



Where Information Meets Technology



# CEBS XBRL SOLUTIONS DAY VIENNA

## XBRL Based Bank Regulatory Reporting Solutions

IRIS BUSINESS SERVICES  
INDIA



*XBRL Solution for Banks*

IRIS Business Services PVT LTD

# In this Session..

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- Brief Background
- XBRL Based Reporting Solution for the Indian Central Bank  
(The Reserve Bank of India - RBI)
- A Quick Look at the Taxonomies
- Addressing Reporting Bank Needs – Integrated Solution
- Questions ?



# IRIS – A Snapshot

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- ❑ Founded in 1994 by a bunch of professionals
- ❑ Focused on Financial Information and Information Management Solutions
- ❑ A Pioneer in XBRL Based Solutions in India
- ❑ Services global customers in
  - XBRL based reporting supply chain solutions
  - XBRL Instance Document creation services
  - Business content management solutions



# IRIS - Mission Statement

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- ▶ To be a global leader in XML based business data creation, integration, analysis and reporting
- ▶ To offer these services to capital market regulators, central banks, state and federal governments, company registrants, tax authorities, financial printers, commercial enterprises and the investing community
- ▶ To achieve this by leveraging IRIS' IP based modular and rapidly customizable software framework and knowledge based services in a cost effective manner to meet customer needs



# IRIS XBRL Solutions and Services

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## XBRL Conversion Services

- ✓ High end compliance filing service such as 10-K, 10-Q reports with taxonomy extensions and link base modifications
- ✓ Meets US SEC mandate requirements
- ✓ Leverages IRIS' multi disciplinary team of XBRL domain experts and software specialists
- ✓ Scalable across countries and accounting systems (US GAAP and IFRS)
- ✓ Business rule engine and workflow builds efficiencies



## End to End Filing Solution

- ✓ Electronic reporting platform for regulatory & financial reporting, and compliance
- ✓ Highly flexible XBRL based reporting solution that can be customized to a structured filing environment
- ✓ IRIS offers proven 'Easy Start' programs showcasing the benefits through a cost effective pilot before scale, allowing easier adoption for a regulator



# IRIS XBRL Solutions and Services

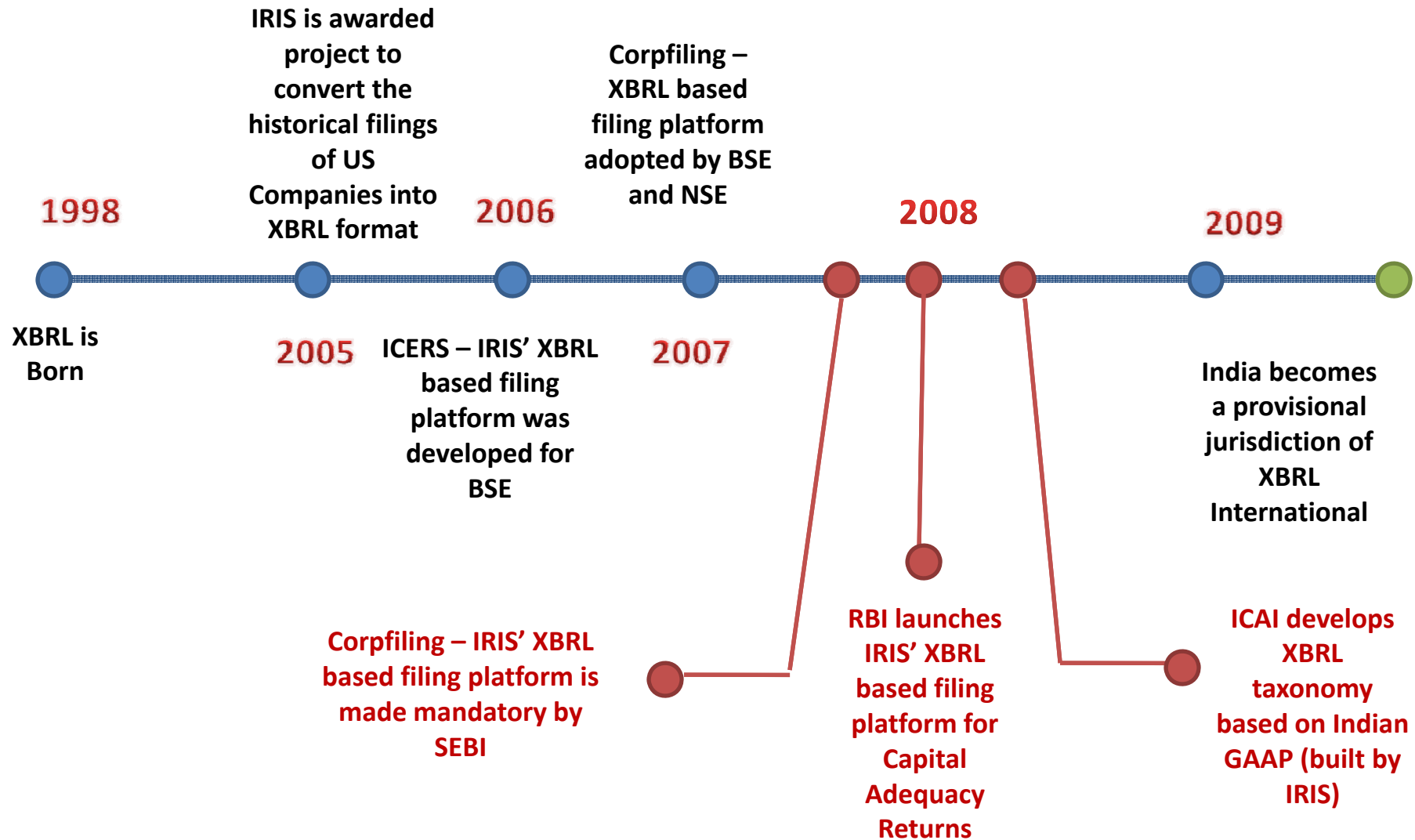
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- ✓ Tool for mapping individual fields in a enterprise legacy database to corresponding XBRL tags
- ✓ Enables enterprises to pull data in from multi sources within to reporting platforms
- ✓ Future versions will build in ability to map accounting systems data into XBRL GL



# XBRL in India



# XBRL Based Central Bank Reporting

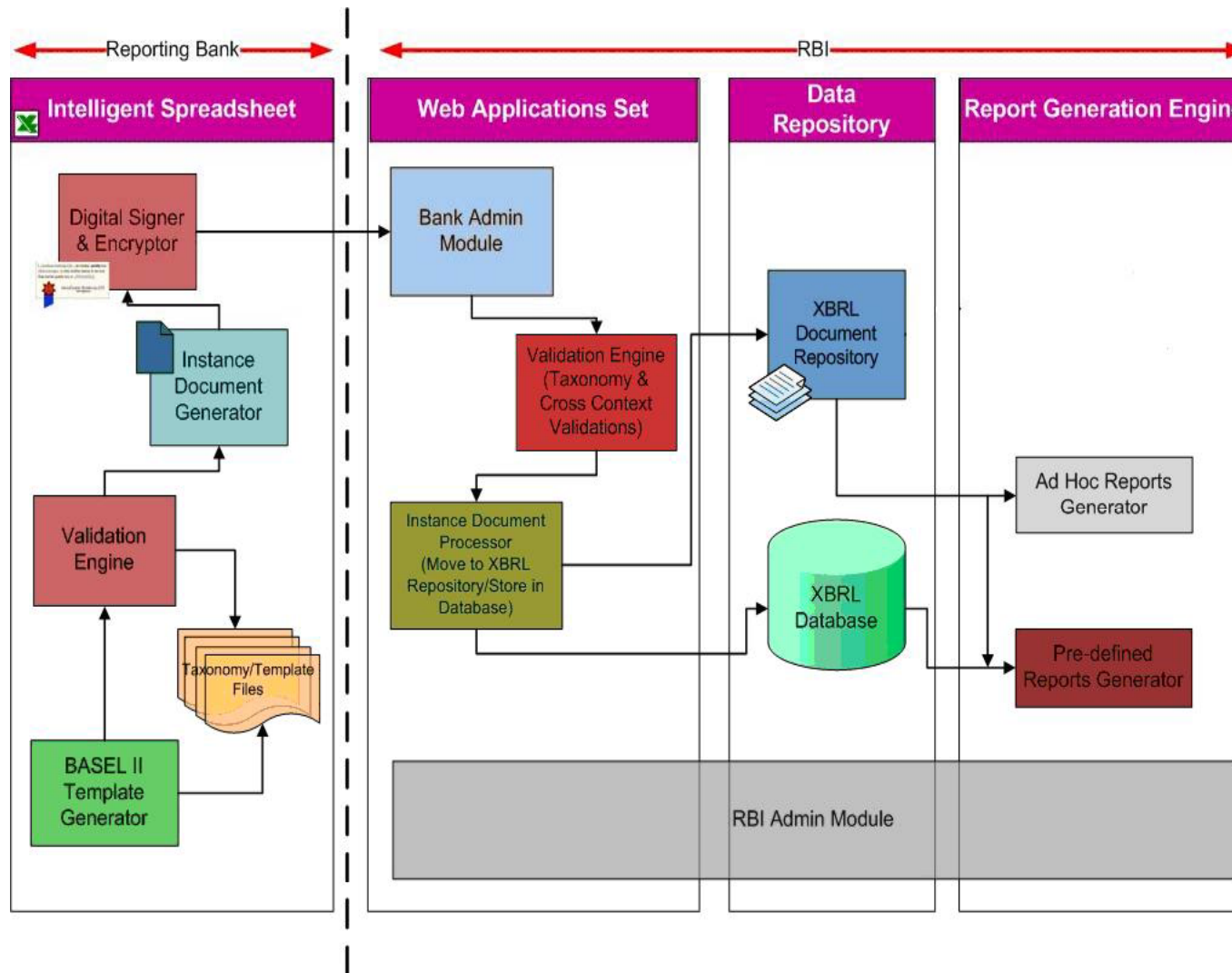
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- The RBI embarks on a mission to introduce XBRL based bank reporting in India and then onto commercial bank adoption
- Rationalize reporting burden, enhance data quality and analysis
- IRIS has built the full XBRL based supply chain for the RBI
- Started with Basel II reports, system goes live in Oct 2008
- IRIS develops a 2-stage system based on IRIS iFile Solution
  - ❑ An Excel Based Report preparation Tool – helps in instance document generation
  - ❑ A web portal for
    - ✓ Submission of XBRL Returns by the Banks
    - ✓ Viewing Bank Returns and MIS Reports by RBI (Rendering)
- A Dimensional Taxonomy sits on top of both these systems





# Reporting System Architecture



# RBI – Reporting Supply Chain

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- The Excel Template will be downloaded by the reporting banks from RBI's XBRL website and use it for preparing the Quarterly Returns
  
- Following are the features available:
  - ✓ Easy-to-download package from RBI Portal
  - ✓ No Internet connection required while reporting
  - ✓ Predefined sheets with the RBI-mandated elements
  - ✓ Capable for handling the version changes, without any installation
  - ✓ Predefined business logic through embedded Formulae
  - ✓ Automated validation using validation rules defined by RBI
  - ✓ *Ability to generate XBRL instance document*
  - ✓ Ability to accept any externally generated instance document for RCA2
  - ✓ Encryption feature for ensuring maximum security
  - ✓ Easily sharable within the reporting team
  - ✓ Can be saved for future reference
  - ✓ Saved excel copy can be used for modifications/rectifications of errors, if any



# RBI – Reporting Supply Chain

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## ➤ Banker's functionality

- ✓ A bank user (*Super User, Checker, Maker*) can login to the system with the required credentials
- ✓ Download the period-specific version of the RCA2 template package
- ✓ Upload the encrypted Instance document prepared by the Excel Reporting Tool
- ✓ Upload Revisioned copy of the return, on approval by RBI
- ✓ View / download the submitted data at any point of time in future



# RBI – Reporting Supply Chain

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## ➤ RBI's functionality

- ✓ Complete administration of the website including
  - Bank management
  - User management
  - Version management
  - Log viewing
  - Audit Trails
- ✓ Approve banks for submitting revisioned copy
- ✓ Send auto alerts (reminders) to banks on default
- ✓ Publish Filings submitted by the banks
- ✓ Render XBRL reports
  - Predefined
  - Dynamic



# A Quick Look at the Taxonomies

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- RCA 2 Taxonomy for BASEL II Returns
  - Section 42 Return (Liquidity Reports) Taxonomy
  - Taxonomy for Financial Reporting (GAAP based)
  - Taxonomy for GPB Returns
- \* Based on the underlying principle – common elements to be defined only once



# The RCA 2 Taxonomy

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- Taxonomy tailored to Basel II Reporting Requirements
- XBRL 2.1 and Dimensional Specification Compliant
- Taxonomy Architecture along COREP lines
- Multi dimensional in nature



# Template Based Data Capture

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Modules	Templates
Capital requirements	2
Credit risk exposure	9
Market risk exposure	4
Operational risk exposure	1



# Taxonomy Structure

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- **Primary Elements**
  - Facts which are measured. Include values used in calculations, e.g. Risk Weight
- **Dimensions**
  - Attributes that characterize the elements
  - RCA 2 taxonomy contains 28 dimensions
- **Hypercubes**
  - RCA 2 has fifteen hypercubes
    - Used to group dimensions
    - Employs template specific dimensions





# RCA 2 vs. COREP

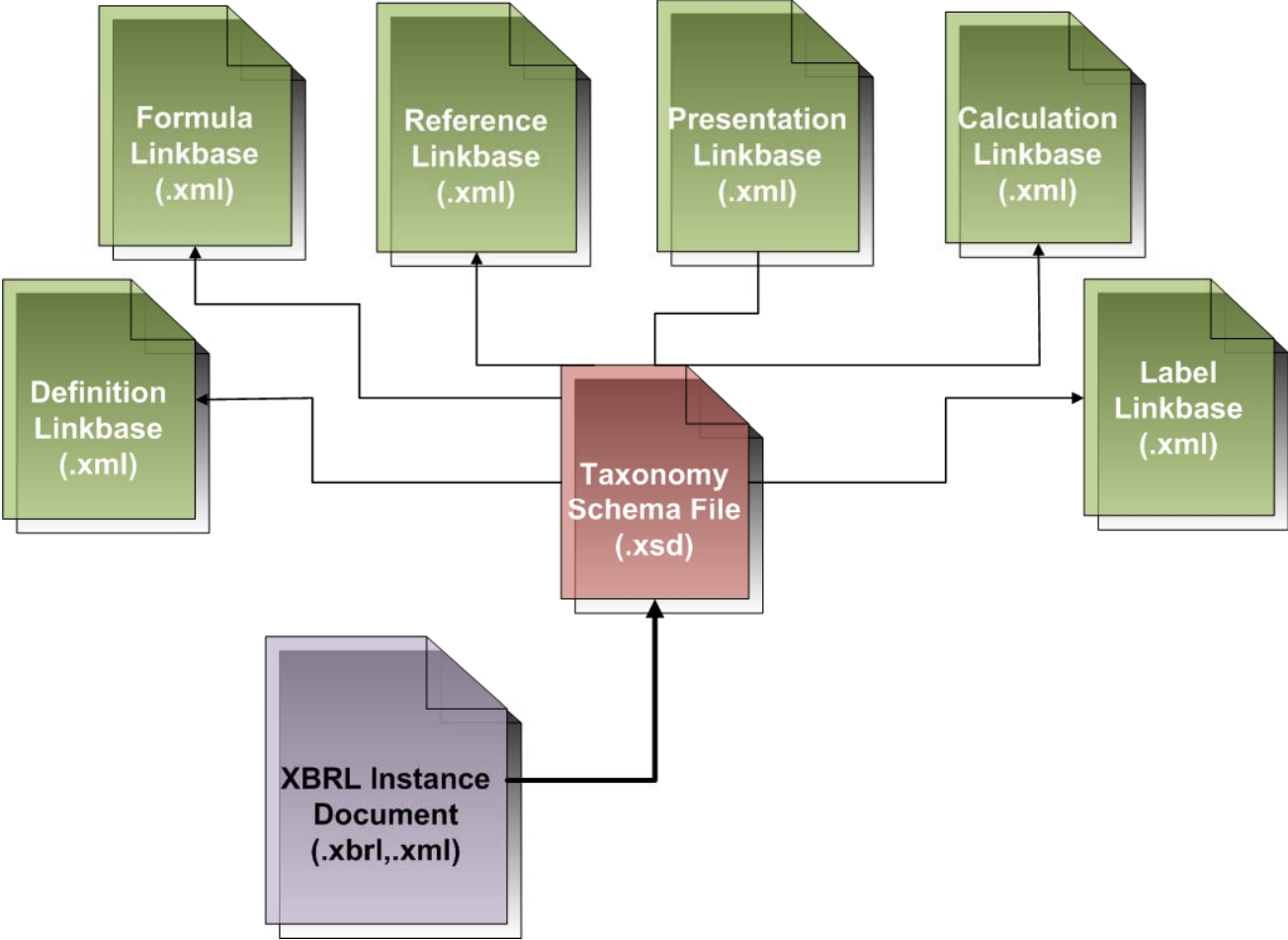
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- Key Differences

- One XSD file – RCA 2 taxonomy employs a single 'xsd' file created for defining primary and dimension elements
- Separate extended links for each reporting template
- Defining Hypercubes – Unlike COREP, in RCA 2 taxonomy the hypercubes are specific to the template. There are no exclusion hypercubes, with each template having its specific hypercube.

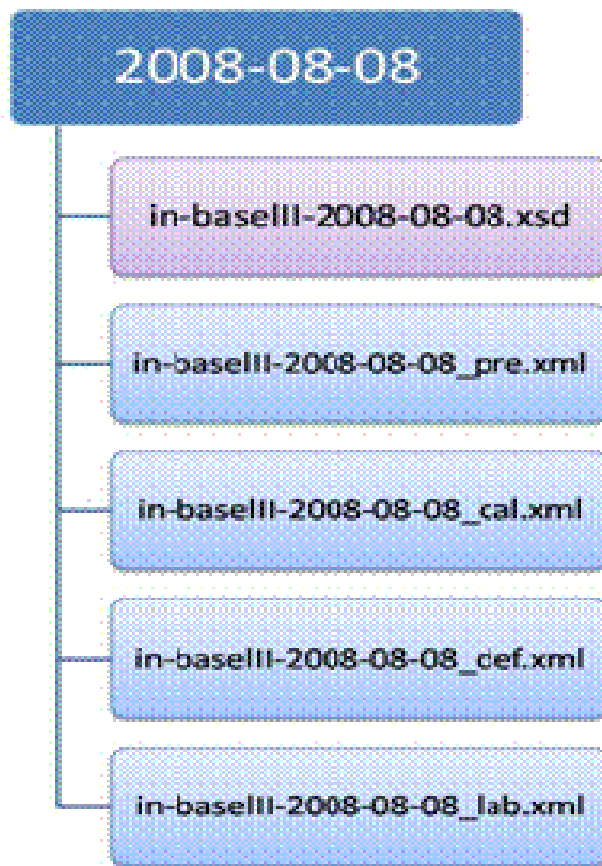


# Taxonomy Structure



# RCA 2 Taxonomy

## Taxonomy structure



## Taxonomy Statistics

Elements	425
Primary Elements	128
Dimensions	29
Domain Members	253
Hypercube	15

Failed Transaction Off Balance Sheet - Hypercube

Primary Items  
(Defined Dimensionally)

(Rs. in crore)

S No	Description	No of days unsettled (after the settlement date) - drop down menu	Counterparty / client (Drop down menu (Sovereign, Banks, Others)	Rating (Drop down menu)	Agreed Settlement Price	Current Market Price	Current Exposure (if 7 positive)	Risk Multiplier	Amount of Capital Charge
1	2	3	4	5	6	7	8	9	10
1	Securities Transactions (DVP Transactions)	5 -15 days					0	9.00%	0
		16 - 30 days					0	50.00%	0
		31 - 45 days					0	75.00%	0
		46 days or more					0	100.00%	0
	Sub Total		**NA**	**NA**	0	0	0	**NA**	0
2	Foreign Exchange Transactions	5 -15 days					0	9.00%	0
		16 - 30 days					0	50.00%	0
		31 - 45 days					0	75.00%	0
		46 days or more					0	100.00%	0
	Sub Total		**NA**	**NA**	0	0	0	**NA**	0
3	Others	5 -15 days					0	9.00%	0
		16 - 30 days					0	50.00%	0
		31 - 45 days					0	75.00%	0
		46 days or more					0	100.00%	0
	Sub Total		**NA**	**NA**	0	0	0	**NA**	0
	Gross Total		**NA**	**NA**	0	0	0	**NA**	0
	Gross Risk Weighted Assets				**NA**	**NA**	**NA**	**NA**	0

Transaction Type Dimension

MaturityType Dimension

Rating Type Dimension

Credit Risk Template



# Complex End User Reports

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- Now that RBI is assured of the quality of the data it receives, there is a strong need to use this data for generating the various complex reports and audit reports within RBI
- RBI has decided to analyze the feasibility of using strong Business Intelligence Tools such as BusinessObjects (from SAP), Cognos (from IBM) etc for generating these reports.
- IRIS, being a technical consultant for RBI on this, it is carrying out a detailed study of the same.



# Demo Video of BI Tool in Operation



# Requirements of the Reporting Banks

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- Every bank mandated by RBI has to submit the Basel II returns for every Quarter within the stipulated 21 days following the end of quarter
- The “*Data Providers Groups*” within the bank collates the data from the various sources of data
- At each step of data submission, every Data item needs to be
  - ✓ Extracted
  - ✓ Computed / Aggregated
  - ✓ Validated
  - ✓ Corrected &
  - ✓ Authorized
- These data items are then mapped appropriately with the elements in the Basel II Excel Template



# Reporting Bank Woes

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- Basel II Excel Template has more than **3000 Data Items** which are spread across the **16 different sheets**
- Each data item maps to a set of granular values existing in the different data sources, at different geographical locations
- Manual Workflow for data collection exists but a more robust and structured mechanism is still missing
- “*Bank’s Basel II Reporting Group*” and the “*Data Providers Groups*” have to work in close co-ordination to ensure **accurate** and **timely** submission of report to RBI
- The Data provider systems needs to be customized to provide the data in the required formats
- The entire process, being completely manual, it is prone to human-errors
- The same set of activities have to be repeated every Quarter!
- It is difficult for the banks to provide drill down reports during RBI audits at a later point of time





# IRIS iDEAL Tool – *bridging the gap*

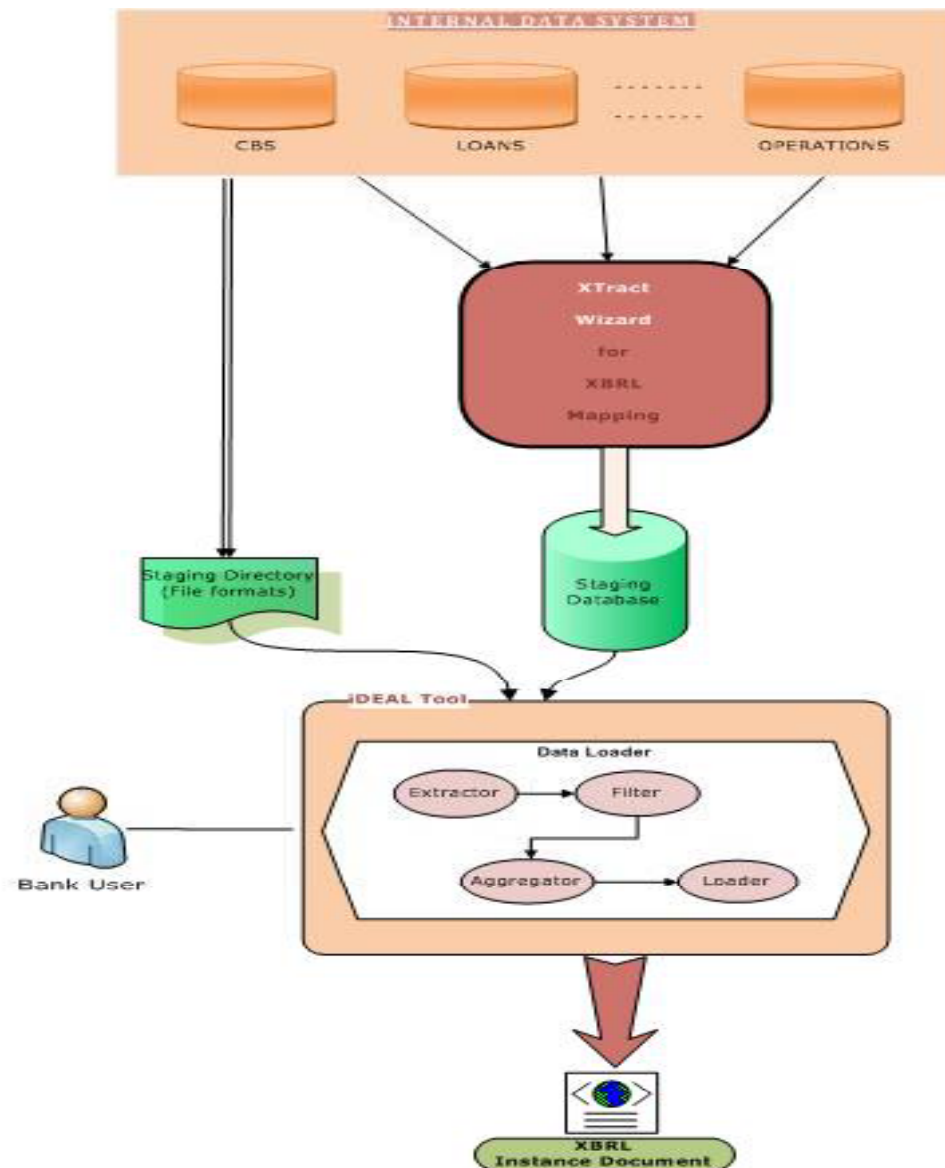
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IRIS has developed a solution which

- Can extract data directly from the banks internal systems
- Is compatible with various data input formats (txt, csv, excel, database etc)
- Has provision for mapping the non-XBRL data items with the XBRL data items
- Provides a very user-friendly and intelligent environment for mapping
- Helps in mapping the dimensions / primary elements / domain members
- Aggregates the transactional data to generate a more summarized data
- XBRL Validations as well as data validations are performed using the taxonomy
- Provision for setting business filters / rules
- Loads the data directly into the RBI Templates using the mapping logic, thus avoiding manual data entry
- Can also generate the Instance document
- Provides Audit trails / logs
- MIS reports for internal reporting purposes



# DETAILED ARCHITECTURE OF IDEAL TOOL



# Demo Video of iDEAL Tool

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# Benefits

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- ✓ Bridge the gap between the internal reporting systems and the data providers
- ✓ Standardize the approach for data extraction from the variant sources to the Excel Template
- ✓ Automate the entire process of data collection, aggregation, validation and population in the template
- ✓ Provides accurate and reliable data for regulators
- ✓ Helps in meeting the regulators strict guidelines for data submission
- ✓ Provides a system to retain the data for future audit purposes
- ✓ This system can also be customized to generate Instance documents directly

\*\* For more details visit us at:

[http://www.irisbusiness.com/xbri/prod\\_services\\_idealtool.php](http://www.irisbusiness.com/xbri/prod_services_idealtool.php)



# Going Forward – Getting XBRL inside Banks

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- iDEAL tool provides scope for penetrating into the bank systems for XBRL based efficient report generation system without affecting the CBS / banks legacy systems
- It would be a 1-point report generation engine for all the levels of bank management
- This model can be applied across all different verticals such as company reporting, internal branch reporting and so on.



# Questions??

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You can reach us on

**Balachandran Krishnan, Co-Founder, IRIS**

Ph: 91-22- 67231002

[k.balachandran@irisbusiness.com](mailto:k.balachandran@irisbusiness.com)

**Vikiraj Hinger, Project Manager, IRIS**

Ph: 91-22- 67231065

[Vikiraj.hinger@irisbusiness.com](mailto:Vikiraj.hinger@irisbusiness.com)

[www.irisbusiness.com](http://www.irisbusiness.com)

