

Out of the Ordinary®



Specialist Bank

Practical Experience - Turning Regulatory Reporting into Business Information



June 2019

Turning Regulatory Reporting into Business Information

Ever increasing demand for regulatory reporting places a massive burden on reporting teams and risks becoming a box ticking exercise with minimal added value for the business. How can we use the underlying reporting technology to improve analytics, reporting and management within the business?

Drawing on experience from IFRS9 implementation and capital modelling this presentation will look at the role technology can play in taking the data used to fulfil the regulatory requirements and turning it into a useful business tool. The areas looked at will include:

Data – the source of all the answers and all the problems

MDM – understanding data and conforming

RDARR – warehouse and provenance

Interactive tools – the more that can be seen quickly, the cleaner it gets

User awareness – taking them on the journey to better data

The IFRS 9 Overview

IFRS9 is a recent change to accounting standards that came into force at the start of 2018

The key change to focus on in this discussion is the requirement for banks to hold provisions against all assets on their balance sheets, and not just those that have already been assessed as credit impaired.

Every asset must now have a methodology to assess

- PD – probability of default

- LGD – loss given default

- EAD – exposure at default

 - all measured on a one year horizon and over the expected life of the asset

- ECL – expected credit loss over one year and lifetime determined from the above factors

- Macro-economic sensitivity – how the ECL will vary under different economic assumptions

- Historic credit comparison – how the credit rating of the asset has changed since the bank acquired it

IFRS 9 Cross Department Dependencies

So although this was a new “accounting” standard it impacts and needs to be coordinated with many departments

Economics

Finance

Risk Governance

Credit Risk

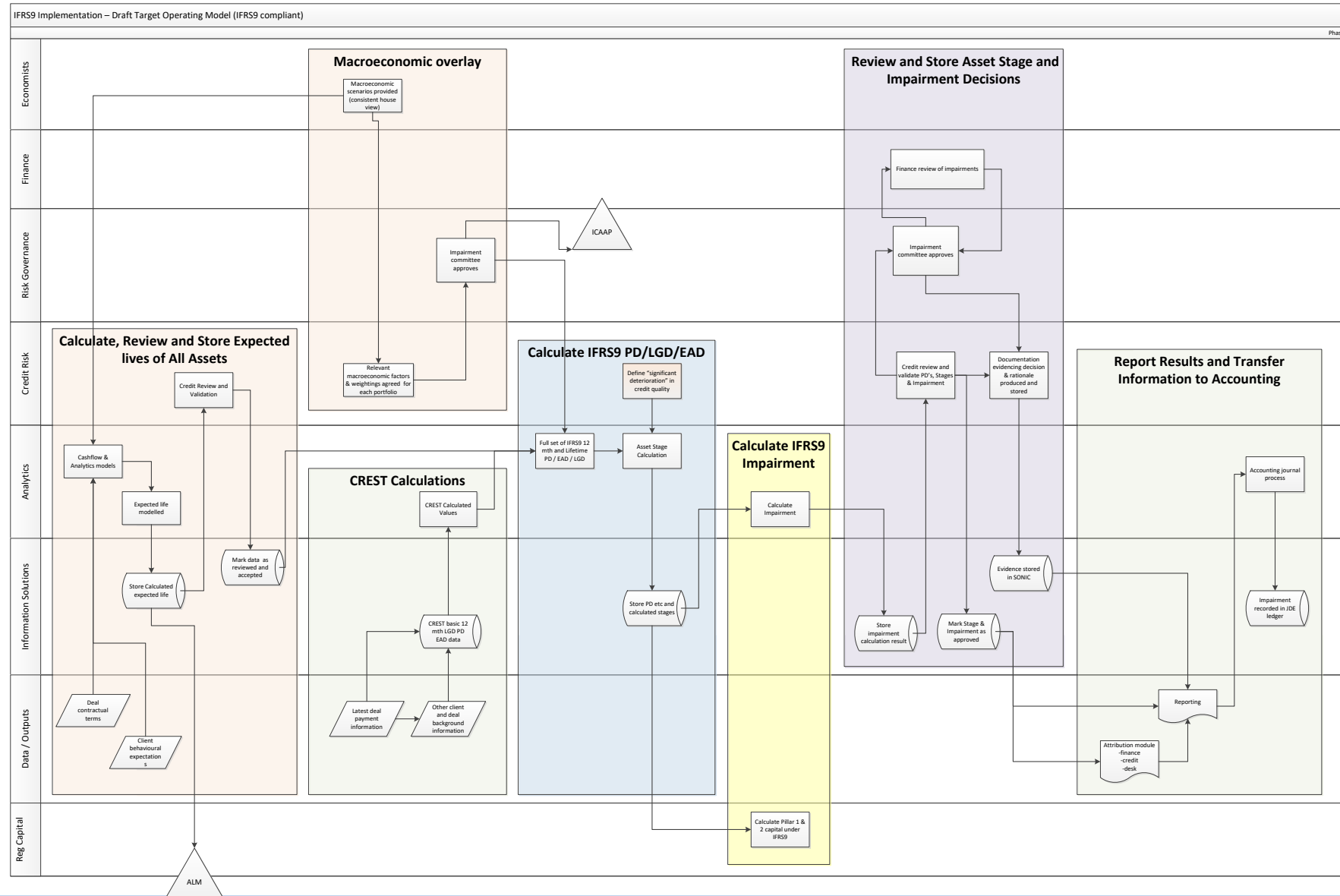
Analytics

BI and Data Warehousing

Regulatory Capital Modelling

The IFRS9 audit process now extends across all these areas

Basic IFRS9 Process Flow



Legacy Data Landscape

Typical scenario:

Multiple source systems for various departments and products

Poor coordination between systems make cross referencing difficult

Multiple target systems for different reporting requirements

- General Ledger

- Credit Exposures

- Capital Calculations ...

Regulatory reporting is derived separately for each requirement

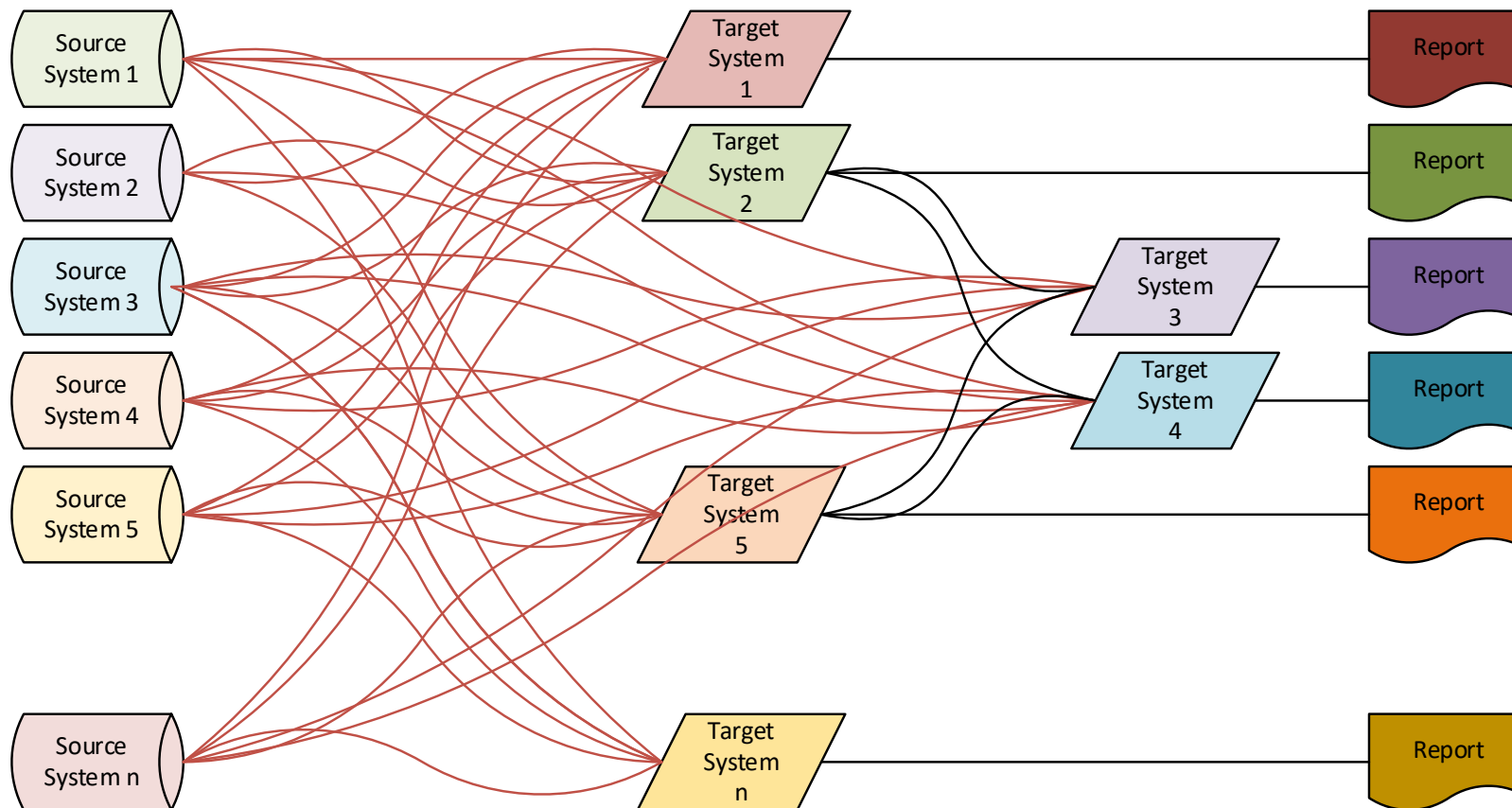
- Needs dedicated teams for each function

- Painful reconciliations

Little added value from the process, other than keeping afloat and satisfying the regulatory requirements

IFRS 9 Data Challenges

Started with a classic legacy mix of source systems and multiple non coordinated target systems:



Point to Point connections between source and target systems

Poorly scalable

- each new source or target system requires full set of new connections

Hard to maintain

- any change in one source or target requires all connections to be retested

- multiple connections to maintain into and out of each component

Hard to understand

- custom processes in each connection are replicating logic from other connections

- “clever” work rounds applied to keep each connection working

Massive reconciliations

- each target system has to be reconciled to sources to ensure integrity

Data issues

- are dealt with multiple times at each target system and along each connection

More problems ...

Multiple source systems

- unavoidable because that is how the business had developed and needed to be structured

Slow cumbersome reporting

- each reporting system pulled data independently from multiple sources.
- each had to be reconciled individually

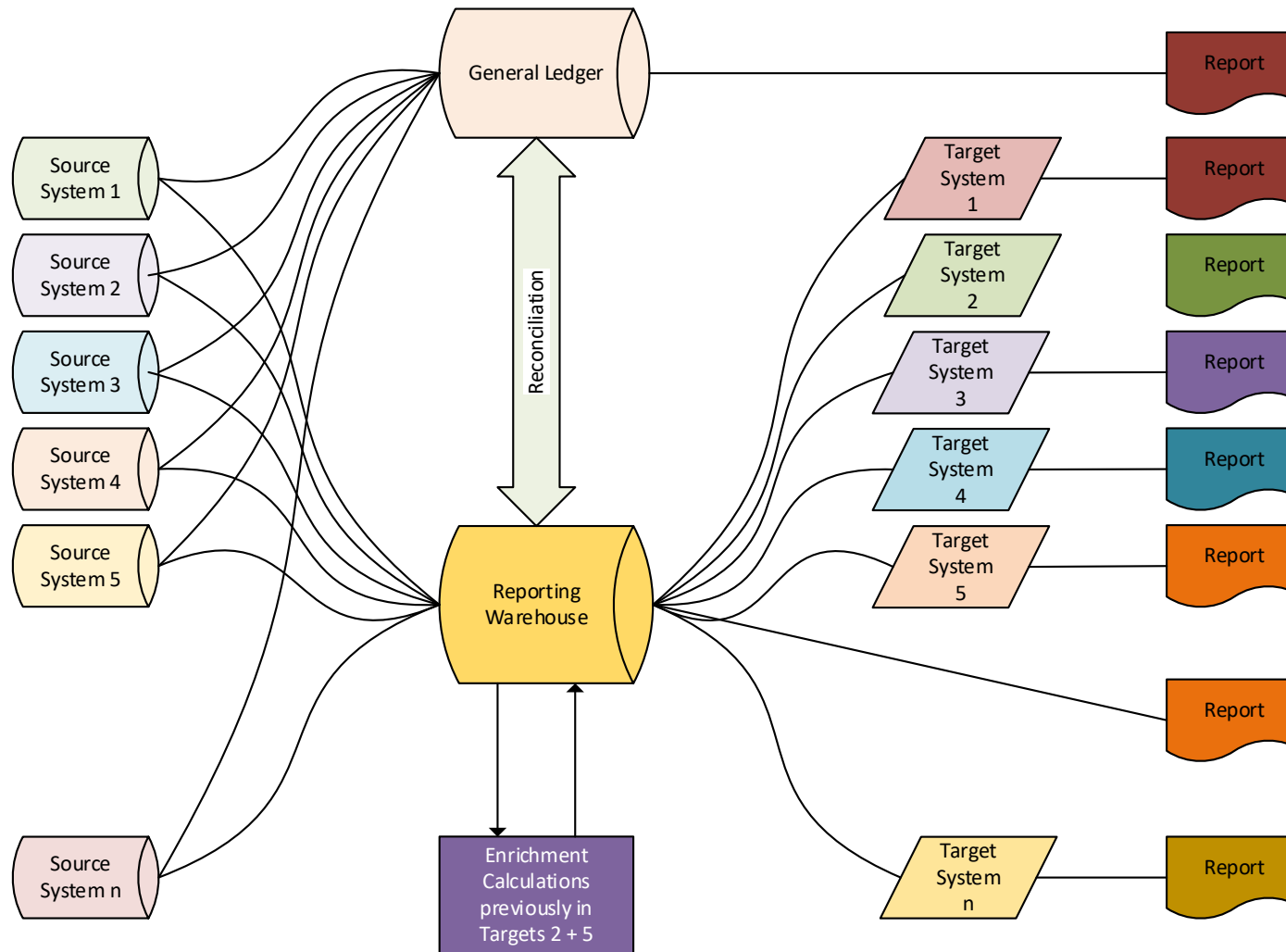
Responsiveness to new requests

- slow

Multiple ETL procedures

- key man risks at every junction

Improved with a central warehouse reporting solution



Better, but ...

- + Now gives a single source of credit exposures
 - reconciled to the GL
 - available for other systems to use
 - more audit friendly approach
 - reduces number of connections

- + Speeds up some reporting requirements

- Doesn't have all data required by all downstream systems
 - still need some direct source to target connections

- Calculated data from Target systems is still being used in other downstream areas

- Needs large cleansing and de-duplicating process at the input for credit warehouse as the source systems have very little synchronisation

Further Improvements with MDM

MDM should allow:

- Standardised lists and naming conventions throughout source systems

 - Country

 - Currency

 - Titles

 - ...

- Deduplication of client and product data

 - Central registry of names and types

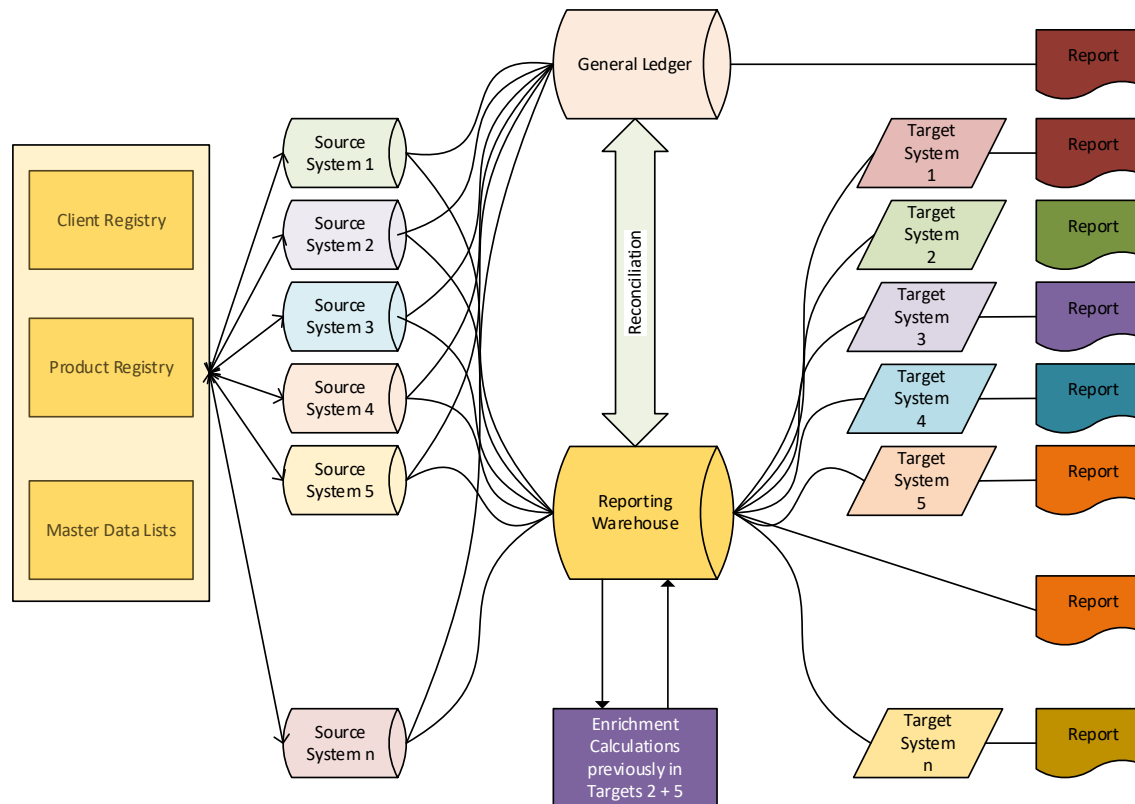
 - Lookup system before new data is entered

 - Unique references from central source

- Cleaner reporting

With MDM

Golden sources of common information



But now source systems need to be aligned ...

Closer to BCBS239

a. Overarching Governance and Infrastructure

1. Governance
2. Data architecture and IT infrastructure

b. Risk Data Aggregation Capabilities

3. Accuracy and Integrity
4. Completeness
5. Timeliness
6. Adaptability

c. Risk Reporting Practices

7. Accuracy
8. Comprehensiveness
9. Clarity
10. Frequency
11. Distribution

Delivers the Backbone

Delivers a platform on which to build

Common reporting platform

Allows flexibility in generating reports

New requirements can be accommodated with minimal impact on sources

Delivers common data platform

Integrates data from all source systems

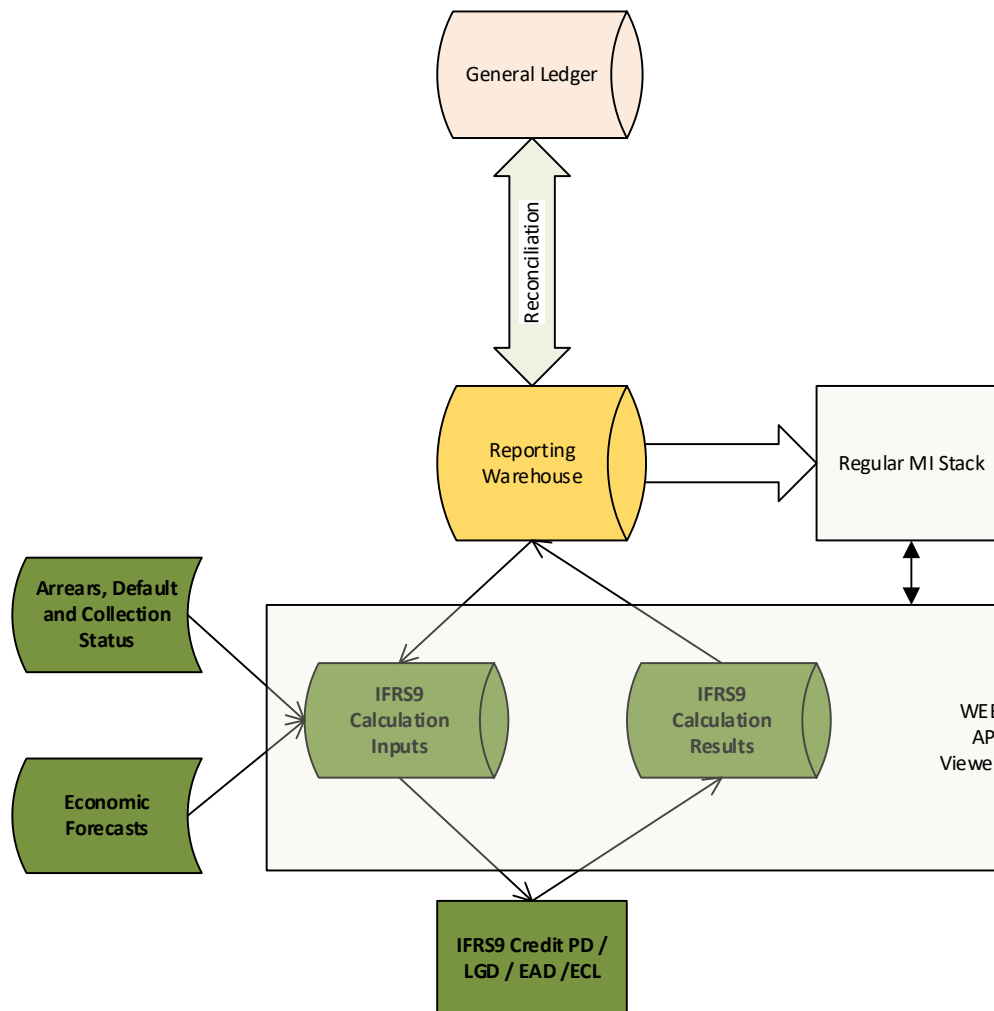
Allows new calculation requirements to be added

Defines interface for any new source systems

Reporting warehouse and GL cover downstream requirements

Add the components for IFRS9 ...

IFRS9 Implementation



Starting with the reporting warehouse

Pull data to IFRS9 Inputs and enrich as required
Call the calculation engine and store results

Push data back to reporting warehouse

Regulatory reporting can then work as before

Internal MI running off the reporting warehouse can be enhanced by making IFRS9 data more visible

Regular MI Reporting

Data Visualisation Tool

Can sit on top of the Reporting Warehouse and be used for internal reporting

Many tools currently available

PowerBI / QLIK / Tableau / Alteryx ...

Allows easy grouping and drill down on information

Sorting and viewing data is best quality control

Click through from the report into WebAPI on underlying detail ..

Reporting Example

10. Post overlay ECL Reporting - Use OMC CRA Replica refreshed.jok in "\\invldncicrfs1\...\IFRS9*" - Omniscio Classic Desktop 2019.1 - build 20391 x64

Data Cover Page Analysis Glossary +

High Level Views Stage Overrides ECL Overrides (Stage 1 and 2) ECL Overrides (Stage 3) ECL pre and post overrides +

By stage +

File Data Tab Style Toolbars Settings Help Add view Colour Details Queries 240,923 0 / 240,923

Overall

IFRS9 Provision by stage and legacy type

Run date	Stage	Legacy Type	Gross Commitment GBP	Underlying ECL	IFRS9AdjustedFinalECLGBP	Weighted IFRS9 Provision
31/01/2019	Stage 3	Remediated	194,862,613	1,014,651	1,116,116	1,682,492
31/01/2019	Stage 3	Ongoing	3,021,263,549	15,361,192	16,897,311	25,202,304
31/01/2019	Stage 3	Legacy	1,123,669,342	5,574,782	6,132,261	9,105,556
31/01/2019	Stage 2	Remediated	378,338,558	1,746,649	1,921,314	2,966,697
31/01/2019	Stage 2	Ongoing	4,767,681,907	23,602,683	25,962,951	38,881,920
31/01/2019	Stage 2	Legacy	157,873,874	900,059	990,065	1,560,661
31/01/2019	Stage 1	Remediated	115,702,893	630,268	693,294	1,036,075
31/01/2019	Stage 1	Ongoing	115,232,446,738	574,518,660	631,970,526	948,473,707
31/01/2019	Stage 1	Legacy	53,627,320	321,304	364,532	474,066

IFRS9 Provision by Credit Risk Appetite

CreditRiskAppetiteLevel1	CreditRiskAppetiteLevel2	Gross Commitment GBP	Weighted IFRS9 Provision
Private Client Lending	Mortgages	29,951,204,651	244,486,803
Private Client Lending	HNW and Specialised Lending	29,805,711,653	243,330,042
Corporate Client Lending	Asset Finance	10,922,239,352	90,466,088
Corporate Client Lending	Leveraged Finance/ Corporate Loans	10,265,136,759	85,450,813
Corporate Client Lending	Other corporate and financial institutions and governments	10,072,713,187	84,389,614
Real estate	Residential Real Estate	9,400,283,592	76,593,989
Real estate	Commercial Real Estate	8,776,123,812	73,752,573
Corporate Client Lending	Fund Finance	6,454,985,013	53,162,310
Corporate Client Lending	Project Finance	4,137,667,388	34,293,658
Corporate Client Lending	Integrated Debt	2,573,396,919	21,612,780
Corporate Client Lending	Credit Investments	1,638,550,765	12,837,588
Corporate Client Lending	Direct Corporate Lending	621,694,475	5,259,199

Largest IFRS9 Provision by Credit Deal

Run date	AssetID	CreditDeal	Gross Commitment GBP	Underlying ECL	IFRS9AdjustedFinalECLGBP	Weighted IFRS9 Provision	IFRS 9 Prov %
31/01/2019	1044447, 1044448, 1044449	UAX ia 52	1,024,338,450	5,466,432	6,013,075	8,865,868	0.87%
31/01/2019	248754, 248755	Elviesq	897,729,187	4,492,233	4,941,456	7,404,730	0.82%
31/01/2019	1081448, 1111449	EGLOQAU	636,184,133	3,088,594	3,397,453	4,921,424	0.77%
31/01/2019	11906, 11909	EU	458,757,124	2,085,781	2,294,359	3,434,229	0.75%
31/01/2019	194364, 194365	Qoneot ZA, Joozo, toouare asoup	422,931,736	2,075,642	2,283,206	3,248,650	0.77%
31/01/2019	11928, 17249	AA1	383,484,502	1,764,920	1,941,413	2,889,671	0.75%
31/01/2019	241288, 241289	Ova i Se Igae	309,054,411	1,654,003	1,819,403	2,814,944	0.91%
31/01/2019	572876, 572877	Gob Exeo Eila OOF	357,796,915	1,610,929	1,772,022	2,678,896	0.75%
31/01/2019	305012, 305013	Easaucaavio Pau'faom	330,392,491	1,649,093	1,814,003	2,625,155	0.79%
All:	31/01/2019		125,045,466,802	623,680,337	686,048,371	1,029,383,477	

Investeclocation

Run date 31/01/2019

Assetid Type here

Backofficeexternalid

CreditDeal Type here

Backofficesystemname

CreditRiskAppetiteL...

☒ (no value)

☒ Corporate Client Li

☒ Private Client Lend

☒ Real estate

CreditRiskAppet

☒ (no value)

☒ Asset Finance

☒ Commercial Real Es

☒ Credit Investments

☒ Direct Corporate Li

☒ Fund Finance

☒ HNW and Specialis

☒ Integrated Debt

☒ Leveraged Finance

☒ Mortgages

☒ Other corporate ar

☒ Project Finance

☒ Residential Real Es

☒ Resource Finance

Stage

☒ (no value)

☒ Arrears - Arrears 3

☒ Arrears - Expired L

☒ Arrears - Forbeara

☒ Arrears - Forbeara

☒ Arrears - Stage 1

☒ Current - Expired L

☒ Current - Expired L

☒ Current - Enhance

Reporting Example – Simple Filtering

"10. Post overlay ECL Reporting - Use OMC CRA Replica refreshed.iok" in "\\invldncicmfs1\...\IFRS9\" * - Omniscio Classic Desktop 2019.1 - build 20391 x64

Data

Cover Page

Analysis

Glossary

High Level Views

Stage Overrides

ECL Overrides (Stage 1 and 2)

ECL Overrides (Stage 3)

ECL pre and post overrides *

By stage 2 *

By stage *

File

Data

Tab

Style

Toolbars

Settings

Help

Add view

Colour

Details

Queries

Reset

1,098

239,825 / 240,923

Overall

IFRS9 Provision by stage and legacy type

Run date	Stage	Legacy Type	Gross Commitment GBP	Underlying ECL	IFRS9AdjustedFinalECLGBP	Weighted IFRS9 Provision
31/01/2019	Stage 3	Ongoing	1,553,115	6,119	6,731	10,611
31/01/2019	Stage 2	Ongoing	32,647,289	160,848	176,932	264,514
31/01/2019	Stage 1	Ongoing	455,878,694	2,044,197	2,248,616	3,445,653
All: 31/01/2019		Ongoing	490,079,097	2,211,163	2,432,279	3,720,778

IFRS9 Provision by Credit Risk Appetite

CreditRiskAppetiteLevel1	CreditRiskAppetiteLevel2	Gross Commitment GBP	Weighted IFRS9 Provision
Private Client Lending	HNW and Specialised Lending	273,522,647	1,808,949
Corporate Client Lending	Leveraged Finance/ Corporate Loans	64,947,426	576,637
Private Client Lending	Mortgages	58,487,507	574,511
Corporate Client Lending	Asset Finance	51,730,268	413,768
Real estate	Residential Real Estate	41,391,250	346,914
All:		490,079,097	3,720,778

Largest IFRS9 Provision by Credit Deal

Run date	AssetID	CreditDeal	Gross Commitment GBP	Underlying ECL	IFRS9AdjustedFinalECLGBP	Weighted IFRS9 Provision	IFRS 9 Prov %
31/01/2019	885264	KO2288-093198209	64,335	641	705	1,388	2.16%
31/01/2019	160521	UIX0420-9223529	70,352	685	753	1,393	1.98%
31/01/2019	340001	AEP1593I-N0802765	106,227	964	1,060	2,074	1.95%
31/01/2019	355455	UII901L-81459	48,210	438	481	923	1.91%
31/01/2019	365170	UNE714R-485812249	107,940	971	1,068	1,899	1.76%
31/01/2019	353690	V0855T-U430206	160,241	1,352	1,488	2,811	1.75%
31/01/2019	337360	EEJ47-46152101298	98,129	785	863	1,678	1.71%
31/01/2019	1125039	EEI973F-50742306226	159,574	1,497	1,646	2,718	1.70%
31/01/2019	279368	TUM83A-4085493893	92,621	885	973	1,558	1.68%
All: 31/01/2019			490,079,097	2,211,163	2,432,279	3,720,778	

Tools

Search All

Saved Queries

Investeclocation

Run date

31/01/2019

Assetid

Type here

Backofficeexternalid

CreditDeal

Type here

Backofficesystemname

CreditRiskAppetiteL...

☒ Corporate Client Lent

☒ Private Client Lending

☒ Real estate

CreditRiskAppetite

☒ HNW and Specialised L

☒ Leveraged Finance/ C

☒ Mortgages

☒ Residential Real Estab

Stage

Staging reason

☒ Arrears - Arrears 31 -

☒ Arrears - Expired Loar

☒ Arrears - Forbearance

☒ Arrears - Forbearance

☒ Arrears - Stage 1

☒ Current - Expired Loar

☒ Current - Expired Loar

☒ Current - Forbearance

☒ Current - Forbearance

☒ Current - Stage 1 (2:

☒ Gross Default - Gross

☒ No PD at origination ai

☒ No staging reason pro

☒ PD significantly incr

☒ PD significantly incr

☒ Special Mention - Expi

☒ Special Mention - Forb

Page 20

Underlying Data

Month

Year

Latest

2018

Switch to OMC

You searched for: "885264" | Reporting Period: 2018-12-31

Show 20 entries

Search:

Assetid	BackOfficeExternalID	EQUIPMENTTYPE
885264	IAFB044L-C269818	002 - 002 Computers Printing & It Equip

CREST PD Output

Show 10 entries

Search:

AssetID	AsOfDate	pd	PDscore	RiskGrade	EffectiveMaturity
885264	2018-12-31	0.980061	394.0	IB25	2.58

Showing 1 to 1 of 1 entries

Previous

1

Next

IFRS9 PD Output

Show 10 entries

Search:

AssetID	ScenarioName	DataElementKey	0	1	2
885264	UPSIDE_CASE	CumulativePD	0.336709480274861	0.50782407461338	0.562621581146485
885264	UPSIDE_CASE	MarginalPD	0.336709480274861	0.171114594338519	0.0547975065331049
885264	INVP3	CumulativePD	0.337070867744447	0.508104878071658	0.562886750906304

Underlying Data

CREST PD Model Input													
													Search:
Access to alternative liquidity	Achievability Of Forecast	Annualized 1-Yr. EDF	Annualized 5-Yr. EDF	Barriers To Entry	Bond Default Rate Mapping (1 Yr)	Bond Default Rate Mapping (5 Yr)	Current Assets	Current Competitive Environment	Customer Risk	Depreciation	EIR	Employee Relations	Historical Forecast Accuracy
Yes	Likely	0.0332538694	0.0328043188	Moderate	B1.edf	B2.edf	32323.06	Strong	Low		0.073038	Stable and Strong	Achieved forecast
1 of 1 entries													
										Previous	1	Next	
CREST PD Model Output													
													Search:

Do the same with Capital

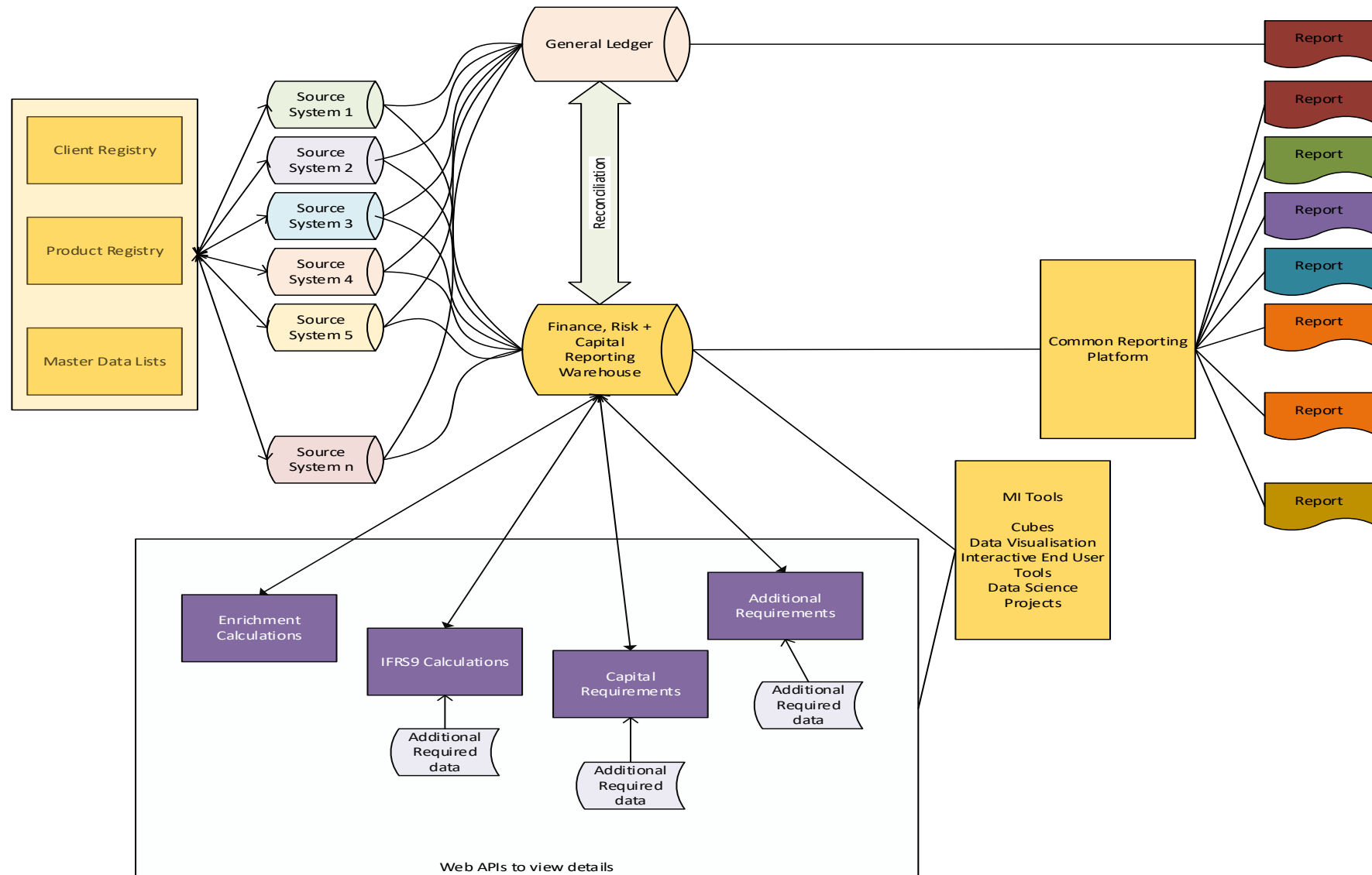
Take data from Reporting Warehouse as basis for Capital Calculations

Feed into calculation engine to get regulatory and internal capital results

Push data back into warehouse to give integrated reporting

Build viewers to examine details of the calculation process

The Target



Disclaimer

This document is issued in the UK by Investec Bank plc (“Investec”), which is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Whilst all reasonable care has been taken to ensure that the information stated herein is accurate and opinions fair and reasonable, neither Investec nor any of its directors, officers or employees shall be held responsible in any way for the contents of this document. This document is produced solely for your information and may not be copied, reproduced, further distributed to any other person or published in whole or in part for any purpose without the prior written permission of Investec.

While the information in this document has been prepared in good faith, no representation or warranty, express or implied, is or will be made and no responsibility or liability is or will be accepted by Investec or any of its subsidiaries or affiliates or by any of their respective officers, employees or agents in relation to the accuracy, suitability or completeness of this document and any such liability is expressly disclaimed. Investec gives no undertaking to provide the recipient with access to any additional information or to update this document or any additional information, or to correct any inaccuracies in it which may become apparent.

This document does not take into account the specific investment objectives, financial circumstances or particular needs of any recipient and it should not be regarded as a substitute for the exercise of the recipient's own judgement. Investec does not offer investment advice or make any investment recommendations. Recipients of this document should seek independent financial advice regarding the appropriateness or otherwise of investing in any investment strategies discussed or recommended in this document and should understand that past performance is not a guide to future performance, and the value of any investments may fall as well as rise.

Investec Corporate & Institutional Treasury is part of Investec Bank plc, of 30 Gresham Street, London, EC2V 7QP. Registered and incorporated in England No. 00489604. Investec Bank plc is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange. Telephone calls may be monitored or recorded.