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Unleash the Next

Comprehensive Capital Analysis and Review and Liquidity Risk Reporting – Key Similarities and Differences

Point of View by
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Overview

Year 2008 - Cash flow, or liquidity, was drying up quickly. Financial institutions held inadequate capital as short-term credit disappeared. Stock markets dropped worldwide. There was a downturn in economic activity leading to global recession. Weak credit checks and bad loan approval were prevalent too. The result: Global financial crisis.

Full-proof financial measures are essential to avoid financial crisis.

Future-proofing on bad loan sanctioning is best left to socio-political and economic forces. Yet, the U.S. and Bank for International Settlements regulators have tried to plan for future-proofing on drying liquidity and financial institutions' inadequate capital through comprehensive capital analysis and review (CCAR) reports, and liquidity risk reports (LRR), such as the Basel III liquidity coverage ratio (LCR) reports and Federal Reserve liquidity monitoring (FR2052) reports).

This paper discusses the similarities and differences between the two types of reporting—CCAR and LRR. Understanding this is important from an architecture perspective because these two reporting architectures can detect a bulk of liquidity and capital problems. Leveraging the common points can lead to optimized data and model management.

The role of Bank Holding Company

Comprehensive capital analysis and review reporting requires a bank holding company (BHC) to perform simulations for a specified number of quarters on its capital positions, using internal and external stress scenarios. The purpose of this is to validate whether the BHC holds adequate regulatory capital for times of stress. This is primarily a U.S. reporting requirement, although other countries may have minor variants in place under different names. These reports are also used for granting approval on capital actions planned by the BHC for the specified quarters.

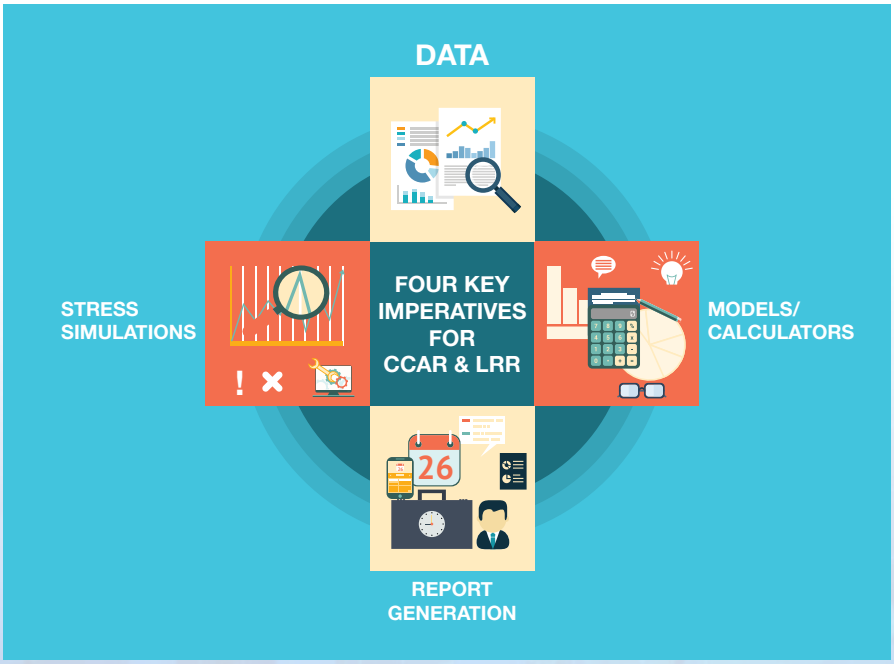
Strict BHC policies to verify liquidity is crucial as lot of reporting procedures depend on that.

Liquidity risk reporting (LRR) requires a BHC to track liquidity positions across all assets and liabilities and project cash inflows and outflows over a specified time period. The key reports generated from reviewing liquidity risk are the FR2052 and LCR—U.S. and European Banking Authority (EBA) versions. The bank holding company must run stress simulations internally and externally to validate whether it holds enough liquidity to withstand a stress event.

Four key imperatives for CCAR & LRR

- Data – Cleansed, completed, validated and consistent data for accurate reporting
- Models/Calculators – Correct, fast and validated models and calculators in place
- Report generation – Timely and precise reporting in place
- Stress Simulations – Ensure if effective stress simulations is in place in the platform, as ineffective stress scenarios can lead to rejected submissions.

The need for addressing these imperatives effectively is confirmed by the Basel Committee on Banking Supervision (BCBS) paper on effective banking supervision as well as the principles for effective risk data aggregation and risk reporting (BCBS 239).



Similarities between CCAR & LR reporting

Understanding the similarities between comprehensive capital analysis and review (see Exhibit 1) and liquidity risk reporting (see Exhibit 2) is critical for systems design, as there are significant reuse possibilities between these platforms.

The base data for the process:

CCAR and LRR

Forecasting balance sheets and profit and loss (P&L) statements for the specified number of future quarters, from the current quarter, is a critical aspect of both the CCAR and LRR reporting processes.

For the calculations, this entails extracting, cleansing and validating general ledger (GL) data, accounts and product information from all banking product processors (retail, commercial, SME, cards, payments, IB, BD, AM, and WM) and moving it into a single data warehouse. For CCAR, the product and account information supports the quarter on quarter simulations of how the balance sheet and P&L information appears. For LRR, the product and account information supports the calculation of the liquidity ratios and liquidity positions over the period being evaluated.

1. The product and account warehouse is by far the largest body of work in a CCAR and LRR program (assuming that manual, Excel and hybrid components are already present). Sharing the warehouse planning and build can result in significant synergies (time, cost, skills, and human resources) for the bank holding company's technology department.

LRR only

2. The FR2052 (4G/5G) and LCR reports (U.S. and EBA, etc.) form the core of liquidity risk reporting. These reports consist of cash inflow and outflow projections for a specified time window (typically 30 days). To calculate the inflows and outflows, cash flow analysis or projections need access to product and account information from all product processors.

Stress scenario management:

1. Comprehensive capital analysis and review is based on simulations. With LRR, 30-day cash outflow and inflow projections are made from the concurrent date or scenario. CCAR's quarter on quarter balance sheet and P&L projections are purely based on possible stress scenarios in the future.

   The common aspect of the two platforms is the need to create insightful and realistic stress scenarios, to represent a variety of worst-case scenarios. In either case, the stress variables, planning modules and business skills are reusable. Typical variables are gross domestic product, consumer price index, labor rates, interest rates, and indexes (stock, bond, futures and options, credit default swaps, etc.).

2. Although the volume of the shared work for stress scenario management is much lower than that of the base data warehouse build, it is extremely significant for the overall success or failure of the reporting process. If the scenarios are not comprehensive and realistic, the report can be rejected, resulting in a possibly damaged reputation and rework for the bank holding company.

Differences between CCAR & LR reporting

Comprehending the key differences between the CCAR and LRR platforms helps understand the key systems design issues, the special architecture patterns and expert skills needed to build the platforms.

Objective or business logic (models)

1. The CCAR models are about capital adequacy in entirety. It projects the bank holding company's quarter on quarter P&L from all the revenue and cost sources and lines of business for specific internal scenarios (the regulator does it for its own scenarios but the process is similar).

   This calculates month-to-month profits, expected losses and unexpected losses translated into risk-weighted assets (RWA) for capital adequacy planning. The P&L is simulated and retained earnings or losses are folded onto the balance sheet for the forecasted quarter. The RWA and value at risk (credit risk, market risk, Operational Risk) numbers are also calculated and capital for that quarter from the simulated balance sheet(actual simulated) is compared against the results of the RWA calculations (regulatory capital). The result is positive (capital covers risk) if the actual simulated exceeds the predicted regulatory capital requirements (e.g. if the rating of loan portfolio changes due to stress variable e.g. GDP, regulatory capital will also change. The same is true for the Advanced IRB equation as PD changes due to GDP changes).

2. The LRR models are best for projecting the total cash inflows and outflows over a 30-day window for all asset and liability lines. The calculations here are much simpler than that needed in the CCAR process and do not require complex month-to-month, unexpected loss/value at risk or risk-weighted assetsmodeling.

The reporting content

CCAR and LRR reports are distinct from each other. While CCAR uses the Federal Reserve capital assessments and stress testing report—FR-Y-14 A/Q/M, annually, quarterly and monthly, LRR uses the FR2052 4G/5Gand Basel III LCR reports.

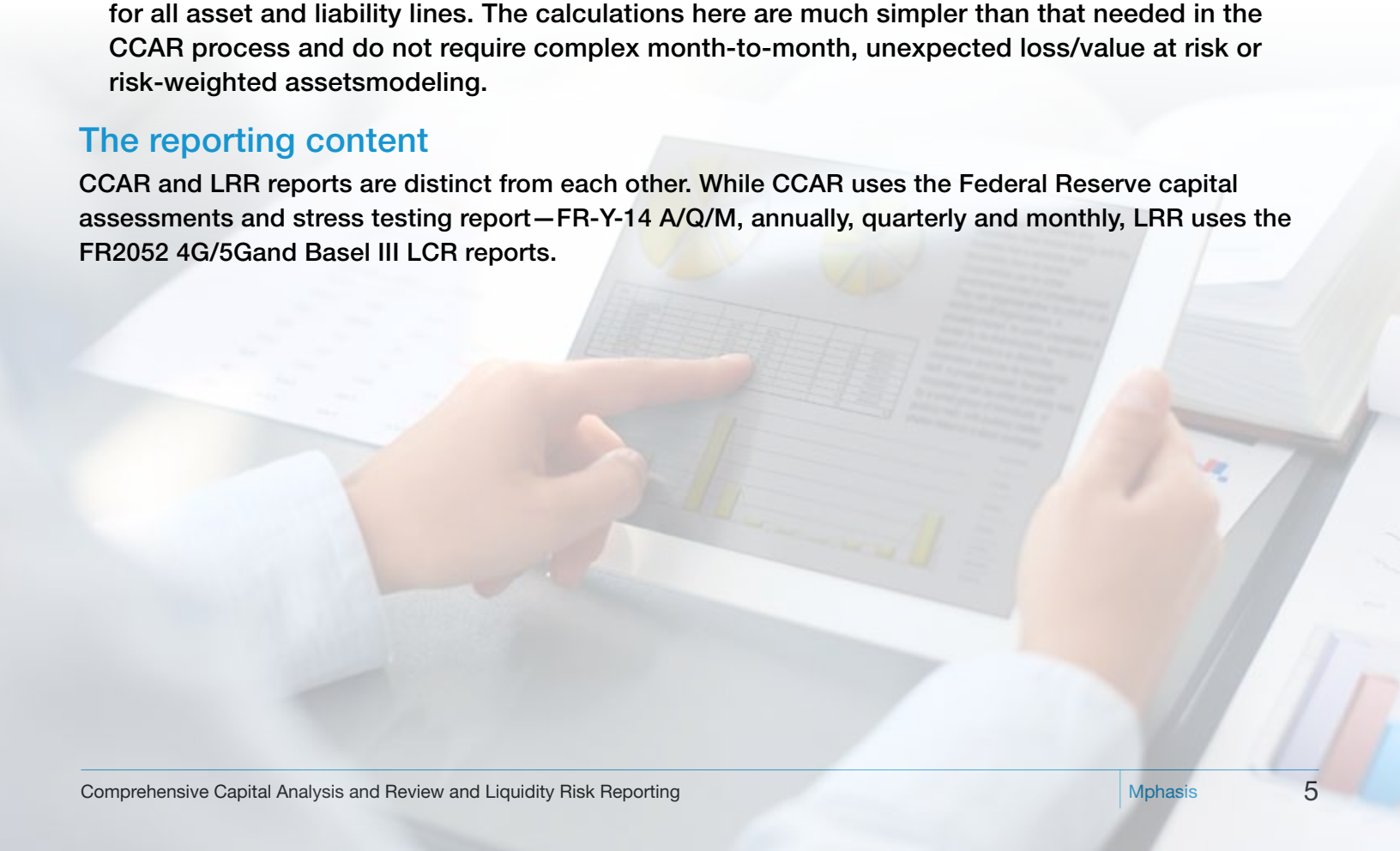


Exhibit 1 – CCAR Reference Architecture

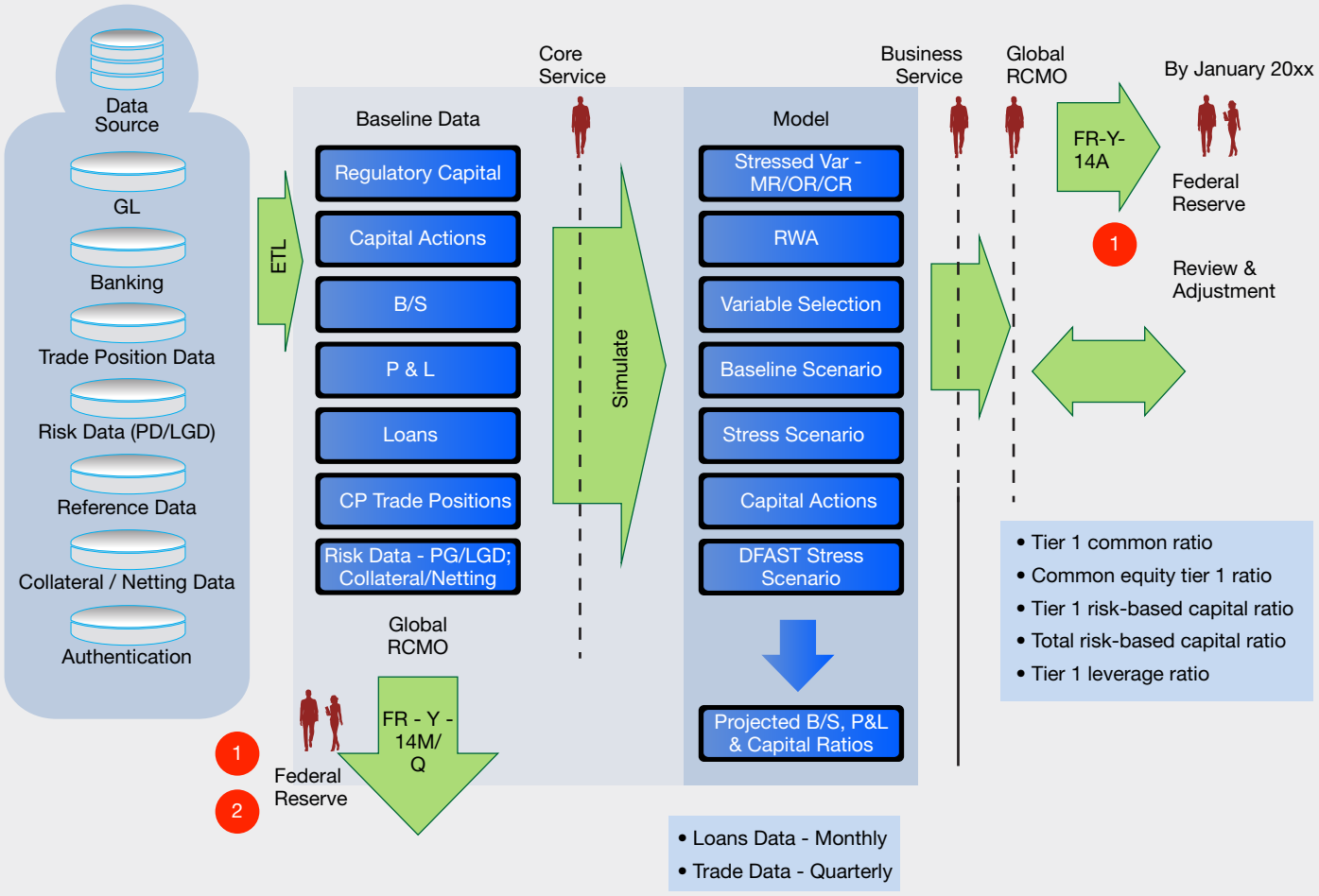
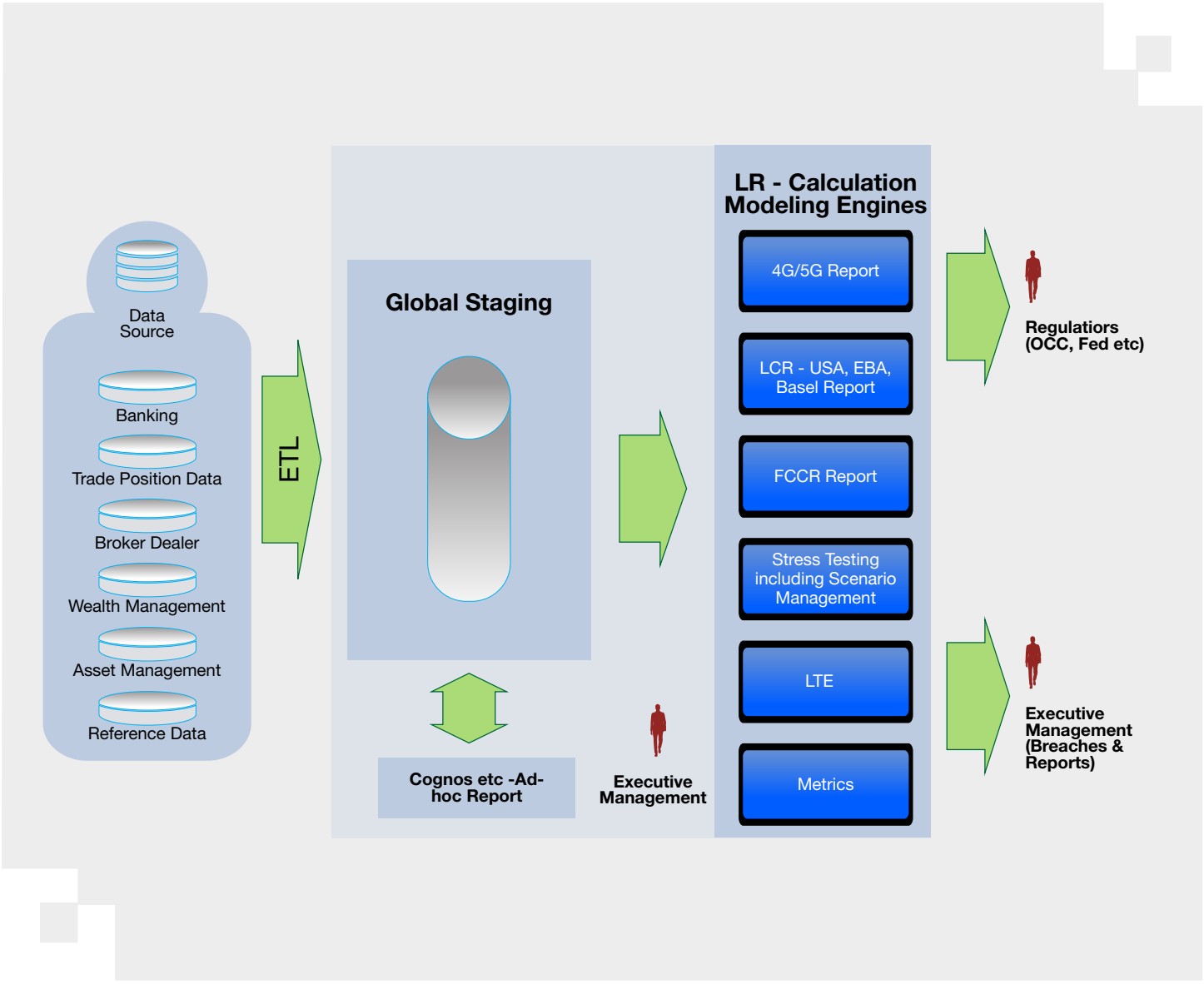


Exhibit 2 – LR Reporting Reference Architecture



What Mphasis can do for you

Mphasis provides comprehensive CCAR and LRR services (consulting, technology & process outsourcing) that can help:

- Implement and tune the solution chosen
- Write business requirements, functional requirements and build POCs
- Evaluate vendors
- Implement or upgrade a vendor platform
- Data engineering – cleanse, validate, model, complete
- Interface and custom development around specific requirements

The Mphasis advantage is our capability to provide comprehensive services in both CCAR and LRR reporting procedures

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Sameer Pendse has over 24 years industry experience across the UK, US, Far East and India. With extensive experience in collaborating with banking and capital market prospects and customers in building out transformation programs, Sameer was presales head for a leading core banking product. He has led various consulting engagements and has been the principal architect around pursuit oriented prototypes. He played a crucial part in building teams for NPA, Audit and Regulatory engagement domains.

Sameer, a GARP certified Financial Risk Manager, holds an executive MBA in strategy and international business and a computer engineering degree with AI and parallel processing.

About Mphasis

Mphasis is a global Technology Services and Solutions company specializing in the areas of Digital and Governance, Risk & Compliance. Our solution focus and superior human capital propels our partnership with large enterprise customers in their Digital Transformation journeys and with global financial institutions in the conception and execution of their Governance, Risk and Compliance Strategies. We focus on next generation technologies for differentiated solutions delivering optimized operations for clients.

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