

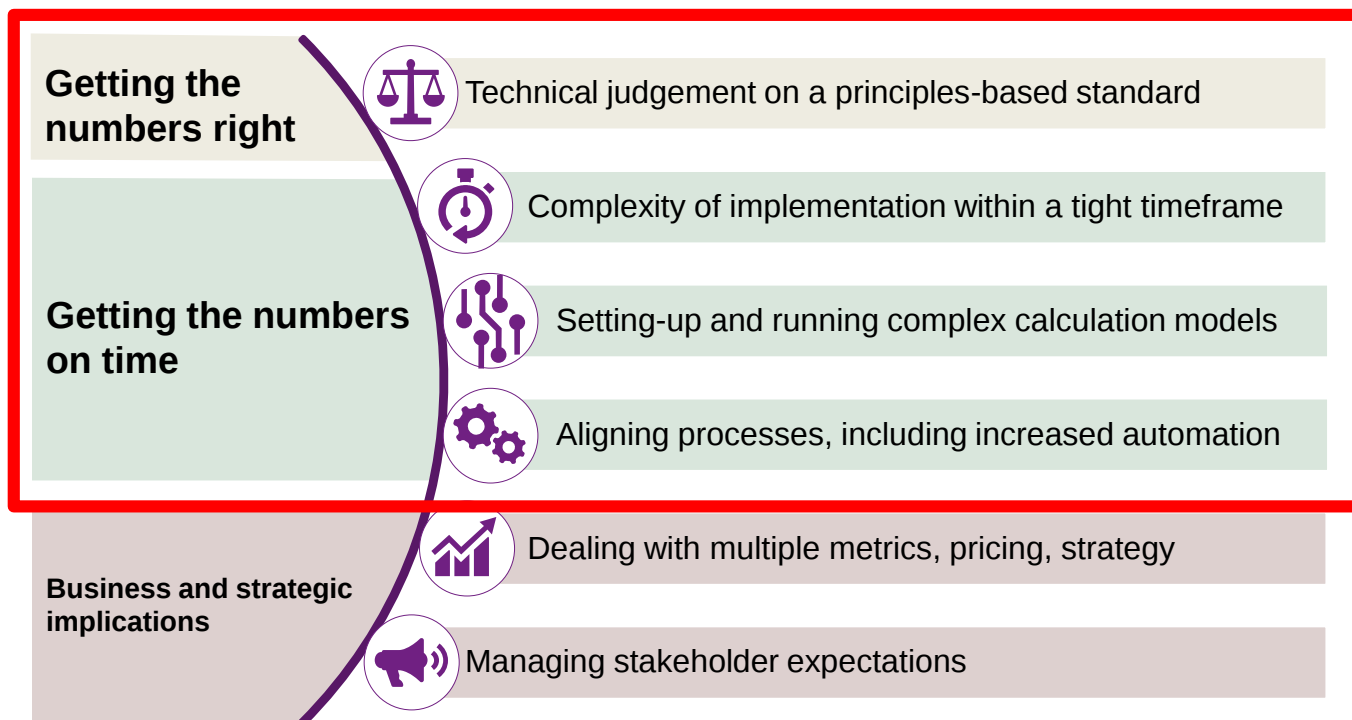
Solutions for IFRS 17

Prepared for CEO Focus Group 6th/2018
Demystifying IFRS 17 for General Insurers
Jointly Organized by TGIA & WTW

14 November 2018

The key implementation challenges for insurers

More than a compliance exercise



Proactivity – Understand, Communicate, Address

Typical Challenges for Existing Actuarial Solution

Amendments and Changes to Current Models and Processes Necessary for IFRS 17

Considerable improvement of existing models needed, and actuarial reserving

1

- Fulfilment cashflows including stochastic calculations, discounting and risk adjustment by new IFRS 17 grouping
- Dynamic bottom-up onerous contracts decision process and subsequent grouping
- Actuals-based bottom-up P&L treatment using actual vs. expected claims/incidents/expenses
- More granular separation of cashflow effects for P&L within each calculation step
- Approach flexibility: GMM / PAA

Implementing new IFRS 17 content, emerging analytics and best practices

2

- Risk adjustment methodology and allocation, day 1 CSM
- CSM cohort management, runoff, adjustments and unlocking
- Additional variables (revenue, OCI, ...) for setting up IFRS 17 P&L statement
- Disclosures, CSM and profit forecasting
- Allocation of reserves

Data management

3

- Historic assumptions, multiple yield curves, policy movements
- Cohort CSM, cashflows and discounting
- Increasing levels of granularity
- Linking in and availability of actual P&L data requirements, e.g. expense allocation by cohorts/ groupings

Automation, audit and control

4

- Delivery of actuarial reporting data in days and not weeks after year end ($x + ?$ in days)
- Information used to drive reporting financials
- Regular (monthly?) reporting requiring automated process

Integration with wider finance and actuarial systems

5

- Data and results warehousing
- Financial consolidation
- Capital comparison and reconciliation
- Reporting dashboards



ResQ



ResQ FR



Data
Validator



Unify

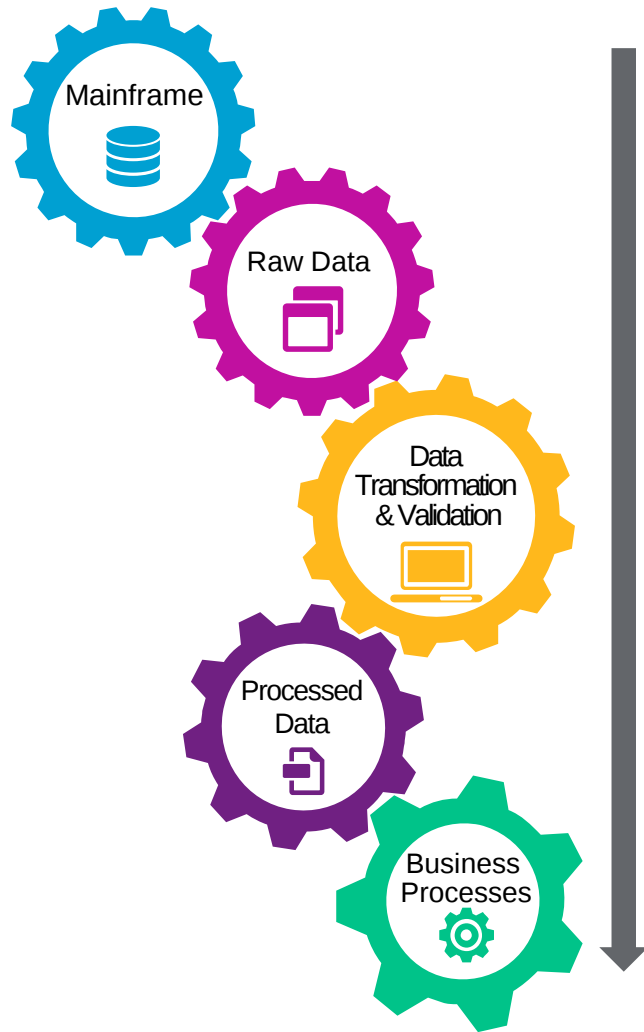
Data Management

More for consideration...

- Cohort tags for all policies
 - Where to store the new field after onerous contract testing? Core Policy Admin System? Data lake?
- Allocation of actual expenses by cohorts
 - Data inputs from Accounting System to IFRS 17 Engine
 - Where to set the allocation rules? Where to store the info?
- Aggregation of actual premium received and benefit payouts by cohorts
 - Data inputs from Core Policy Admin System? Data lake?
 - Where to do the aggregation by cohorts? Where to store the info?
- Result outputs, eg. CSM, RA
 - Data inputs from IFRS 17 Engine to Accounting System
 - Where to store the info?

Here are just some examples...It is a long list!

Data Management - what does data process best practice look like?



Additional features

Be transparent and easy to use

Remove the black box typically associated with data processing.

Be flexible and adaptable to business requirements

With requirements constantly evolving, having flexibility can help simplify downstream reporting processes and adapt more quickly.

Provide management information reporting and a strong audit trail

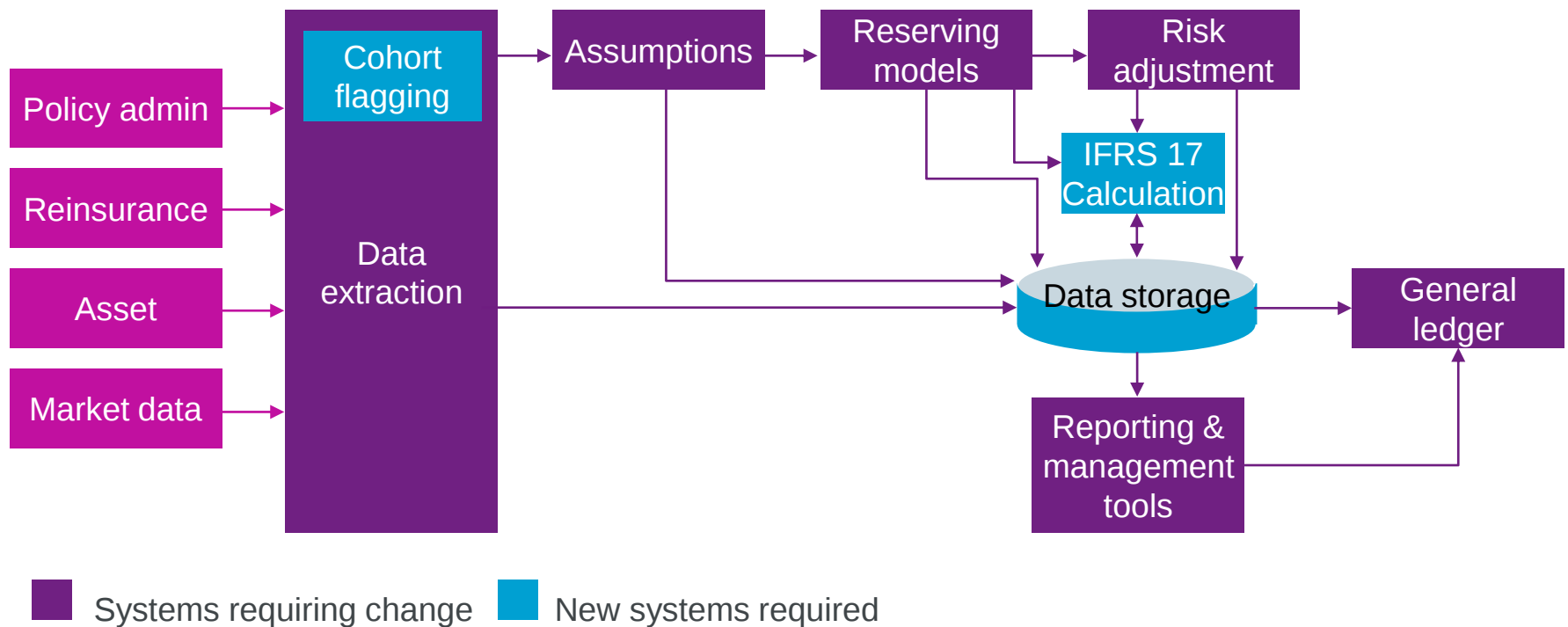
Facilitate management understanding of data quality through clean and intuitive reports. Automated audit reporting gives a low maintenance process and helps ensure requirements are met.

Process/Work Flow Efficiency, Reporting Timeliness

What triggers the need for Process Automation and System Integration?

- Volume of projections, data and results grows over time
 - More intense reporting timeframe calls for a more compressed and automated reporting process and up-to-date monitoring information
 - Proliferation of projections multiplies the effort of audit trail preparation
- Collaboration between departments require seamless integration of teams and systems
 - Increasing need to minimize resource idle time
 - Team communication and transparency of process are paramount in ensuring long term process stability
- Evolving business requires agile and scalable processes
 - Requires easy to implement and modify business processes
 - System resources easily scaled with business needs

IFRS 17 System Requirement Overview – The Basic



Great Features of an IFRS 17 Calculation Engine

- Cater for IFRS 17 calculation requirements
- Seamless roll-forward functionality, starting with prior period assumptions.
- Rapid production of information required for reporting and key business decisions.
- User friendly and flexible
- Reduces the manual process and makes reporting more efficient.
- Ability to refocus actuarial resource on business-critical tasks
- Allows you to make the maximum use of current reserve analysis and processes; integrate well with reserving tool.
- Delivered in transparent and well-governed process.
- The solution allows for a future extension of functionality to produce regulatory technical provisions and other accounting formats.

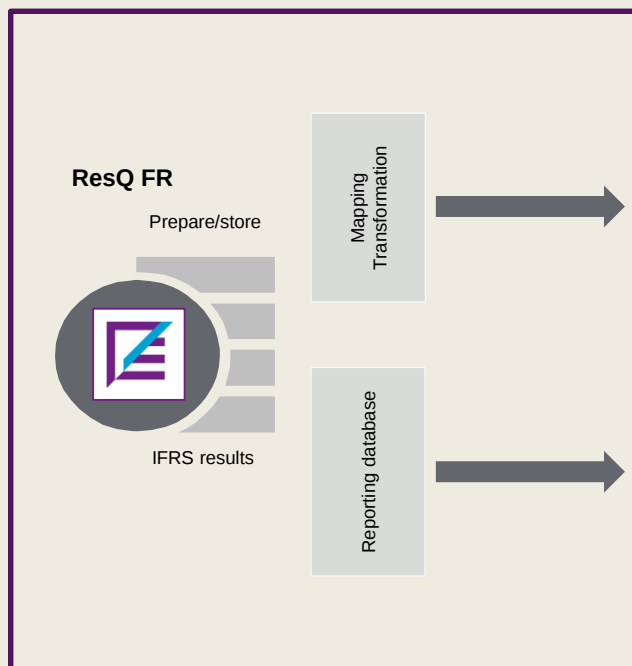


IFRS 17 Calculation Engine – Key Functionality



IFRS 17 Calculation Engine: Outputs

How can the results of the calculations be used and integrated?



- Generate data in a format consistent with the latest views of the IFRS 17 reporting standard, allowing it to:
 - produce all insurance elements underlying the **Financial Statements** and the quantitative elements of the **insurance disclosures**
 - **reconcile the period-on-period movements** at the cohort level or any aggregation in the Unit of Account hierarchy
- This highly granular CSM results can be:
 - conformed as required for load through to the GL
 - output to MI tools for internal analysis & reporting
- Conduct **What If analysis** and **optimisation of calculation parameters**
- Support **business planning**
 - by feeding in future Plan volumes it will generate prospective Financial Statements

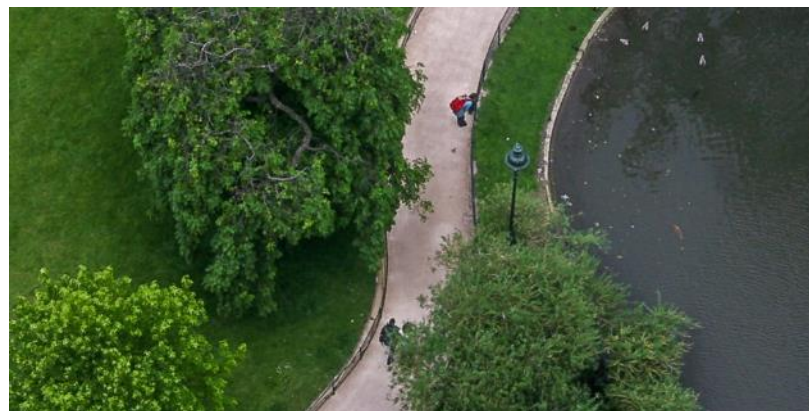
Closer look at IFRS 17 P&L, CSM roll-forward and balance sheet

modelclass	t_from	t_to	best_estimate_liability_rdr_curr	claims_death	claims_surrender	claims_total	csm
cohort_top_ifrs	-6	-6	-17536.96703				14591.3
cohort_top_ifrs	-5	-5	356708.1516	0	0		14589.2
cohort_top_ifrs	-4	-4	356640.3188	0	0	0	14587.1
cohort_top_ifrs	-3	-3	356572.4957	0	0	0	14585
cohort_top_ifrs	-2	-2	356504.6824	0	0	0	14583
cohort_top_ifrs	-1	-1	356436.8788	0	0	0	14580.9
cohort_top_ifrs	0	0	356369.0849	0	0	0	15067.1
cohort_top_ifrs	1	1	351321.2638	11.66816416	4970.035127	4981.703291	15064.9
cohort_top_ifrs	2	2	346337.067	11.510936	4907.49439	4919.005326	15062.8

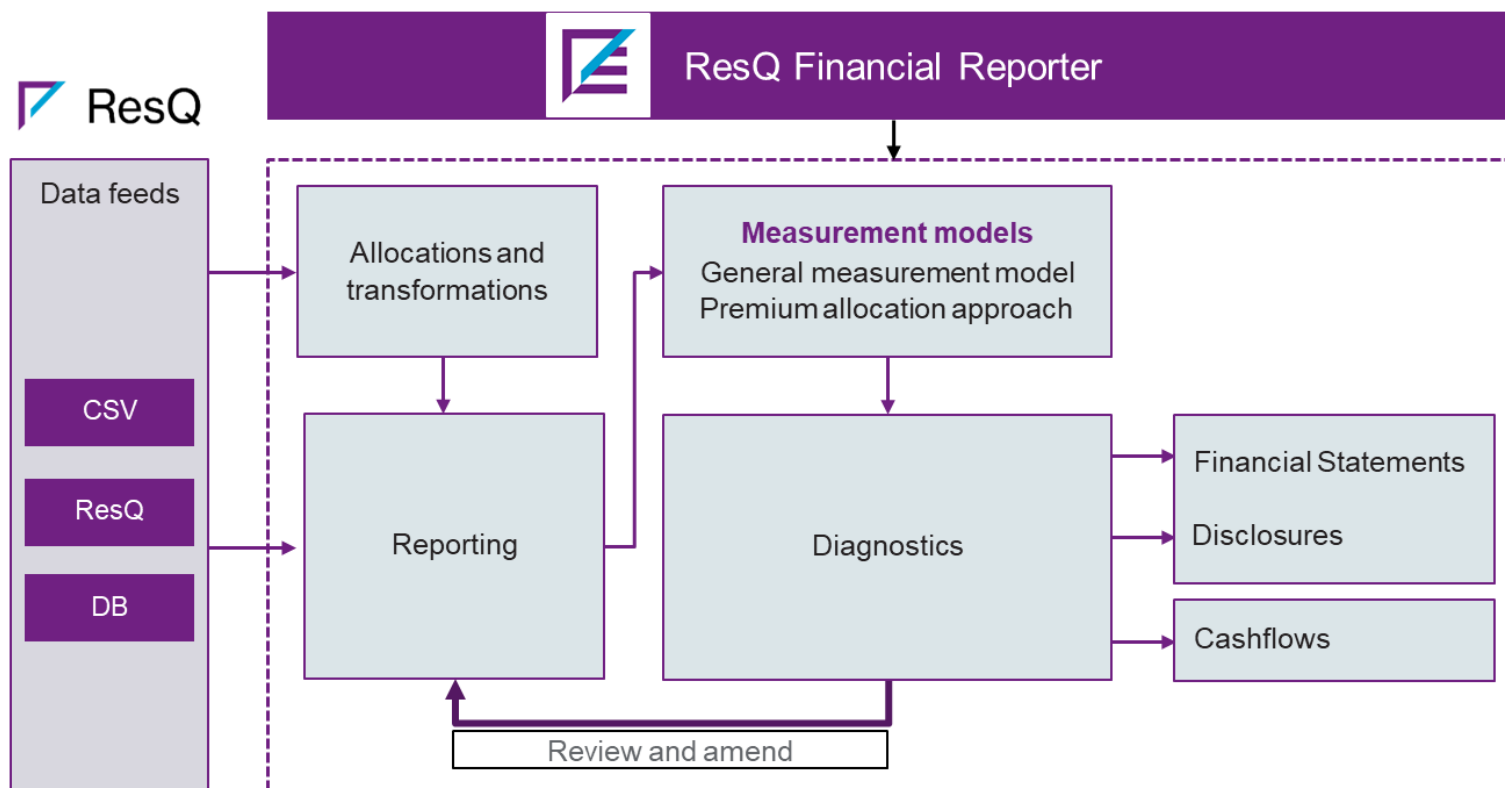
IFRS 17 Income statement		Year	2016	2017
Life insurance		Month	12	12
Insurance service result			790	1,361
Insurance revenue			1,203	2,217
Expected claims Death			68	131
Expected maintenance expenses			97	168
Allocation of recovery of insurance acquisition cash flows			313	557
Release of contractual service margin to P&L			617	1,151
Release of risk adjustment to P&L			108	211
Insurance service expense			413	856
Incurred claims Death (excl. investment component)			-	131
Incurred insurance service expenses			100	168
Allocation of insurance acquisition cash flows			313	557
Net Finance result		-	3,079	-
Investment income		-	322	- 595
Insurance finance expense (or income)			2,757	- 595
Interest expense		-	322	- 595
Change in Discount Rates			3,079	
Profit or loss for the year		-	2,289	1,361

Balance sheet				
Life insurance				
Best estimate liability (incl. O&G)		- 17,537	356,369	305,355
Discounted future cash flows (det.)		- 17,537	356,369	305,355
Options and Guarantees		-	-	-
Risk adjustment		2,946	3,100	2,884
Contractual Service margin		14,591	15,067	13,897
Total insurance liabilities		-	374,536	322,136

CSM Roll Forward		2016
Opening CSM		-
New business CSM		14,591
Accrete interest		-13
Experience adjustments		
Change in CF	-	27,639
Inv comp / Premiums exp adjustment		28,741
Change in RA	-	240
Change in assumptions		
Change in CF		244
Change in RA		-
CSM pre allocation		15,684
Allocation to the period		617
Closing CSM		15,067



IFRS 17 Calculation Engine – Work Flow and Process Overview



The complete reserving solution



ResQ uniquely combines powerful modelling and reserving methods with flexible data management to create a complete reserving solution

1

Save time with a wide range of in-built, best practice, claim projection and result selection methods, with additional custom methods when required

2

Enhance understanding with a combination of intuitive graphics, statistical analysis, and validation tools

3

Increase confidence through improved understanding of reserve risk, using ResQ's cutting edge stochastic simulation capability

4

Support strong governance with in-built security features

5

Meet your management information needs with a flexible range of reporting solutions

6

Improve quality, consistency and efficiency using the import and roll-forward wizards, and the comprehensive application programming interface (API) to automate the end-to-end reserving process

IFRS 17 toolkit



ResQ contains all the tools needed to transform Best Estimate Reserves into IFRS 17 Reserves



Features

Flexible Cash flow module

Yield curves stored at a project level

One year view of reserve risk

Multiple currencies and lines of business

Risk margin / risk adjustment

Discounting of BBNI reserves

Consolidation of cash flows

Counterparty default for reinsurance bad debt

Calculations using the dataset and reserving class framework



Benefits:

Calculation of reserves within the ResQ environment

In-built validation tests and governance support Technical Provisions

Flexible cash flow and project level yield curves simplify discounting

Can be combined within an industrialised process

Roll forward of the calculations between reporting periods

Export reserving assumptions to databases

Reserving Solution – ResQ with Stochastic

What is ResQ Stochastic?



- It combines robust modeling, data management and provide best estimate reserves, risk adjustments, bootstrapping, monte carlo simulation and practical stochastic
- It augments best practice claim projection, adjustment and result selection with information management capabilities to deliver the insurance industry's leading reserving platform.



What ResQ Stochastic can do for you

- It offers an integrated solution that combines **powerful reserving and data management** to deliver efficient, team-based reserving with enforced consistency across a project.
- It reduces the opportunity for **human error** through the use of wizards and management of aggregation calculations across projects.
- Comprehensive programming interface can be used to embed the solution in wider data systems and automate complex tasks.



Key advantages of Reserving Solution over spreadsheet-based reserving systems

Spreadsheet-based
reserving systems



ResQ



- ✓ **Security** allows a user to lock down data or models, a key requirement of regulation, such as Sarbanes-Oxley
- ✓ An **audit trail** is created automatically
- ✓ Powerful **graphical output** built-in.
- ✓ **Ease of use** and speed simplifies reserving functions and techniques, such as bootstrapping, that are difficult to run in a spreadsheet format
- ✓ **Superior data handling** tailored for reserving tasks
- ✓ Periodically updated functionality for the requirements of **IFRS 17**
- ✓ Simple **rolling forward** of previous analyses
- ✓ The multi-user system allows users to create totals across all classes or compare patterns or models in different classes

Q1. Do you use Excel Spreadsheet for reserving?

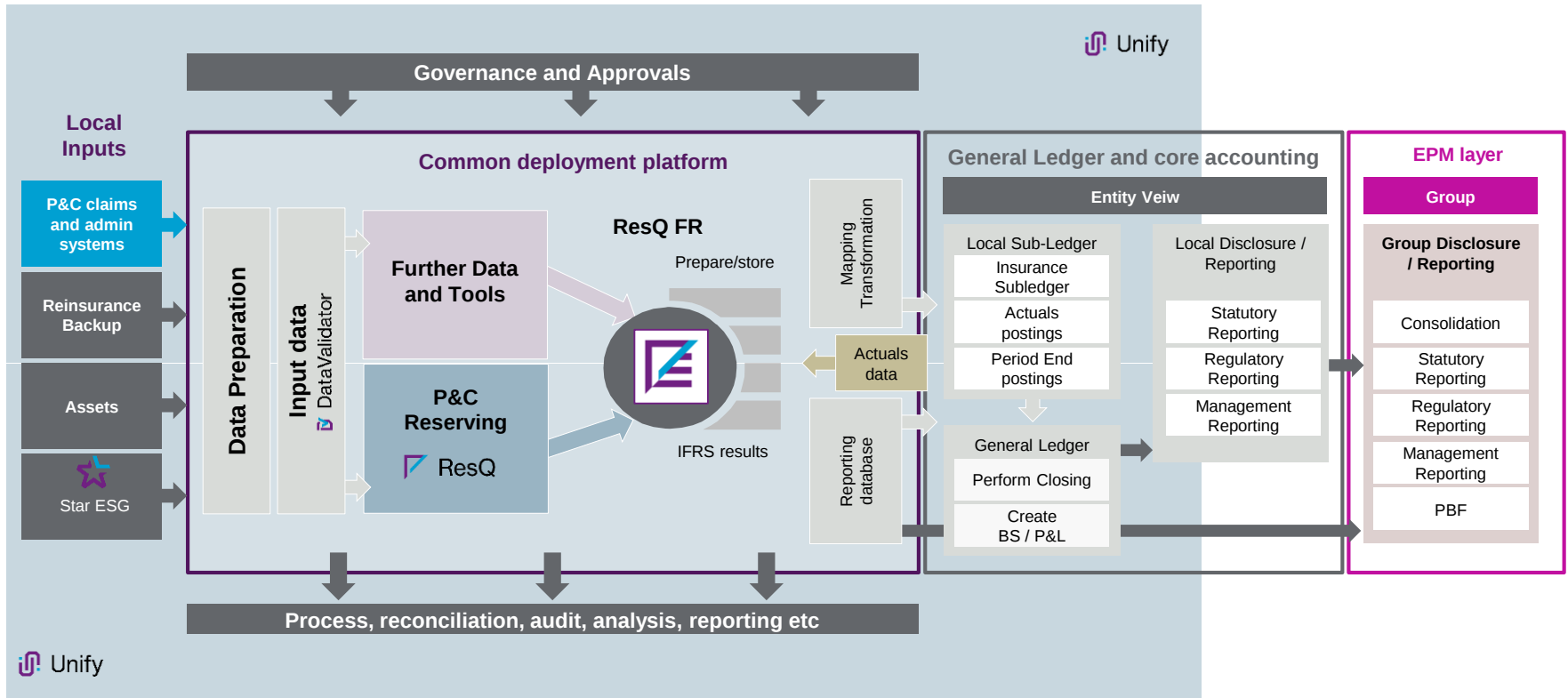
1. Yes, and I love it!

2. Yes, but I am now exploring a powerful reserving solution

3. No, I already have a great reserving solution in place

IFRS 17 Enterprise Solution - High Level Overview

End-to-End reporting solution for General Insurers



Q2. In your opinion, which Scenario describes your business operation and solution needs?

Scenario 1

- I use spreadsheet for reserving calculations now, have simple lines of businesses, easy to manage data and processes. I think I need an IFRS 17 calculation engine and to strengthen my reserving capacity

Scenario 2

- I have simple lines of businesses, easy to manage data and processes. I think my existing technology solutions can support me to meet the minimal requirements

Scenario 3

- I have multiple systems for different lines of businesses, sophisticated data and process management. I think I need to automate the reporting process and have a governed environment for my production. I would potentially consider an Enterprise Solution that consists of the following:
 - IFRS 17 Calculation Engine
 - Reserving Solution
 - Data Management Solution
 - Automation & Governance Solution

1. Scenario 1

2. Scenario 2

3. Scenario 3

Delivering Actuarial, Technology and Process Solutions

IFRS17 Engine

- ❑ IFRS17 Engine Solution built and tested
- ❑ Can integrate with existing projection solutions

Process Efficiency Gains

- ❑ Enterprise software provides automated, governed and auditable production process
- ❑ Process efficiency gains

Actuarial, Technology and Process Solutions

Production Experience

- ❑ Understanding of the challenges in reporting production processes
- ❑ Our process solutions have proven track record

Combined Insurance/Actuarial and Technology Expertise

- ❑ Combined expertise in insurance/actuarial and technology solutions
- ❑ Design, development implementation and production experience
- ❑ Technology options for our solutions to meet customer needs

Reliances and Limitations

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