

White Paper

Challenge Accepted: BASEL III Compliance

Tools Make the Difference!

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Introduction / Background

The idea that once a bank or financial institution becomes so large and ingrained in an economy, a government would provide it with assistance to prevent its failure, is known as the 'Too Big to Fail' (TBTF) problem. The belief is, if a large bank or financial institution were to fail, the ripple effect would cause disastrous effects throughout the economy. Therefore, the companies that rely on them for portions of their own income, would undoubtedly suffer irreparable damage as well, including the loss or elimination of numerous jobs.

The Basel Committee on Banking Supervision (BCBS) is the primary global standard-setter for the regulation of banks and provides a forum for cooperation on banking supervisory matters. Its purpose is to strengthen the regulation, supervision and practices of banks worldwide by enhancing financial stability. The Basel Committee's assessment methodology required that a sample of banks report on a set of self-assessment indicators to national supervisory authorities. *(The BCBS has also provided a set of "guiding principles" outlined later in this paper with aligned adherence/mitigation strategies.)*

These indicators were then aggregated and used to calculate the scores of the banks in the sample. Banks above specific a cut-off score were identified as Global Systemically Important Banks (G-SIBs) and were used to determine their higher loss absorbency requirement. As a result of the initial analysis, the Basel Committee made several refinements to its assessment methodology, and published those results in July 2013.

In addition to meeting the Basel III requirements, global Systemically Important Financial Institutions (SIFIs) must have higher loss absorbency capacity to reflect the greater risks that they pose to the financial system. (Basel III overview table). Both the G-SIBs and SIFIs are required to have all of the methodologies fully implemented by the January 1, 2016 deadline.

Problem Statement / Identification

The Basel Committee on Banking Supervision (BCBS) determined early on that the G-SIBs needed to make significant progress if they were to comply with the measures by the January 1, 2016 deadline. Among the difficulties the G-SIBs are facing are strong risk data aggregation governance and risk reporting, which are integral in the early stages of the implementation of the standards. The principle philosophy by the BCBS is that **any data element on a risk aggregation report must be mapped and traced back to its source of origin**, and any transformations must also be documented and managed.

Both banking and financial institutions continue to struggle with these risks due to inappropriate management information systems (MIS). This includes having references to data aggregation to **enhance the levels of corporate governance** (data aggregation rules). Although the Basel Committee has recognized that banks are making efforts in mitigating these risks, they still feel more needs to be done.

Many in the banking and financial industries recognize the benefits of improving their risk data aggregation governance and reporting capabilities, but they also acknowledge making the necessary changes remains a challenge. Unfortunately, many of the traditional products used in the data warehousing industry are based on either data movement, or data management, often those that care about the governance and meaningful use of data are not the same people that care about getting the data from source, landing and transforming it and that creates a myriad of critical challenges, liabilities, and often a complete disconnect. One of those challenges is understanding exactly what risk data aggregation is. Risk Data Aggregation means ‘Defining, gathering and processing risk data according to the Financial Institution’s risk reporting requirements to enable the bank to measure its performance against its risk tolerance/appetite. This includes sorting, merging or breaking down sets of data.’ (Principals for effective data aggregation and risk reporting: Basel report, January 2013).

The Guiding Principles Summary

Principle 1: “Governance – A bank’s risk data aggregation capabilities and risk reporting practices should be subject to strong governance arrangements consistent with other principles and guidance established by the Basel Committee.”

Governance and Infrastructure (governance/data architecture and IT Infrastructure)

A strong risk governance framework, risk data architecture and IT Infrastructure are key to the stability and value of a bank, and having a high quality reporting structure starts from the top down to ensure its level of adequacy, effectiveness and efficiency. Risk data aggregation and risk reporting should be directly linked to the bank’s business continuity planning and subject to impact analysis. Data governance and a strong IT infrastructure are critical in the valuation, creation, storage, use, archival, and deletion of data. Beyond the simple ability to know where the data came from and whether or not it can be trusted, there is an element of statutory reporting and compliance that often requires a knowledge of how that same data (known or unknown, governed or not) has changed over time. A design platform that allows for insights like data lineage, impact analysis, full history capture, and other data management features can provide a central hub from which everything can be learned and discovered about the data in the banking institution – whether a data lake, a data vault, or a traditional warehouse. When it comes to managing the high expectations set forth in Basel III requirements, the power to know trumps just about every other aspect of data management.

The power to know can come in a variety of forms, but most often in IT Shops around the world, it comes in a spreadsheet, or rather a collection of spreadsheets numbering often in the hundreds or thousands. The screenshot below, taken from AnalytiX Mapping Manager is an illustration of how a tool can be used to leverage the data movement design, to provide real insight into the origin of the data elements and how they are transformed in the process (fig 1.0). As stated earlier, ‘often those that care about data governance are not the same people that care about the data movement’, and this provides a good measure to satisfy both requirements while having only a positive impact on the overall process of creating the designs for data movement.

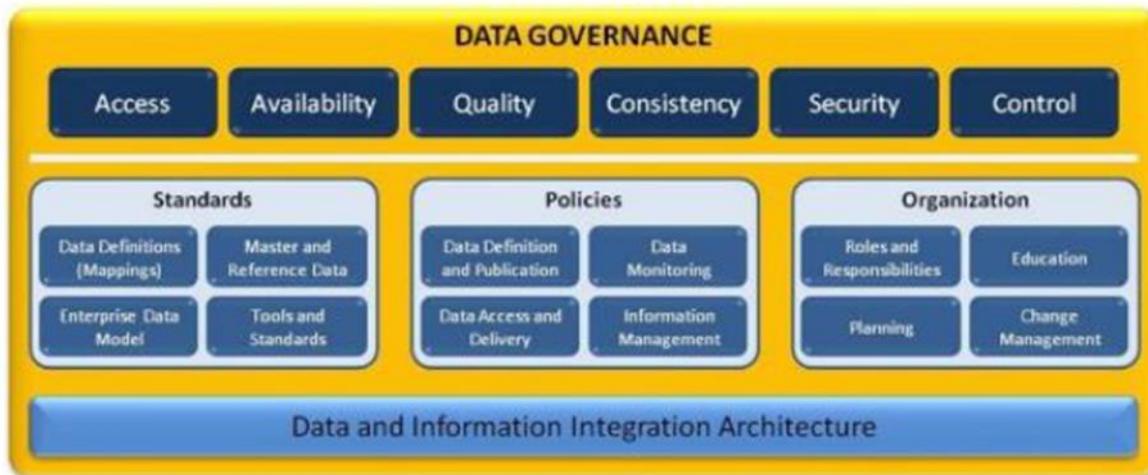
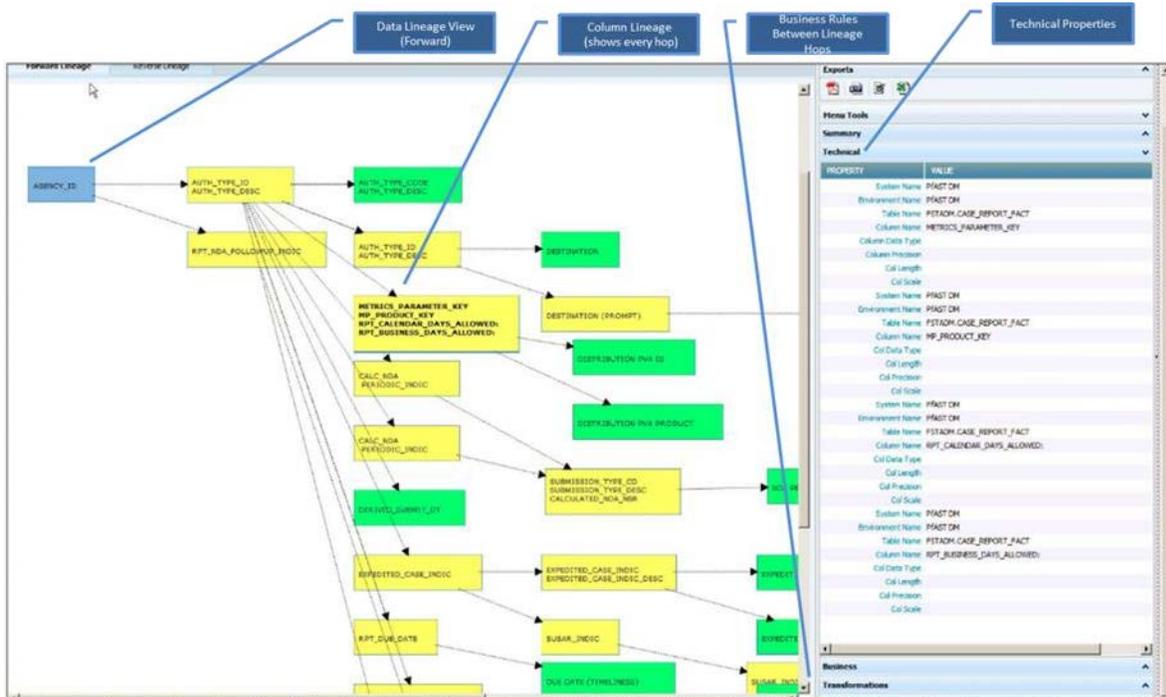


Fig 1.0

Principle 2: “Data architecture and IT infrastructure – A bank should design, build and maintain data architecture and IT infrastructure which fully supports its risk data aggregation capabilities, and risk reporting practices not only in normal times but also during times of stress or crisis, while still meeting the other Principles.”

Stress testing is a process, and as such it will have checks and balances. The key to implementing a stress testing process is to have repeatability and some level of automation built in so that it can be administered at any time, and as the process needs to change, it can be quickly adapted. Risk Data Aggregation (accuracy and integrity/completeness/timeliness/adaptability). Accurate and reliable risk data needs to meet normal and stress/crisis reporting requirements. Banks need to capture and aggregate risk data across the banking group, line, legal entity, asset type, industry, region, and other groupings. This data aggregation needs to be done in a timely manner, and should meet established frequency

requirements for normal, stress/crisis risk management reporting. The bank must also meet a broad range of on-demand, ad hoc reporting requests, including requests during crisis situations. In the traditional data management organization, excel spreadsheets are used to manage the incoming data design, or what is known as the “pre-ETL” mapping documentation – this does not lend to any sort of visibility or auditability, in fact, each unit of work that is represented in these ‘mapping documents’ becomes an independent variable in the overall system development life-cycle, and nearly impossible to learn from much less standardize. The key to most regulatory efforts can be summed up in a few words like visibility, auditability, and traceability. In much the same way as we try to conform and centralize our data for reporting purposes, design platforms can centralize and standardize our mapping efforts in order to create greater visibility, collaboration, and understanding by both the IT and Business Stakeholders.

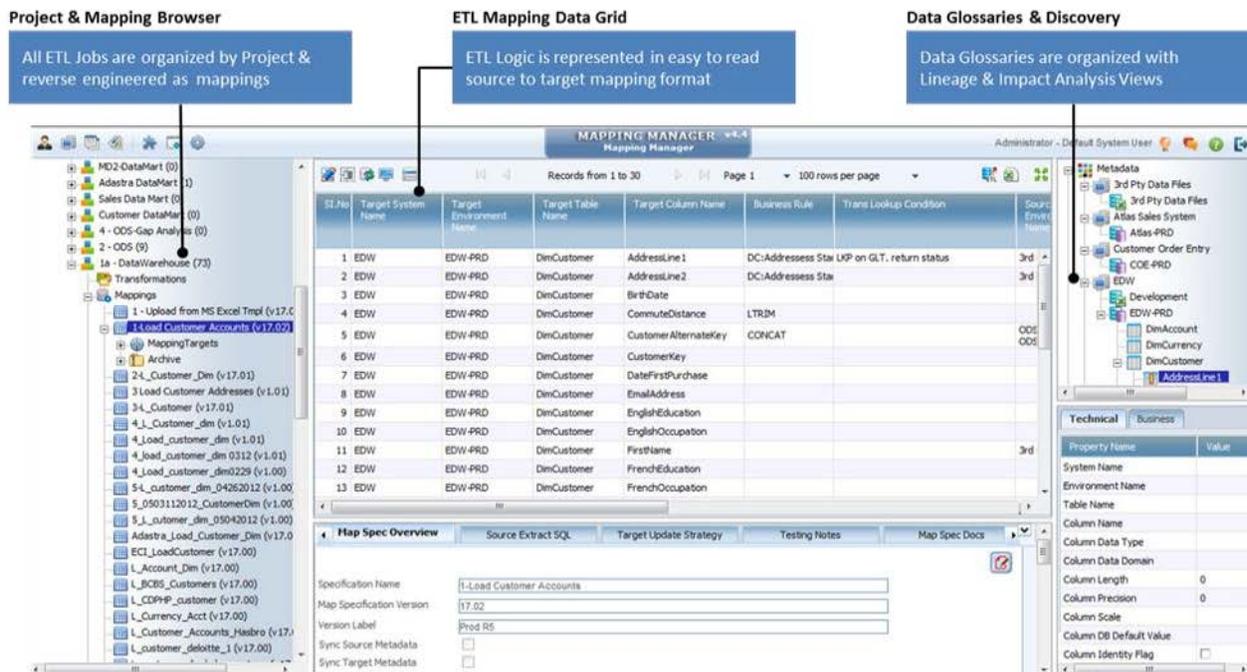


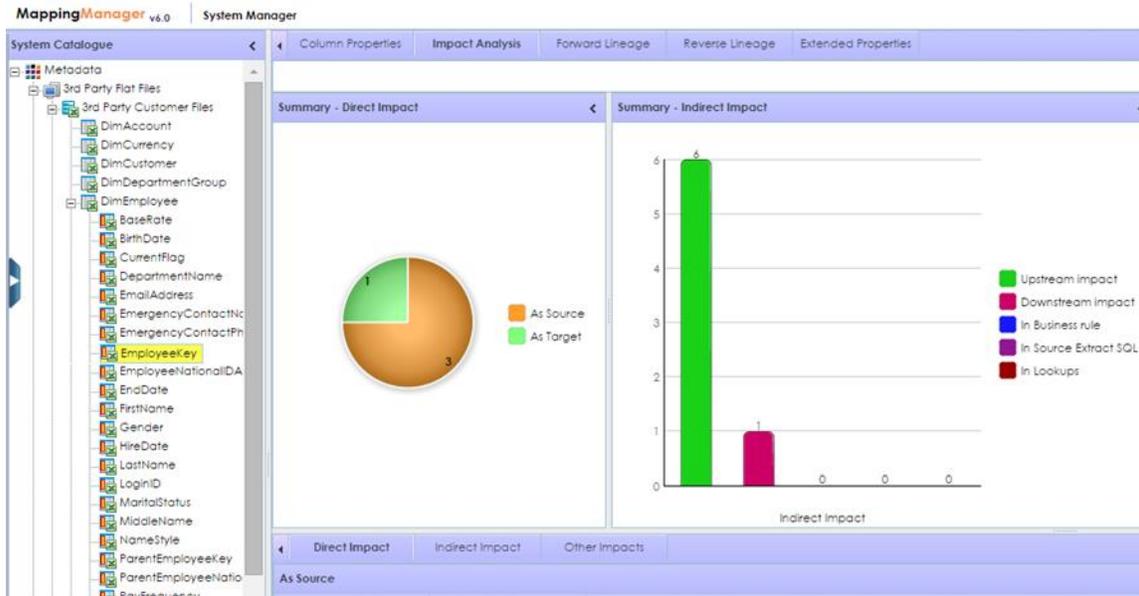
Fig 1.1

Principle 3: “Accuracy and Integrity – A bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Data should be aggregated on a largely automated basis so as to minimize the probability of errors.”

The key to creating accuracy and integrity in any exercise is to eliminate the opportunity for human error – which does not mean eliminating humans from the process, it simply means incorporating the right tools to reduce the likelihood of error as the human being applies their thought process to the work. Take for example the use of spreadsheets in building data movement and data management designs. Nearly every step involves human intervention, whether copying and pasting, or keying in code for transformation or business rules, traditional mapping using spreadsheets is an open invitation for error that is exponential by nature of the process and sheer number of design mappings an organization has. Using a design platform that eliminates the opportunity for error while capitalizing on the human intelligence required to assemble the design is the only way to mitigate this risk. Using automation techniques within AnalytiX Mapping Manager such as “Drag ‘n’ Drop” to pull metadata sources and targets into the mapping grid, and “Shared and Reusable” business rules that are carefully built once and selected via dropdown thousands of times by all users is a smart way to eliminate errors and show compliance with the principle.

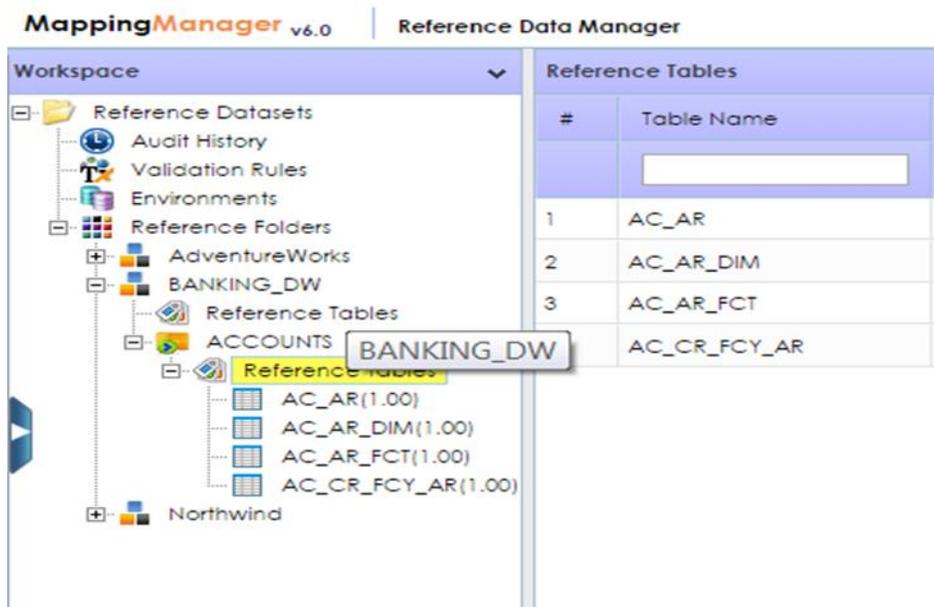
Principle 6: “Adaptability – A bank should be able to generate aggregate risk data to meet a broad range of on-demand, ad hoc risk management reporting requests, including requests during stress/crisis situations, requests due to changing internal needs and requests to meet supervisory queries.”

Centralized design, immediate lineage and impact analysis, and change activity logging means that you will always have the answer readily available, or a few clicks away. Subsets of data can be identified and generated via predefined templates, generic designs generated from standard mapping documents, and pushed via ETL process for faster processing via automation templates.



Principle 7: “Accuracy - Risk management reports should accurately and precisely convey aggregated risk data and reflect risk in an exact manner. Reports should be reconciled and validated.”

With out-of-the-box capabilities to map your data from source to report, reconciliation and validation is a snap. With auditability and traceability built in. Build a full array of validation rules that can be cross checked with the design mappings in a centralized repository within our Reference Data Manager module.



Principle 8: “Comprehensiveness - Risk management reports should cover all material risk areas within the organization. The depth and scope of these reports should be consistent with the size and complexity of the bank’s operations and risk profile, as well as the requirements of the recipients.”

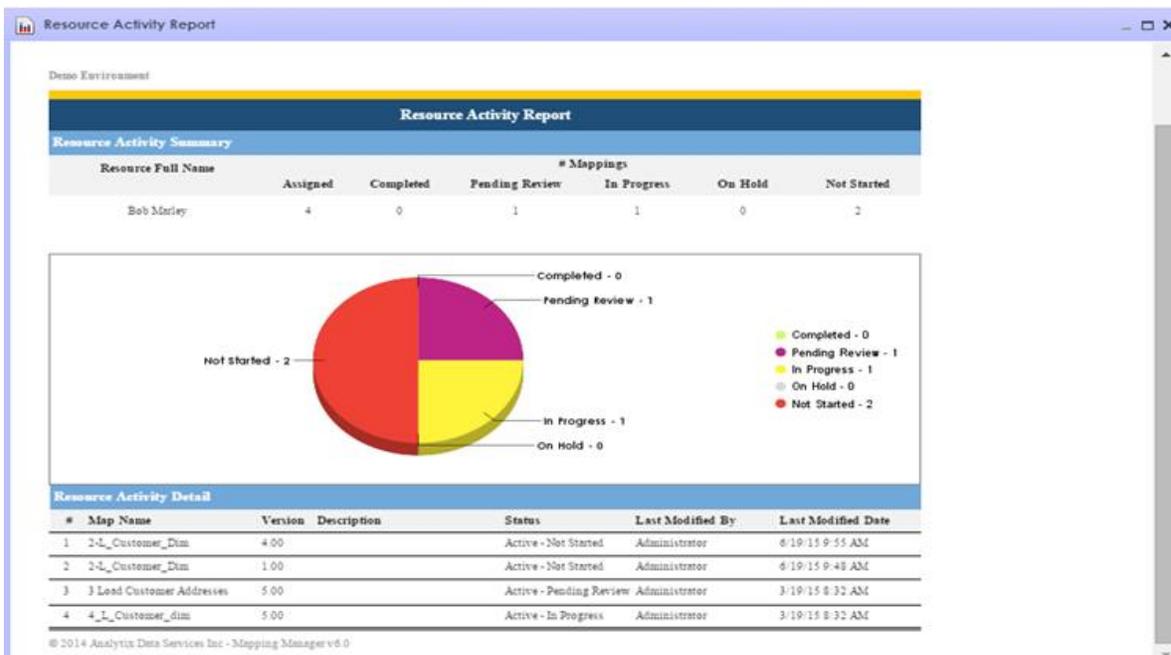
Access to all of the underlying metadata, source to report design mappings, source and target repositories, you have the power to create reports within your reporting layer that have a traceable origin and can be easily explained to both IT, Business, and Regulatory Stakeholders.

Principle 9: “Clarity and usefulness - Risk management reports should communicate information in a clear and concise manner. Reports should be easy to understand yet comprehensive enough to facilitate informed decision -making. Reports should include meaningful information tailored to the needs of the recipients.”

The requirements inform the design, the design platform puts those to action, and the reporting structures are fed the right data to create the right information at the right time via nearly any reporting platform, whether mainstream commercial or homegrown. The AnalytiX Mapping Manager product adapts to any architecture, and any combination of IT and BI Tools.

Principle 10: “Frequency – The board and senior management (or other recipients as appropriate) should set the frequency of risk management report production and distribution. Frequency requirements should reflect the needs of the recipients, the nature of the risk reported, and the speed, at which the risk can change, as well as the importance of reports in contributing to sound risk management and effective and efficient decision-making across the bank. The frequency of reports should be increased during times of stress/crisis.”

Adaptation is the key to meeting any frequency interval. Centralized designs, automated ETL patterns that feed your database schemas and reporting structures will allow for cyclical changes to be made and implemented in as little as half the time required using conventional means – getting beyond the spreadsheet, enabling pattern based ETL, and schema population are ways to ensure that you will be ready, whenever the need arises. What’s more, you will be prepared to show an audit trail of the change process and clearly articulate who did what and when through the system development lifecycle.

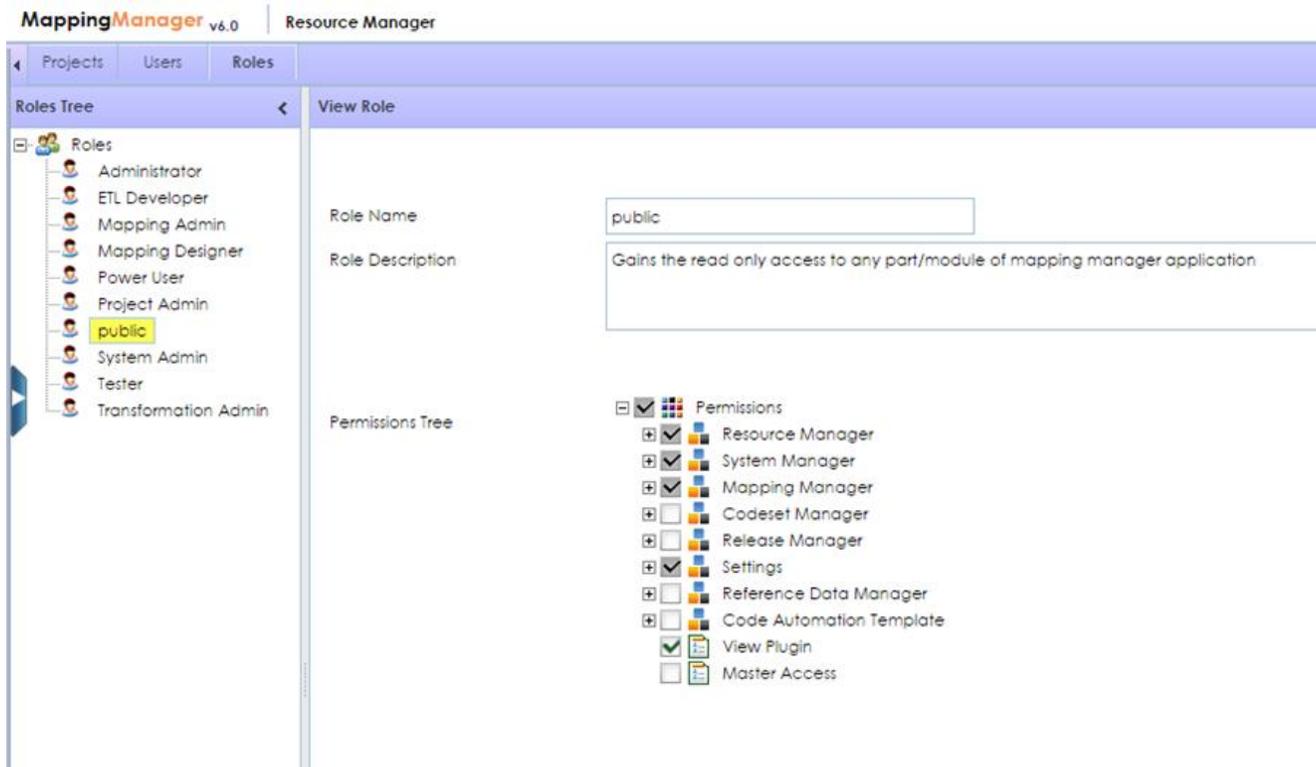


Principle 11: “Distribution - Risk management reports should be distributed to the relevant parties while ensuring confidentiality is maintained.”

The BCBS guidance notes that “Procedures should be in place to allow for rapid collection and analysis of risk data and timely dissemination of reports to all appropriate recipients. This should be balanced with the need to ensure confidentiality as appropriate.” While most of this is a function of internal process, the rapid collection aspect may be the most daunting, as noted, AnalytiX Mapping Manager can help with this process through mitigation of errors, and automated population of the reporting structures that ultimately allow this principle to be met.

Principle 12: “Review - Supervisors should periodically review and evaluate a bank’s compliance with the eleven Principles above.”

A user interface that is specifically designed to be Business friendly, there’s no need to be a Data Integration specialist to review the common practices outlined and “passively enforced” throughout the tool. Once a process is defined, rules implemented, and templates established, there is little opportunity for error or deviation from the overall process. A diverse set of role based security options means that everyone can collaborate, learn, and audit while maintaining the integrity of the underlying process components. Among the top feedback points for the AnalytiX Mapping Manager is the ease-of-use and enormous adoption rate across all roles, from Data Analysts, to project and program managers, and leadership.



Principle 13: “Remedial actions and supervisory measures - Supervisors should have and use the appropriate tools and resources to require effective and timely remedial action by a bank to address deficiencies in its risk data aggregation capabilities and risk reporting practices. Supervisors should have the ability to use a range of tools, including Pillar 2.”

From the BCBS Guidelines: “For new business initiatives, supervisors may require that banks’ implementation plans ensure that robust risk data aggregation is possible before allowing a new business venture or acquisition to proceed. What better way to start than with a fully attributed, detailed and documented design platform? The level of diligence is beyond compare, and gaining approval can be as easy as a walkthrough of the process, from source-to-target with the full array of elements, lineage and impact analysis, as well as code-generation for population of the end-state repository, and ad-hoc data sets.

From the BCBS Guidelines: When a supervisor requires a bank to take remedial action, the supervisor should set a timetable for completion of the action. Supervisors should have escalation procedures in place to require more stringent or accelerated remedial action in the event that a bank does not adequately address the deficiencies identified, or in the case that supervisors deem further action is warranted. Standardized and centralized processing allows for ‘one-time’ remediation steps that affect all parts of the process. When your process is clearly defined and connected, refinements are “one and done”, set it and forget it.

Principle 14: “Home/host cooperation - Supervisors should cooperate with relevant supervisors in other jurisdictions regarding the supervision and review of the Principles, and the implementation of any remedial action if necessary.”

The web-based platform with role-based security promotes collaboration, cooperation and the sharing of best practices with partner organizations and governing bodies as well.

Conclusion

While there is no single tool or solution that can solve every challenge that stringent regulatory requirements have brought, and will bring in the future, a design and code-generation platform that introduces efficiency, visibility, and governance principles while reducing the opportunity for human error is surely a great place to start. AnalytiX Mapping Manager is an award winning platform that has enabled organizations worldwide to meet challenges, bring wide-spread collaboration, and put structure and governance in place, regardless of the size of their architecture, data, or user base. Scalable, adaptable, and value-added through its feature rich modules, it can make a difference as to whether you see BASEL III as a challenge or an opportunity.

Additional Governance Considerations



The highly simplified AnalytiX™ Data Governance framework model above demonstrates how a team of architects, analysts, developers and testers can bring a Business Intelligence Solution to market. In order to bring agility to the Business Intelligence solution, AnalytiX™ Mapping Manager™ allows the alignment of business and IT needs, with regulatory requirements in a way that is passive yet effective. The quick deployment of solutions that incorporate both traditional *small* and Big Data, simultaneously, addressing key enterprise needs, such as:

- Documentation of data, business and technical requirements and automatic generation of a logical data model from these requirements
- Documentation and regulatory compliance (such as BASEL, PHI, SPI, Healthcare, SOX, Solvency II etc.) of data mappings, aggregations and transformation rules that have to be highly adaptive as requirements change over time;
- Definition, documentation and creation of a central repository of business terms, rules, data elements, KPI's and metrics; Establishment of data and information requirements that span multiple data sources (including non-traditional data sources), mixed latency and extreme data volumes.

The AnalytiX Code Set Manager® helps organizations drive the standardization of user defined reference data and Code Sets across an enterprise. The Code Set Manager allows organizations to create standardized codesets and valid values and allows importing of legacy Code Sets across multiple operational systems. The Codeset Manager contains interfaces to easily import legacy code sets through its upload and database scanning capabilities and allows customers to build and version Code Mappings and “Code Crosswalks” to drive the Codeset standardization processes and review changes to the Code Mappings as they may change over time.

Key Features: Code Set Manager

- Create and manage enterprise standards for codes, valid values and reference data
- Define Code Mappings to standardize Code Sets across enterprise (e.g. Code Value Crosswalks).
- Import existing Code Sets using upload and database scanning capabilities.
- Version and track changes to Code Mappings.
- Publish Code Mappings for ETL integration.
- Validate Code Mappings prior to publishing.
- Perform impact analysis of Code Sets across Code Mappings.
- Seamlessly integrates with AnalytiX Mapping Manager® and all ETL Tools

The success of any data governance program and of the associated structure around the data governance program is critically dependent upon, among other things, the tools and processes used to operationalize the decisions of the data governance board. Perhaps the best and easiest way to start a data governance program and achieve quick return on the Data Governance Program investment is to implement a data-focused Data Governance Group. For this purpose we will use the data requirements to satisfy sections 302, 906, 404 and 409 of the Sarbanes-Oxley act of 2002.

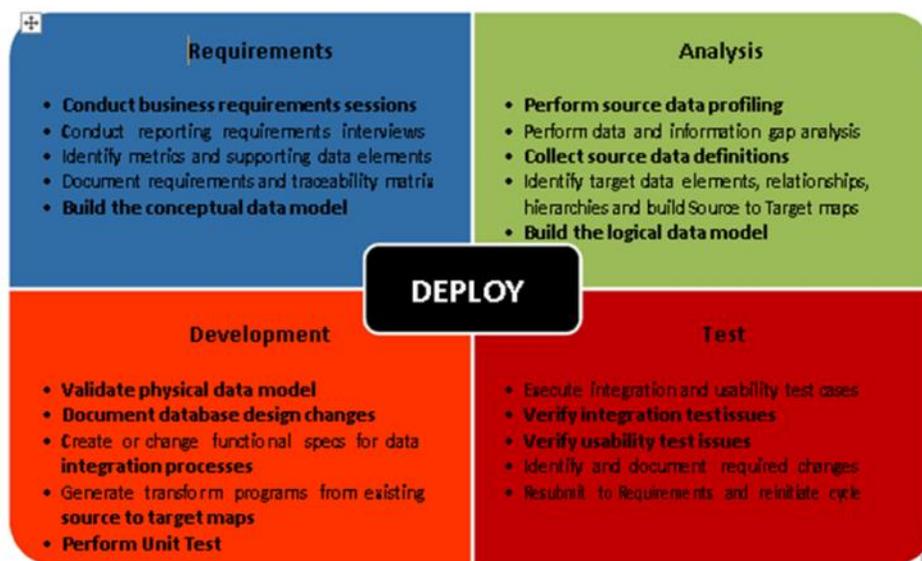
AnalytiX Mapping Manager (AMM) is a part of the “Agile Tools Movement” for the data integration industry, enabling customers to accelerate delivery by automating manual “pre-ETL” Source to Target Mapping (STM) processes of data integration projects. AMM enables organizations to “break free” of managing hundreds to thousands of MS Excel based data mappings across the organization.

AMM enables organizations to quickly consolidate metadata using its built-in scanners, manage data dictionaries and automates the STM process by allowing mappings to be created using “dragging -and-dropping” techniques and storing mappings in central data mapping repository. The patented versioning capabilities allow mapping to be versioned through the change process and enable auditing and better management of the end to end “Pre-ETL” data mapping process.

The AnalytiX DS team continues its charter to innovate and automate the source to target mappings process with each release of the Mapping Manager. The AnalytiX DS mission is to enable organizations to have fast, efficient and a standards based way to manage the pre-ETL source to target mapping process and accelerate the ETL processes using an agnostic approach to integrating with ELT/ETL Tools. The Mapping Manager continues to prove itself as the leader and corporate standard for automating source to target mappings for data integration projects.

AnalytiX™ Mapping Manager™

Agile process flow





Contact US

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