24th XBRL International Conference

“Transparency: with Available, Reliable, Comparable and Re-usable Data”

March 20-22, 2012
Abu Dhabi, UAE

Banking Symposium
Project RAIN for the Banking Sector in Bermuda
John Dill
Tuesday, 20 March 2012
AGENDA

- Brief Overview of the Strategy
- Accomplishments to Date
- Scope
- Approach / Methods
The 2008 – 2013 IT Strategy

Key Findings
- Paper Management versus Paper Reduction
- Project Based Environment without a Project Execution Discipline
- Information sensitive environment without the structure to support it

Strategic AIM
- The restructuring or redirecting of the Information Technology delivery towards a customer-centric model.
- The fostering of best practice Information Technology governance and management approaches.
- The delivery of a flexible, “holistic” information management tool set that increases the overall efficiency and effectiveness.

Primary Initiatives
- Reinvent the Infrastructure
- Develop the team
- Project RAIN
- ERICA

Vision: The seamless and efficient flow of information amongst all stakeholders within the regulatory supervisory process.
- Information reuse is maximized.
- Stakeholders are focused on their core competencies.
- Information is used to create value for all stakeholders

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- Information reuse is maximized.
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Critical Success Factors
- Adequate human resources
- Adequate finances
- Executive support through the change cycle
- Effective IT Delivery
Project RAIN Scope

ERICA

Solvency II
- Pillar 1: Capital Adequacy
- Pillar 2: Governance and Risk Management
- Pillar 3: Disclosure

Basel II
- Pillar 1: Minimum Capital Requirements
- Pillar 2: Supervisory Assessment Process
- Pillar 3: Market Discipline

Other
- AML/ATF
- Corporate Authorizations
- Collective Investment Schemes
Accomplishments

2011
- BSCR Class 3A, Groups, Long Term, Dual License, CISSA
- Investment Funds
- Enhanced Bermuda Regulatory Reporting Taxonomy (BRRT)
- Solvency II Taxonomy
- IFRS for Insurance Taxonomy

2010
- BSCR Class 4+3B
- Base Insurance Analytics Portal (Ratio Analysis)
- ERICA Core Development
- Base Bermuda Regulatory Reporting Taxonomy (BRRT)

2008/2009
- Infrastructure redevelopment
- Corporate Authorizations (Business Registry)
- Banking Sector Statutory Return (Basel II)
- Banking Digest (Analytics Portal)
- Team development
- IT Governance and Controls
Project RAIN Current Status

2009
- Visioning, Mobilization and Proof of Concept
- Project Start
- Banking Sector Analytics Portal
- Bermuda Regulatory Reporting Taxonomy and DPS
- Initial Development of a DRAFT Solvency II and IFRS for Insurance Taxonomies and DPM
- Cross Sector Analytics and Systemic Modeling

2010
- ERICA Development and Implementation
- Insurance Analytics Portal Phase I

2011
- Implementation to be accomplished
- IFRS Convergence Accounting Principles Mapping for Supervisors
- Continued Development of IFRS for Insurance / Solvency II Taxonomies
- Insurance Analytics Portal Phase II

2012
- Implementation to be accomplished
Project RAIN – in Banking

E-filing

BMA RAIN System

Internet

XBRL Database

Ratio Analysis

BMA Users

Enhanced Analytics

Banks

Capital Adequacy – Credit, Market, Operational Risk
Liquidity Returns
FX Returns
Large Exposure Returns
Current Adoption Approach

1. BMA provided XBRL enabled excel, word, and PDF templates and Web Interface

   The BMA will provide submission options using the BMA RAIN portal and via XBRL embedded word documents, excel workbooks, and PDF templates

2. Bolt-on via Outsourcing or internal Utility

   Printers and other third party service providers provide outsourced solution for mapping the disclosure elements on the financial statements and note disclosures (in block text) to the BMA Taxonomy

3. Bolt-on via Internal Process

   XBRL can be adopted by companies at the “highest” reporting level (i.e. consolidated) solely for purposes of complying with regulatory requirements. However, potential XBRL process enhancement benefits are not fully realized.

4. Embedded Processes

   - Enables automation of currently manual assembly and review processes
   - Requires companies to assess information needs and provides an opportunity to eliminate inefficiencies in current compliance and reporting processes.
   - Enables process enhancements that lead to more timely higher quality data for decision making purposes
   - Maximizes benefits of XBRL to preparers and internal users of financial and non-financial information.
System Architecture for Banking Data Collection & Analytics

- Capital Adequacy – Credit, Market, Operational Risk
- Liquidity Returns
- FX Returns
- Large Exposure Returns

Financial Statement

Financial Statement & Notes

Accounting System

XBRL Tagging

XBRL Direct submission

Template Management

Workflow Management

Users can create XBRL from their existing documents by themselves

RAIN Data Warehouse

Financial Statement information is reused in Statutory filing

Statistic Filings

Filing Web Service

XBRL Converter

XBRL

(round-tripping Statutory form allows users to have latest form without re-entering data)

Analysis Portal Site

XBRL Aggregator

(PIR, Liquidity, FX, Large Exposures)
SFR Reporting Sub-system

1. Statutory Financial Statements and Risk report
   STATUS: Uploaded

2. Notes to Statutory Financial Statements
   Notes Tagging
   STATUS: Uploaded

3. Attach Files (SFR Attachments)

4. Submit

Accounting System

Financial Statement

Notes

XBRL Tagging

Import
Tag
Review
Validate
Signature
Publish

XBRL Aggregator

RAIN Data warehouse

Analysis Portal Site
Hitachi Data Converter Web Service
Forward the proprietary XML to XBRL Conversion tool.

Filing Web Service
Validate the proprietary XML data. And then, Convert to XBRL

Secure Connection
Manual submission
1. Template/Web-based interactive form
2. XBRL-enable Accounting Software
3. Converter
4. Instance Document
5. Web Forms / Web Services
Four Configurable Areas in ERICA

Scheduled email notification

Web Form

Entity

Notification

Submission

Workflow

Review 1

Review 2

Final approval

Template

Supervisor

Approval Email with digitally signed PDF

Analyst

Analyst
Dynamic Form Configuration

Manage Submission Form Details

Main Submission Form
- Add new items to the electronic form

New Form Item
Select the new item to add to the form:
- Add to form
- Cancel

1. Enter details for the main entity associated with this submission:
   - Input Entity Details

2. Add Executive(s) associated with this submission:
   - Add Executive

Copy a form from another submission type
Select the submission form you wish to copy.

Please Select:
- Annual Filing
- Compliance
- Contact
- Entity Service Provider
- Executive
- General Partner
- Interested Party
- License
- NAV
- Offering
- On Site
- Owner
- Regulatory Action
- Regulatory Issue
- Service Provider
- Share Capital
- Shareholding
- Submission Applicant
- Submitting Agent

Field Input is Restricted
- Min Value: 0
- Max Value: 
- Field Matches a Regular Expression:

Address Details
- Entity Primary Address ID
- Back

Edit
Delete
Dynamic Workflow Configuration

Annual Accounts Flowchart

Manage Submission Workflow

Select the submission workflow you wish to manage:

1. Add new step
2. Step Name
   - Assign to Analyst
   - Submit to Analyst
   - Wait for checklist items from external entity
   - Send Notification of On Site Review

Select the type of step:

Assignment Configuration

- Assign To: 
- Queue: 
- User: 
- Send Notification: Email user on assignment

Step Configuration

- Step Name: Assign to Analyst
- Description: Directly assign to Andrew
- Number: 1
Configurable Analysis Portal Framework

Browse View

Design View

Catalog
Risk-based supervision

LEVEL 1
Rank Companies By Loss Severity

- Query Drill Down
- Ad Hoc Reports
- Standard Reports
- Access data in primary systems/spreadsheets
- Credit ratings
- Root Cause Analysis

LEVEL 2
Group Companies According To Risk Profile

- Statistical Analysis
- Risk sensitivity & flagging
- Alerts/EWS
- Market cycles
- Predictive modeling
- Dispatch aggregated risk profile reports by exposure on demand
- Micro risk assessment
- Sector risk profile

LEVEL 3
Rank Companies By Vulnerability

- Market monitoring
- Extreme value modeling
- Scenario analysis & stress testing
- Systemic risk linkages
- Access external data bases
- Macro risk assessment

Risk-Based Analysis

Increasing Business Value

Risk Drivers

- Where exactly is the problem?
- How many, how often, where?
- What happened?

- Why is this happening?
- What actions are needed?

- What will happen next?
- What if these trends continue?
VI. Composite Indicator Dashboards

- **Low Frequency System-Wide Indicators**
- **High Frequency System-Wide Indicators**
- **Microprudential Indicators**
VI. Composite Indicator Dashboards

US Treasury Bonds Rates
- 30Y: 6%
- 10Y: 5%
- 2Y: 4%

Benchmark Lending Rates
- 3M T-Bill: 3%
- 3M ABCP: 6%
- 3M USD LIBOR: 9%

Yield Curves
- US Treasury Actives: 0% to 5%

Industry: Insurance Class 4
Company: Hiscox
Year: 2010

BSCR Risk Distribution
- Operational: 6%
- Catastrophe: 3%
- Reserve: 6%
- Premium: 15%
- Interest: 3%
- Equity: 3%
- Fixed Income: 8%

Fixed Income Investments Structure
- Government
- High Invest.
- Medium Invest.
- Low Invest.
- Non Invest.
- MBS
- Mutual Funds

Effective Duration By Bond Type
- Gov, Non US, MBS, US Agen, Corp, ABS, MBS Mutual Funds, Other
VI. Composite Indicator Dashboards

Rated Spreads

Weighted Average Duration

Sensitivity To AAA Corporate Bonds

Industry: Insurance Class 4

Liquid Assets To Net PML (TOP 10)

Liquid Assets To Net Provision (TOP 10)

Liquid Assets To Total Liabilities (TOP 10)
VI. Composite Indicator Dashboards

Declining (Stock Index) Volatility

Volatility

Industry: Insurance Class 4

Equity To Total Investments (TOP 10 Companies)

Equity Risk In BSCR Risk Distribution (TOP 10 Companies)
VI. Composite Indicator Dashboards

BMA Financial Stability Map

Line of Business Distribution

Bonds Investments by Rating Category
VI. Composite Indicator Dashboards

Market Perception Of Risk

- EDF (In Percent)
- Rank Order by ISCR Risk Profile Score (WAVE 1)
- CDS Spreads (In Basis Points)
- Investments/Total Investments of Industry

- Fair Value CDS (FCDS)
- Equity-Implied CDS (EICDS)
- 1-yr Est. Default Frequency (EDF)
V. Connecting The Dots (Scenarios)

<table>
<thead>
<tr>
<th>Income</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
</table>
| **1. Procyclicality** | • Under pricing (premiums)  
• Aggressive underwriting strategy  
(Risk appetite)  
• Timely market information (EWS) | • Higher risk investment strategies  
• Poor risk appetite decisions  
• Fall in asset values  
• Rates of return | • Under reserving |
| **2. Risk Profile Mismatch/Mispricing** | • Underwriting profitability  
• Ineffective price discrimination (poor market segmentation)  
• Lumpy risk profile  
• Poor underwriting strategy | • Asset/liability exposure  
➢ Investments underperform  
➢ Failure to correlate risk profile of asset and liabilities (asset value falls, liabilities increase)  
➢ ALM mismatch exposes firm to market swings | • Adverse claims experience  
• Inaccurate loss evaluation  
• Outstanding claims ratios not inline with peers. |
| **3. Illiquidity** | • Underwriting losses (premiums set too low) erode solvency margin | • Illiquid investments  
• Fixed investment value | • Insufficient or illiquid technical provisions |
| **4. Volatility** | • Interest rate fluctuation | • Undervalued investments/Losses | • Undervalued technical provisions  
• Double gearing |
| **5. Homogeneity** | • Poor underwriting judgment  
• Credit quality of guarantees | • Herd behavior  
• Concentrations (LOB, risk classes, geo, asset classes)  
• Diversification | • Funding source diversity= |
| **6. Contagion/Spillovers/Linkages** | • Management fail to make the appropriate risk aggregations  
• Financial result volatility | • Falling asset prices  
• Common mode failure/catastrophe worse case loss (worst event in recent memory) | • Unexpected gross underwriting loss  
• Contingent off-balance sheet items |
Discussion