Admin region | a) supervisory policies, minimum standards authorised institutions are expected to attain b) general concepts relating to IT Security |
| Croatia | a) Act on Credit Institutions b) Rules on adequate governance of IT | Croatian National Bank (CNB) | Set up a minimum control measures for proper IT Governance in banks and financial institutions. External and internal IS auditing mandated, reports provided to CNB. |
| Malaysia | BNM/RH/GLO13-3 Guidelines on Management of IT | Central Bank of Malaysia | Enforces minimum BCM requirements, auditing mandatory |
| UK | BC Practice Guide BS 25999-1:2006 BS 25999-2:2007 BS 25777:2008 IT Service Continuity | FSA (Finance Services Auth.) Bank of England British Standards Institution | Guidance on BCM req. FSA based its BCM inspection on 7 Basel Forum principles |

IT Capability Areas

- IT standards for Nigeria's Financial Services Industry focuses on 7 key areas which are required for world class IT operations as follows:

| | | |
|---|---------------------------------------|--|
| 1 | Strategic IT Alignment | Translation of Business vision and strategies into multi-year IT investments and operating plans as well as impacts of Information Technology on the Enterprise's performance measurement. |
| 2 | IT Governance | Framework for initiation, endorsement, sponsorship, approval and evaluation of IT decisions. |
| 3 | Architecture & Information Management | Guidance for the creation and execution of the strategic IT architecture framework. |
| 4 | Solutions Delivery | Framework for the development of software application solutions and their subsequent transition into the production environment. |
| 5 | Service Management & Operations | Planning, delivery and measurement of day-to-day operational service. |
| 6 | Information & Technology Security | Security and protection of enterprise information and related assets. |
| 7 | Workforce & Resource Management | Management of IT skills, knowledge and financial resources. |

Adopted IT Standards Summary

- In 2010 the following standards were agreed by the CIOs for the industry across 7 IT Capability areas.

| Capability | | Reference | |
|---------------------------------------|-----------------------------------|--|---|
| Strategic IT Alignment | | IT Infrastructure Library (ITIL) | Control Objectives for Information and related Technologies (COBIT) |
| IT Governance | | COBIT | ISO 38500 |
| Architecture & Information Management | Interfaces | ISO 8583 | ISO 20022 |
| | Reporting | eXtensible Business Reporting Language (XBRL) | |
| | Enterprise Architecture | The Open Group Architecture Framework (TOGAF) | |
| Solutions Delivery | Applications Development | Capability Maturity Model Integration (CMMI) | ISO 15504 |
| | Project Management | Project Management Body of Knowledge (PMBOK) | PRojects IN Controlled Environments version 2 (PRINCE2) |
| Service Management & Operations | Service Management | ITIL | ISO 20000 |
| | Data Centre | Tier Standards | TIA 942 |
| | Health, Safety, Environment (HSE) | OHSAS 18001 | |
| | Business Continuity | Business Continuity Institute Good Practice Guidelines (BCI GPG) | BS25999 / ISO 22301 (BS25999 is obsolete and superseded by ISO 22301) |
| Information & Technology Security | Payment Card Security | Payment Card Industry Data Security Standard (PCI DSS) | |
| | Information Security | ISO 27001/27002 | |
| Workforce & Resource Management | | Skills Framework for the Information Age (SFIA) | |

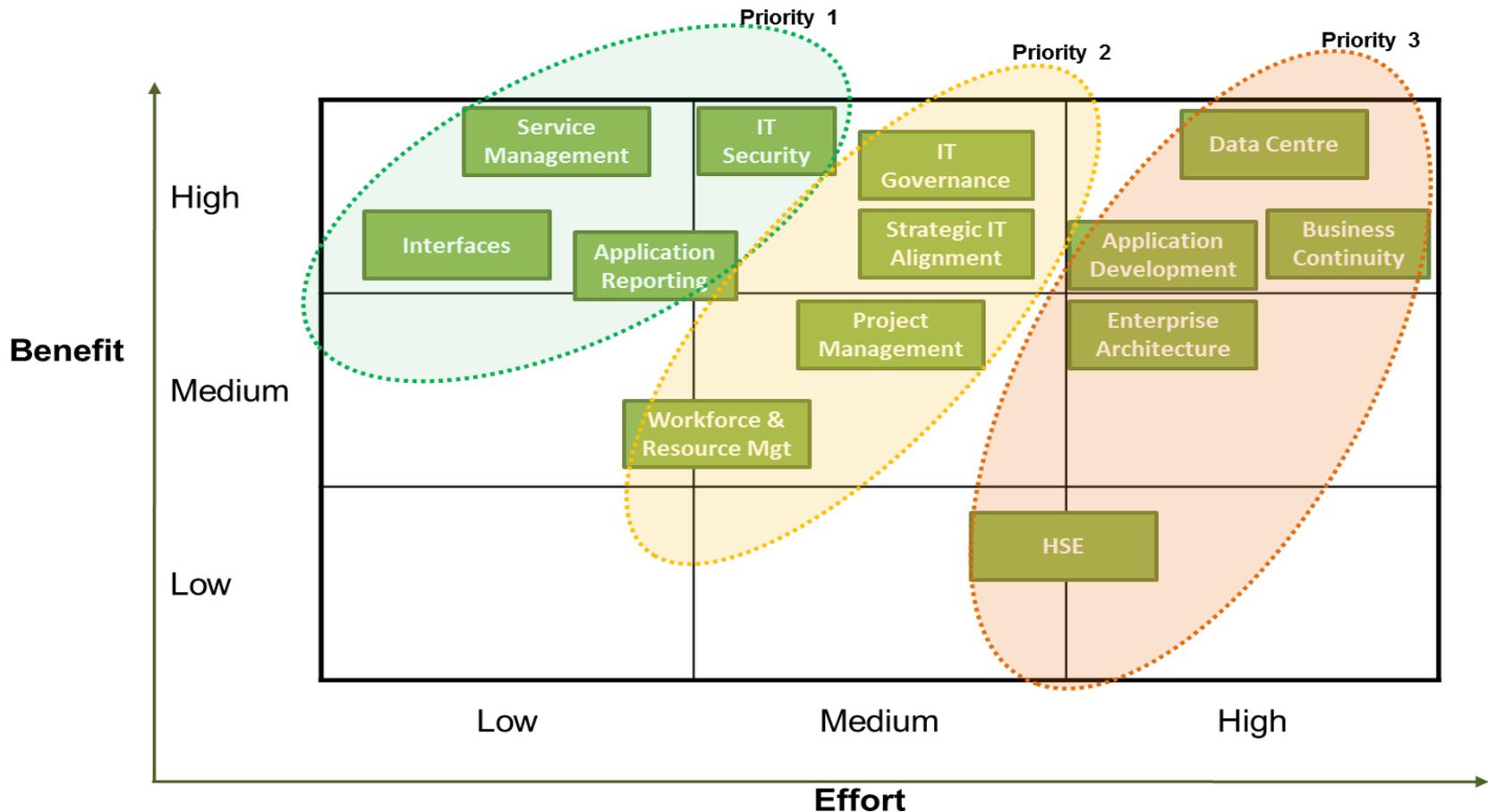
Adopted Maturity Level for Banks' IT

- ❑ A maturity level of 3 is base IT maturity level for the IT standards for Nigeria's FS Industry

| Level | Description | Characteristics of level |
|-------|------------------------|---|
| 0 | Non-existent | <ul style="list-style-type: none"> No articulation of policies and recognisable processes are lacking |
| 1 | Ad-hoc | <ul style="list-style-type: none"> Processes are not standardised but ad-hoc approaches are applied incidentally on an individual or case-by-case basis The overall approach to IT management and governance is disorganized |
| 2 | Repeatable | <ul style="list-style-type: none"> Processes have evolved to the extent that similar approaches are adopted by different individuals undergoing the same task There is no formal training or communication of standard procedures, and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals |
| 3 | Defined | <ul style="list-style-type: none"> Processes are properly defined and documented, and communicated through formal training Processes are integrated into organizational practices via formal approved policy Automation and tools are used in a limited and fragmented way |
| 4 | Managed and Measurable | <ul style="list-style-type: none"> Measurable quality goals are established and management monitors and measures compliance with procedures and takes action where processes appear not to be working effectively Processes are under constant improvement and provide good practice |
| 5 | Optimised | <ul style="list-style-type: none"> Processes are refined to the level of good practice, based on continuous improvement Quality management & continuous improvement activities are embedded in process management IT is leveraged in an integrated way to automate the workflow, providing tools to improve quality and effectiveness |

Standards Prioritisation

- ❑ The standards were prioritised based on efforts required for implementation as well as benefits derivable.



Current Industry IT Standards Roadmap

- ❑ A five year roadmap had been defined for banks to adopt the following standards at maturity level 3 or its equivalent. Current focus of the IT Standards Council is to ensure compliance to priority 1 standards
- ❑ This approach ensures that the Banks do not have to implement all the IT Standards at once but through phases that will be monitored by the Council.

| Category | Standards | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---------------------------------------|---|------|------|------|------|------|------|------|
| Information & Technology Security | PCI-DSS * | █ | | | | | | |
| | ISO 27001 / 27002 | | █ | | | | | |
| Architecture & Information Management | XBRL | | █ | | █ | | | |
| | ISO 8583 | | █ | | | | | |
| | TOGAF | | | █ | █ | █ | | |
| Strategic IT Alignment & Governance | COBIT | | | █ | █ | | | |
| | PMBOK / PRINCE2 | | | █ | █ | | | |
| Solutions Delivery | CMMI | | | | █ | █ | | |
| | ITIL | | █ | | | | | |
| | SFIA | | | | █ | █ | | |
| Service Management & Operations | DC Tier Standards (Target Maturity: Tier 3) | | | | █ | █ | █ | |
| | BCI GPGs / BS25999 / ISO 22301 | | | | | | █ | █ |
| | OHSAS 18001 | | | | | █ | █ | |
| | | | | | | | | |

Priority 1 Standards

IT Standards Council Brief Overview (1/2)

- ❑ The IT Standards Council was inaugurated on the 10th of May, 2013 by the Deputy Governor of Central Bank; Tunde Lemo with the mandate to drive the adoption, implementation and compliance to Industry IT standards in the Nigerian Financial Services Industry

- ❑ IT Standards Council is chaired by a Bank representative and comprises of 8 Banks and 3 CBN departments namely: IT, Shared services and Banking supervision departments.

- ❑ The Terms of Reference (ToR) of the IT Standards Council are:
 - Promote IT Standards for Nigeria’s Financial Services Industry
 - Set strategic direction on IT Standards for the Industry.
 - Determine the IT Standards to be implemented across the Industry.
 - Review and update of Industry IT Standards
 - Monitor compliance to IT Standards and determine response for deviations

IT Standards Council Brief Overview (2/2)

- Based on its mandate, the IT Standards Council carries out 2 major activities on a periodic basis (annually) amongst other things. They include:

| S/N | Activity | Description |
|-----|--|---|
| 1 | IT Standards Review | <p>The IT Standards Council is expected to review the IT Standards annually to ensure that the IT Standards are still relevant to the industry. During these reviews; changes to standards i.e. version changes; new standards and standards to be dropped are considered by the IT Standards Review committee and recommendations are passed to the Council for ratification and implementation.</p> <p>The next IT Standards Review will start in January 2015</p> |
| 2 | IT Standards Compliance Assessment / Audit | <p>On an annual basis the level of compliance of Banks to the Standards defined are assessed or audited. This is to ensure that the state of the Industry with respect to the standards are known and progress can be tracked.</p> <p>Due to the significant number of standards under consideration, a 5 year roadmap has been defined to enable banks implement these standards in phases. Also the standards have been prioritized taking into consideration the ease of implementation and benefit to the Banks and Industry at large. This implies that not all the standards will be assessed or audited at a time.</p> <p>Compliance audit was carried out for PCI-DSS in December 2013. The next IT Standards Compliance Assessment / Audit is the baseline assessment to kick off last week of February and will focus on 3 priority 1 standards namely ISO 27001, ITIL, and ISO 8583</p> |

Strategic IT Alignment

- ITIL

| IT Infrastructure Library (ITIL) | |
|----------------------------------|---|
| Description | <p>IT Infrastructure Library (ITIL) is a framework of best practice for IT service management. It comprises a series of books and information which provide guidance on the quality provision of IT services.</p> <p>Current version of ITIL is version 2011.</p> |
| Purpose | <p>ITIL consists of five core publications covering each stage of the service lifecycle from the initial definition and analysis of business requirements in Service Strategy and Service Design, through migration into the live environment within Service Transition, to live operation and improvement in Service Operation and Continual Service Improvement. The core publications are</p> <ul style="list-style-type: none">• Service Strategy• Service Design• Service Transition• Service Operation• Continual Service Improvement |
| Certification Body | ITIL Certification Management Board (ICMB) |
| Rating Criteria | Maturity Level 3 |

Strategic IT Alignment

- COBIT

Control Objectives for Information and related Technologies (COBIT)

| | |
|--------------------|--|
| Description | <p>COBIT is a Framework that provides management and business process owners with an IT governance model that helps in delivering value from IT as well as managing the risks associated with IT.</p> <p>Adopted COBIT version is COBIT 4.1, however, current version of COBIT is version 5</p> |
| Purpose | <p>COBIT defines IT activities in a generic process model within four domains:</p> <ul style="list-style-type: none">• <u>Plan and Organize</u>: Strategy and tactics, and concerns the identification of the way IT contributes to the achievement of business objectives.• <u>Acquire and Implement</u>: To realize the IT strategy, IT solutions must be identified, developed or acquired, implemented and integrated into business processes.• <u>Deliver and Support</u>: Actual delivery of IT services, including IT service delivery, IT security and continuity, service support for users, and management of data and operational facilities• <u>Monitor and Evaluate</u>: All IT processes shall be regularly assessed over time for quality and compliance with control requirements <p>The domains map to the IT function's traditional responsibility areas of plan, build, run and monitor.</p> |
| Certification Body | ISACA |
| Rating Criteria | Maturity Level 3 |

IT Governance

- COBIT

Control Objectives for Information and related Technologies (COBIT)

| | |
|--------------------|--|
| Description | <p>COBIT is a Framework that provides management and business process owners with an IT governance model that helps in delivering value from IT as well as managing the risks associated with IT.</p> <p>Adopted COBIT version is COBIT 4.1, however, current version of COBIT is version 5</p> |
| Purpose | <p>COBIT defines IT activities in a generic process model within four domains:</p> <ul style="list-style-type: none">• <u>Plan and Organize</u>: Strategy and tactics, and concerns the identification of the way IT contributes to the achievement of business objectives.• <u>Acquire and Implement</u>: To realize the IT strategy, IT solutions must be identified, developed or acquired, implemented and integrated into business processes.• <u>Deliver and Support</u>: Actual delivery of IT services, including IT service delivery, IT security and continuity, service support for users, and management of data and operational facilities• <u>Monitor and Evaluate</u>: All IT processes shall be regularly assessed over time for quality and compliance with control requirements <p>The domains map to the IT function's traditional responsibility areas of plan, build, run and monitor.</p> |
| Certification Body | ISACA |
| Rating Criteria | Maturity Level 3 |

IT Governance

- ISO38500

ISO 38500

| | |
|--------------------|--|
| Description | <p>The ISO/IEC 38500 standard is a framework that provides for effective governance of IT to assist those at the highest level of organizations to understand and fulfill their legal, regulatory, and ethical obligations in respect of their organizations' use of IT. The standard specifies the minimum requirements for the IT Governance of an organization.</p> |
| Purpose | <p>In addition to providing broad guidance on the role of a governing body, ISO 38500 encourages organizations to use appropriate standards to underpin governance of IT.</p> <p>The standard prescribes that directors should govern IT through three main tasks:</p> <ul style="list-style-type: none">• Evaluate the current and future use of IT• Direct preparation and implementation of plans and policies to ensure that use of IT meets business objectives• Monitor conformance to policies, and performance against plans. <p>ISO 38500 draws upon a number of sources, the main one being AS 8015:2005, which defines six principles for good corporate governance of IT: Responsibility, Strategy, Acquisition, Performance, Conformance and Human Behaviour.</p> |
| Certification Body | <p>ISO is not involved in the certification to any of the standards it develops. Certification is performed by external certification bodies, which are largely private.</p> |
| Rating Criteria | <p>Maturity Level 3</p> |

Architecture and Information Management (Interfaces)

- ISO 8583

ISO 8583

| | |
|--------------------|---|
| Description | ISO 8583 also known as Financial Transaction Card Originated Messages – Interchange Message Specifications, provides a standard framework for systems that exchange electronic transactions made using payment cards |
| Purpose | <p>It is a common interface by which financial transaction card originated messages may be interchanged between acquirers and card issuers. It specifies message structure, format and content, data elements and values for data elements.</p> <p>The specification has 3 parts:</p> <ul style="list-style-type: none">• Part 1: Messages, data elements and code values• Part 2: Application and registration procedures for Institution Identification Codes• Part 3: Maintenance procedures for messages, data elements and code value <p>An ISO 8583 message is made of:</p> <ul style="list-style-type: none">• Message type indicator (MTI)• One or more bitmaps, indicating which data elements are present• Data elements, the fields of the message <p>Most core Banking application vendors provide native ISO 8583 interfaces and ISO 8583 is widely adopted within the Nigerian Financial Services industry for card based payment transactions.</p> |
| Certification Body | ISO is not involved in the certification to any of the standards it develops. Certification is performed by external certification bodies, which are largely private. |
| Rating Criteria | All organizations that provide payments services are required to provide ISO 8583 compliant interfaces |

Architecture and Information Management (Interfaces)

- ISO 20022

ISO 20022

| | |
|--------------------|---|
| Description | Also known as the Universal financial industry (UNIFI) message scheme provides a common platform for the development of messages in a standardized XML syntax and is the de-facto standard adopted in Europe to facilitate the Single Euro Payments Area (SEPA). |
| Purpose | <p>It provides communication interoperability between financial institutions, market infrastructure and end-users in respect of financial transactions including:</p> <ul style="list-style-type: none">• High value payments• Commercial payments• Securities• FX & Money Markets• Cards• Trade <p>The ISO 20022 statement is organized as follows:</p> <ul style="list-style-type: none">• Part 1: Overall Methodology and Format Specifications for Inputs and Outputs to/from the ISO 20022 Repository• Part 2: Roles and responsibilities of the registration bodies• Part 3: ISO 20022 Modeling• Part 4: ISO 20022 XML design rules• Part 5: ISO 20022 Reverse engineering• Part 6: ISO 20022 Message Transport Characteristics |
| Certification Body | ISO is not involved in the certification to any of the standards it develops. Certification is performed by external certification bodies, which are largely private. |
| Rating Criteria | Compliance with ISO 20022 requirements is currently not mandatory |

Architecture and Information Management (Reporting)

- XBRL

eXtensible Business Reporting Language (XBRL)

| | |
|--------------------|---|
| Description | <p>XBRL is an XML-based open standard for exchanging business information which allows information modeling and the expression of semantic meaning commonly required in business reporting. The current (2008) version of XBRL is 2.1, with errata corrections.</p> |
| Purpose | <p>XBRL provides a method to prepare, publish, exchange, search and analyze financial statements across all software formats and technologies. It includes an IFRS taxonomy which facilitates the electronic use and exchange of financial data in line with IFRS directives.</p> <p>XBRL consists of an XBRL instance, containing primarily the business facts being reported, and a collection of taxonomies (called a Discoverable Taxonomy Set (DTS)), which define metadata about these facts, such as what the facts mean and how they relate to one another</p> <ul style="list-style-type: none">• Taxonomy: An XBRL Taxonomy is a collection of taxonomy schemas and linkbases. A taxonomy schema is an XML schema file. Linkbases are XML documents which follow the XLink specification <p>The schema must ultimately extend the XBRL instance schema document and typically extend other published XBRL schemas</p> |
| Certification Body | <p>XBRL International manages XBRL certification</p> |
| Rating Criteria | <p>Implement XBRL and submit to a compliance audit</p> <p>If all requirements are met, the organization will be deemed to have complied by the IT Standards Governance Council</p> |

Architecture and Information Management (Enterprise Architecture) - TOGAF

The Open Group Architecture Framework (TOGAF)

| | |
|--------------------|--|
| Description | <p>The TOGAF Architecture Development Method (ADM) is a framework for developing an enterprise architecture covering Business Architecture, Application Architecture, Information Architecture and Technology Architecture.</p> <p>Current version is version 9</p> |
| Purpose | <p>The TOGAF ADM consists of a number of phases that cycle through all the architecture views as follows:</p> <ul style="list-style-type: none">• Preliminary Framework and Principles: focuses on establishing the business context, defining framework to be used, defining architecture principles and establishing architecture governance• Architecture Vision: obtain management commitment towards project(s), validate the business principles, goals and drivers, identify stakeholder concerns and objectives, define business requirements and constraints and obtain formal approval to proceed.• Business Architecture, Information Systems Architecture, Technology Architecture, Opportunities and Solutions, Migration Planning, Implementation Governance and Architecture Change Management are the remaining phases |
| Certification Body | <p>The Open Group manages the TOGAF certification</p> |
| Rating Criteria | <p>Maturity Level 3</p> |

Solutions Delivery (Applications Development)

- CMM

Capability Maturity Model Integration (CMMI)

| | |
|--------------------|--|
| Description | The CMMI is a Framework for projects or organizations that provides common, integrated, and improving processes for Systems and Software development. |
| Purpose | <p>It provides a set of best practices that address productivity, performance, costs, and stakeholder satisfaction and can be utilized to drive significant value realization.</p> <p>CMMI for applications development consists of 22 process areas. A process area is a cluster of related practices in an area that, when implemented collectively, satisfy a set of goals considered important for making significant improvement in that area. These process areas are aligned to maturity levels and determine the level of maturity of an organization's development processes.</p> <p>The Detailed Processes of the Capability Maturity Model Integration (CMMI) can be seen in the slide "Adopted Maturity Level for Banks' IT"</p> |
| Certification Body | CMMI Institute manages the CMMI certification |
| Rating Criteria | Maturity level 3 |

Solutions Delivery (Applications Development)

- ISO 15504

ISO 15504

| | |
|--------------------|---|
| Description | ISO 15504 is a framework for process assessment which defines processes and a capability dimension for measuring the processes |
| Purpose | <p>ISO 15504 contains a reference model which defines processes and a capability dimension for measuring the processes. The process dimension defines processes divided into the six process categories of:</p> <ul style="list-style-type: none"> • Processes • Engineering • Management • Customer supplier • Supporting • Organization <p>Capability levels include</p> <ul style="list-style-type: none"> • 5 - Optimizing Process • 3 - Established Process • 1 - Performed Process • 4 - Predictable Process • 2 - Managed Process • 0 - Incomplete Process |
| Certification Body | ISO is not involved in the certification to any of the standards it develops. Certification is performed by external certification bodies, which are largely private. |
| Rating Criteria | <ul style="list-style-type: none"> • Implement the requirements of the ISO 15504 standard • Submit to a compliance audit by a certified assessor. • Provide the results to the IT Standards Governance Council as proof of compliance |

Solutions Delivery (Project Management)

- PMBOK

Project Management Body of Knowledge (PMBOK)

| | |
|--------------------|---|
| Description | The PMBOK is a global standard which establishes best practices and principles for project management. |
| Purpose | <p>The PMBOK divides a project into 5 process groups that follow the Deming cycle:</p> <ul style="list-style-type: none"> • Initiating • Executing • Closing • Planning • Monitoring & Controlling <p>Simultaneously the project is also divided into nine knowledge areas as follows:</p> <ul style="list-style-type: none"> • Project Integration Management • Project Time Management • Project Quality Management • Project Communications Management • Project Procurement Management • Project Scope Management • Project Cost Management • Project Human Resource Management • Project Risk Management |
| Certification Body | Project Management Institute (PMI) manages the PMBOK certification. |
| Rating Criteria | Maturity Level 3 |

Solutions Delivery (Project Management)

- PRINCE2

PRojects IN Controlled Environments version 2 (PRINCE2)

| | |
|--------------------|---|
| Description | PRojects IN Controlled Environments (PRINCE2): a process-driven project management method, which is developed by the Office of Government Commerce (OGC), UK, and is largely influenced by the IT industry |
| Purpose | <p>PRINCE2 defines 40 separate activities and organized into seven processes:</p> <ul style="list-style-type: none">• Starting up a project: In this process the project team is appointed and a project brief is prepared• Initiating a project: This process builds on the work of the startup process, and the project brief is augmented to form a Business case.• Directing a project: This process dictates how the project board should control the overall project.• Controlling a stage: PRINCE2 suggests that projects should be broken down into stages and these sub-processes dictate how each individual stage should be controlled.• Managing stage boundaries: This dictates what should be done towards the end of a stage.• Managing product delivery: This process has the purpose of controlling the link between the Project Manager and the Team Manager(s) by placing formal requirements on accepting, executing and delivering project work.• Closing a project: This covers the things that should be done at the end of a project. |
| Certification Body | APMG International |
| Rating Criteria | Maturity Level 3 |

Service Management & Operations (Service Management)

- ITIL

| IT Infrastructure Library (ITIL) | |
|----------------------------------|---|
| Description | <p>IT Infrastructure Library (ITIL) is a framework of best practice for IT service management. It comprises a series of books and information which provide guidance on the quality provision of IT services.</p> <p>Current version of ITIL is version 2011.</p> |
| Purpose | <p>ITIL consists of five core publications covering each stage of the service lifecycle from the initial definition and analysis of business requirements in Service Strategy and Service Design, through migration into the live environment within Service Transition, to live operation and improvement in Service Operation and Continual Service Improvement. The core publications are</p> <ul style="list-style-type: none">• Service Strategy• Service Design• Service Transition• Service Operation• Continual Service Improvement |
| Certification Body | ITIL Certification Management Board (ICMB) |
| Rating Criteria | Maturity Level 3 |

Service Management & Operations (Service Management)

- ISO 20000

ISO 20000

| | |
|--------------------|---|
| Description | <p>This is an international standard that defines the requirements for an organization to deliver services of an acceptable quality to its customers. It aims to promote the adoption of an integrated set of management processes for the effective delivery of services to the business and its customers. The ISO 20000 standard specifies a set of inter-related management processes and is derived from ITIL.</p> |
| Purpose | <p>The Standard promotes an integrated service management model comprising of the following:</p> <ul style="list-style-type: none">• Requirements for a Management System• Planning and Implementing Service Management• Planning and Implementing new or changed services• Service Delivery Processes• Relationship Processes• Resolution Processes• Control Processes• Release Processes |
| Certification Body | <p>ISO is not involved in the certification to any of the standards it develops. Certification is performed by external certification bodies, which are largely private.</p> |
| Rating Criteria | <ul style="list-style-type: none">• Implement the requirements of the ISO 20000 standard• Request an assessment from a Registered Certification Body (RCB). Once the requirements of ISO/IEC 20000 have been satisfied, the RCB will issue a certificate of conformance• Provide the certificate to the IT Standards Governance Council as proof of compliance |

Service Management & Operations (Data Centre)

- TIER STANDARDS (UPTIME)

Tier Standards

| | |
|--------------------|--|
| Description | The Tier Standard establishes four distinctive definitions of data centre site infrastructure Tier classifications (Tier I, Tier II, Tier III, Tier IV), and the performance confirmation tests for determining compliance to the definitions. |
| Purpose | <p>The Tier classifications describe the site-level infrastructure topology required to sustain data centre operations, not the characteristics of individual systems or subsystems. The Tiers are as follows</p> <ul style="list-style-type: none">• Tier I - Basic Site Infrastructure• Tier II - Redundant Site Infrastructure Capacity Components• Tier III - Concurrently Maintainable Site Infrastructure• Tier IV - Fault Tolerant Site Infrastructure |
| Certification Body | The Uptime Institute |
| Rating Criteria | <ul style="list-style-type: none">• Upgrade data centre to meet Tier 3 requirements.• Notify the IT Standards Governance Council of compliance audit readiness• Submit to compliance audit• If all requirements are met, the organization will be deemed to have complied by the IT Standards Governance Council |

Service Management & Operations (Data Centre)

- TIA 942

TIA 942

| | |
|--------------------|--|
| Description | The Telecommunications Infrastructure Standard for Data Centres specifies the minimum requirements for telecommunications infrastructure and facilities of data centres and computer rooms including single tenant enterprise data centres and multi-tenant Internet hosting data centres |
| Purpose | <p>The standard is primarily a telecom infrastructure standard, but also addresses data centre facility requirements as follows:</p> <ul style="list-style-type: none">• Site space and layout• Cabling infrastructure• Tiered reliability• Environmental considerations |
| Certification Body | TIA |
| Rating Criteria | <ul style="list-style-type: none">• Submit to compliance audit• The audit will provide a report of non-compliances as well as a "EPI Certificate" indicating the level of compliance to the ANSI/TIA-942 standard.• In the following two subsequent years the Data Centre will need to go through a surveillance audit. In the third year a complete (re)certification audit will be conducted to re-establish the Tier classification |

Service Management & Operations (Health, Safety, Environment (HSE)) - OHSAS 18001

OHSAS 18001

| | |
|--------------------|--|
| Description | BS OHSAS 18001 is one of the most recognized frameworks for occupational health and safety management systems that allows an organization to proactively control health and safety risks and improve performance |
| Purpose | <ul style="list-style-type: none">• Demonstration to stakeholders of commitment to health and safety• Potential reduction in the number of accidents leading to a reduction in downtime and associated costs• Improved management of health and safety risks. <p>The key elements of the Standard are</p> <ul style="list-style-type: none">• Planning• Implementation and Operation• Checking and Corrective Action• Management review |
| Certification Body | BSI Group |
| Rating Criteria | <ul style="list-style-type: none">• Implement a Health and Safety Management System to meet the requirements of the OHSAS standard• Submit to a compliance audit by OHSAS auditors.• Provide a certificate of compliance to the IT Standards Governance Council as proof of compliance |

Service Management & Operations (Business Continuity)

- BCI GPG

Business Continuity Institute Good Practice Guidelines (BCI GPG)

| | |
|--------------------|---|
| Description | The BCI GPG is a holistic set of guidelines developed by the Business Continuity Institute which specifies the Professional Practices that cover all the phases of a Business Continuity Management Lifecycle |
| Purpose | <ul style="list-style-type: none"> • Demonstration to stakeholders of commitment to health and safety • Potential reduction in the number of accidents leading to a reduction in downtime and associated costs • Improved management of health and safety risks. <p>The key elements of the Standard are</p> <ul style="list-style-type: none"> • Planning • Implementation and Operation • Checking and Corrective Action • Management review |
| Certification Body | Business Continuity Institute |
| Rating Criteria | <ul style="list-style-type: none"> • Implement the requirements of the BCI GPG and submit to a compliance audit • If all requirements are met, the organization will be deemed to have complied by the IT Standards Governance Council |

Service Management & Operations (Business Continuity)

- BS 25999 (ISO22301)

| BS 25999 (ISO22301) | |
|----------------------|---|
| Definition | <p>Business Continuity Management standard that applies Business Continuity Planning to enterprises. BS 25999 is in 2 parts; BS 25999-1 and BS 25999-2 .</p> <p>In December 2012, the BS25999 standard was retired and replaced with the ISO 22301</p> |
| Purpose | <p>BS 25999-1 establishes processes, principles and terminology for Business Continuity Management. It covers the following key areas:</p> <ul style="list-style-type: none"> • The Business Continuity Management Policy • BCM Programme Management • Understanding the organization • Determining BCM Strategies • Developing and implementing a BCM response • Exercising, maintenance, audit and self-assessment of the BCM culture • Embedding BCM into the organizations culture <p>BS 25999-2 (ISO22301)</p> <ul style="list-style-type: none"> • Planning the Business Continuity Management System (PLAN • Implementing and Operating the BCMS (DO). • Monitoring and Reviewing the BCMS (CHECK) |
| Certification Body | BSI Group |
| Rating Criteria | <ul style="list-style-type: none"> • Implement the controls specified in the specification section of the standard • Request an assessment from an accredited BS 25999 (ISO22301) auditor • Provide the results to the IT Standards Governance Council as proof of compliance |

Information & Technology Security (Payment Card Security)

- PCI-DSS

Payment Card Industry Data Security Standard (PCI DSS)

| | |
|--------------------|--|
| Description | Payment Card Industry Data Security Standard (PCI DSS) is a global standard for information security defined by the PCI Security Standards Council which applies to all organizations that have cardholder data traversing their networks |
| Purpose | <ul style="list-style-type: none">• Build and Maintain a Secure Network• Protect Cardholder Data• Maintain a Vulnerability Management Program• Implement Strong Access Control Measures• Regularly Monitor and Test Networks• Maintain an Information Security Policy |
| Certification Body | PCI Security Standards Council |
| Rating Criteria | <ul style="list-style-type: none">• Implement required controls• Engage a QSA to conduct a compliance audit• Provide the results to the IT Standards Governance Council as proof of compliance |

Information & Technology Security (Information Security)

- ISO 27001/27002

ISO 27001/27002

| | |
|--------------------|---|
| Description | <p>ISO 27001 enables organizations establish and maintain an information security management system (ISMS). It focuses on how to implement, monitor, maintain, and continually improve the Information Security Management System</p> <p>ISO 27002 provides established guidelines and general principles for initiating, implementing, maintaining, and improving information security management within an organization. It contains guidance on implementation of individual security controls, which may be selected and applied as part of an ISMS</p> |
| Purpose | <p>ISO 27001 is based on the Plan-Do-Check-Act model and defines a set of information security management requirements as follows:</p> <ul style="list-style-type: none"> • Establish an ISMS • Monitor, measure, audit, and review the ISMS • Implement, operate, and maintain the ISMS • Continually improve the ISMS <p>ISO 27002 contains guidance on implementation of individual security controls, which may be selected and applied as part of an ISMS. Controls are grouped into the following categories:</p> <ul style="list-style-type: none"> • Risk Assessment and Treatment • Organization of Information Security • Human Resources Security • Security Policy • Asset Management • Physical Security |
| Certification Body | <p>ISO is not involved in the certification to any of the standards it develops. Certification is performed by external certification bodies, which are largely private.</p> |
| Rating Criteria | <ul style="list-style-type: none"> • Implement the requirements of the ISO 27001 standard • Submit an application for assessment to an accredited certification body to conduct the compliance audit. |

Workforce & Resource Management

- SFIA

Skills Framework for the Information Age (SFIA)

| | |
|--------------------|--|
| Description | <p>SFIA provides a common reference model for the identification of the skills and competencies required by ICT professionals and maps out 101 identifiable skills, categorized into 6 main areas:</p> <ul style="list-style-type: none">• Strategy and architecture• Business change• Solutions development and implementation• Service management• Procurement and management support• Client interface |
| Purpose | <ul style="list-style-type: none">• Strategy and planning:• Business change• Solutions development and implementation• Service management• Procurement and management support• Client interface |
| Certification Body | SFIA Foundation |
| Rating Criteria | <ul style="list-style-type: none">• Implement the SFIA framework and submit to a compliance audit• If all requirements are met, the organization will be deemed to have complied by the IT Standards Governance Council. |

Achievements till Date

- ❑ Definition of industry IT Standards Blueprint
- ❑ Setup of the IT Standards Council to drive and oversee the adoption of IT Standards within the Banking Industry
- ❑ Launch of IT Standards through the issuance of CBN circular to the Banks and publishing of the IT Standards on CBN website
- ❑ Conduct baseline assessment to determine readiness status of bank (Compliance assessment has been done for PCI DSS while that of the other 3 standards (ITIL, ISO 27001 & ISO 8583 will be done in the First half of 2014)

Next Steps

- ❑ Conduct review of Industry IT Standards (2015)

Link to IT Standards Blueprint

<http://www.cenbank.org/ITStandards/>