

DATA LINEAGE AS A SERVICE

Delivering Data Management with Wipro and ASG Technologies



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BACKGROUND

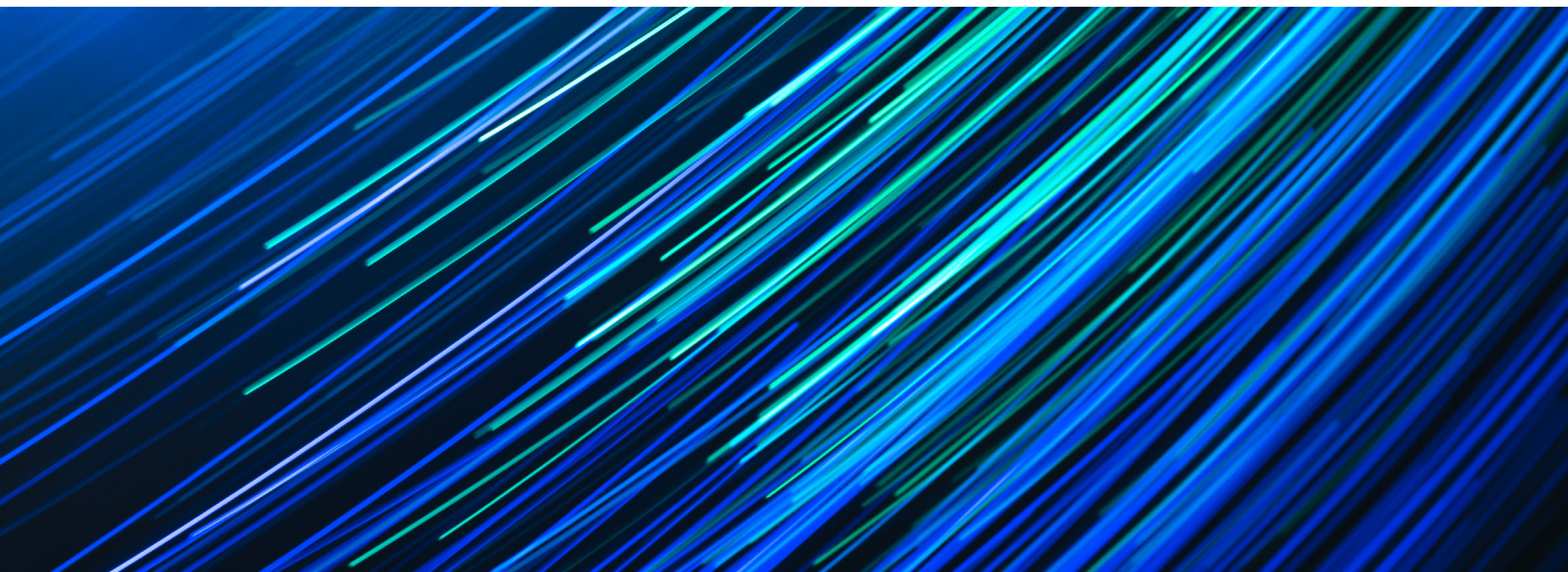
Over the past few years, the exponential growth of both IT systems and the data housed in those systems has made information more valuable, and at the same time, it's also made it harder and more complex. While this growth brings opportunities – it also brings new challenges – and finding the data you need and trust is a challenge most organizations are currently facing. For example:

- Much of the data exists in separate silos
- Integration challenges with upstream and downstream applications are common
- Multiple “single points of truth” are often present
- A lack of business and technical data alignment can occur
- There is poor clarity into who owns the data.

It's also difficult to track the multiple transformations of the data as it moves through multiple systems in the organization. In this white paper, we are going to focus on Enterprise Data Intelligence and learn how DLaaS (Data Lineage as-a-Service) helps key stakeholders, business users and technical teams in their day-to-day work.

Data lineage is the key to understanding the relationships between data elements across your enterprise or individual lines of business. The number and diversity of data sources, the overwhelming number of data items and the complexity of applications makes understanding these data relationships a daunting challenge. ASG Technologies' Lineage Appliance traces lineage through enterprise applications, data warehouses and data lakes. This information helps organizations reduce their operational cost and creates the data set for analytics that aid better strategic initiatives throughout the organization.

This paper will help you understand the importance of data lineage – a key requirement in BCBS 239 compliance initiatives and many other regulations – and will help the technical team conducting the impact analysis to identifying the potential consequences of changes.





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DLAAS (DATA LINEAGE AS A SERVICE) OVERVIEW

DLaaS, part of Wipro's Data Lineage Factory, features Estimation Models, Standard Operating Procedures and a Target Operating Model that accepts a System Level Lineage diagram of the data flow throughout various transformations (source system, data-marts, calculation engines, reporting tools, end user computing - MS Excel, Word, PDF etc.). The Data Lineage Factory provides a visual lineage graph of the data. The percentage of automation involved in a project is determined by the type of technologies that need to be scanned and stitched against the availability of scanners/connectors. Sometimes, based on requirements, custom code is required to "scan and stitch" the metadata and define the lineage.

Wipro has partnered with ASG Technologies to provide an Enterprise Data Intelligence solution with powerful metadata capabilities as well as Data Lineage and Impact Analysis. Functional SME's from the Risk and Finance domains combined with software licenses provide wide ranging lineage for our customers. This Data Lineage as a Service offering is a value-based model where the customer pays for services based on metrics/CDEs (critical data elements) and reports that must be traced back to source systems including the transformations along the way and the business logic. This information will significantly reduce capital spend. In addition, participation of business SME's from the client side also reduced drastically.

FACTORY MODEL COMPONENTS AND SERVICE

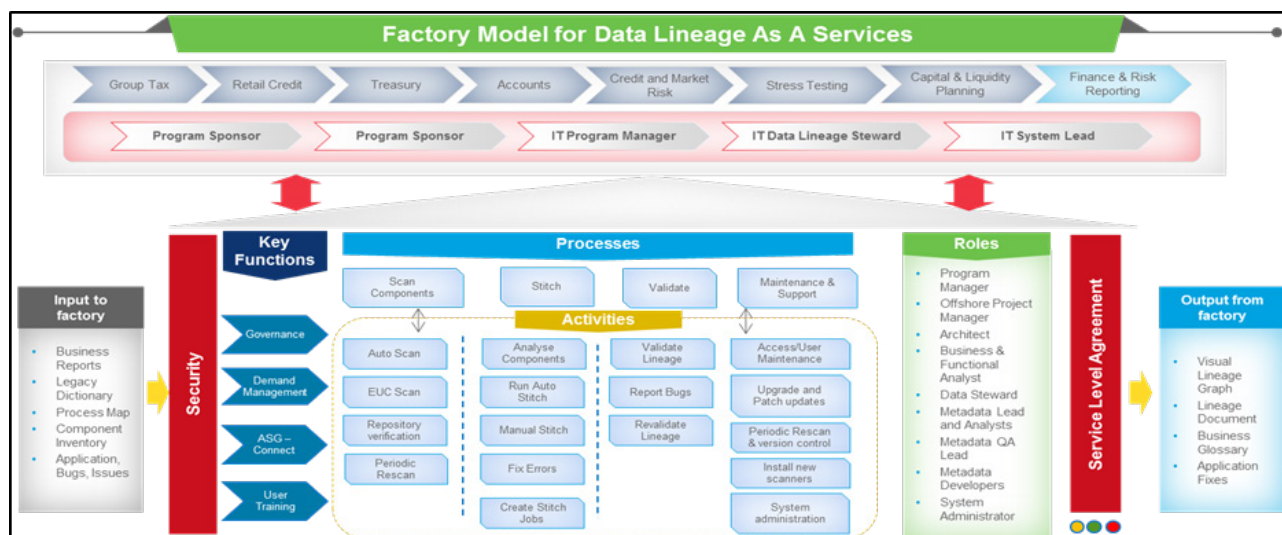
The factory model provides components and services to install and configure the Enterprise Data Intelligence software, get the Reference Data Management environment up and running, centralize the metadata repository and build the Business Glossary, and ensure Business Application Traceability and Data Lineage across the lines of Business.

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DLAAS - A VIEW OF THE FACTORY MODEL

The factory model provides the services needed to undertake any regulatory and compliance initiative such as for BCBS 239, IHC CCAR, IFRS 9 or data lineage. This section of the paper describes the factory model of DLaaS for multiple lines of business and identifies the key stakeholders, their roles and responsibilities.



The Data Lineage factory has three main components.

- (1) Key Functions which execute requirements and work across processes during the development cycle of the lineage project.
- (2) Processes which are a sequence of operations and activities involved in the design and execution of the lineage (with the help of Enterprise Data Intelligence).
- (3) Roles which are required to set up the governance around the metadata project and repository. There are multiple roles required to manage and execute the project deliverables.

Based on the inputs provided to the factory, the outputs would be a visual lineage graph and the lineage documents. This allows users to understand and evaluate the metadata processes involved in creating their business glossary, business traceability and data lineage. It enables them to define their start and end points of the data lineage flow including the business traceability. Teams are able to trace the critical data elements in their regulatory reports from all up and down stream applications back to the source system.



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KEY DELIVERABLES:

- Business Glossary – Single version of the truth
- Business Term Traceability
- Data Lineage
- Data Governance framework
- Data Quality – Data Indexing on Material fields
- Metadata Analytics – Reporting and Dashboards

OPERATING COMPONENTS OF DLAAAS

Below are three operating components of the DLaaS.

Execution Model: This model defines the execution strategy, factory service offerings and milestone completions plan.

Commercial Model: This model takes care the required product/licenses detail and commercial aspect. If required, Wipro can facilitate the license to the customer with contract clauses and assist the customer with onetime payment or through monthly subscription based model depends on the order book value.

Technical Product: Our preferred choice is ASG Technologies Enterprise DI solution which provides ~60% of the required automation in scanning & stitching. This significantly reduces the manual effort required.

WORK EFFORT & COST ESTIMATION METHODOLOGY

The work effort and cost estimation methodology is part of DLaaS and provides the total number of person days required to execute the project. The requirements are categorized as simple, medium and complex and each category includes rules and parameters required to calculate the total number of person days. The work effort and cost estimation process is completely automatic and requires input parameters such as the number of reports, CDEs (critical data elements), hops or transformations, technologies to be scanned and stitched; and the output is the total number of person days to complete the requirement. This includes analysis, design, coding, system testing, UAT and deployment to production.



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DATA LINEAGE SOLUTION APPROACH

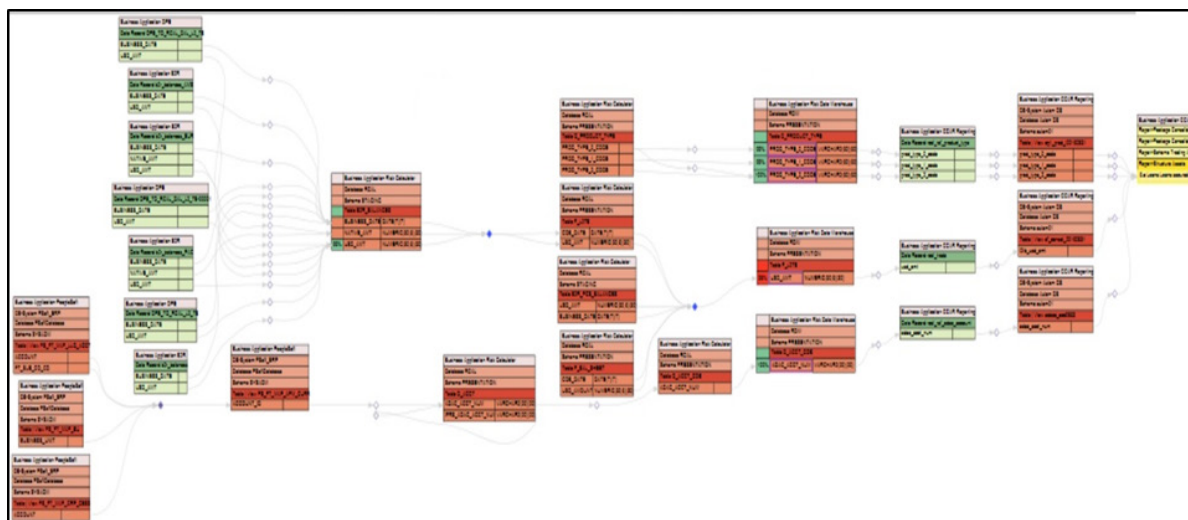
Our approach to the data lineage project outlines multiple phases and defines the ownership between Wipro and the client team. Each phase includes high level tasks and activities required to successfully complete the project. Most of the activities are independent in nature so planning plays a big role in how to efficiently engage the team and best carry out the activities. The Standard Operating Procedures (SOPs) help the development team accelerate the work and deliver the milestones on time.

SYSTEM LEVEL LINEAGE DIAGRAM

These are the block level diagram depicting the data elements as they move through all of the “hops” (transformations) from the source system, including EUC (End User Computations – Excel, PDF, Word, Email), retaining system level information through to the end-point.

ENTERPRISE DATA LINEAGE

The diagram below depicts the detailed data lineage for one of the risk reports. Data Lineage will start from the regulatory report (displayed on the right side) to the reporting layer and is further linked with multiple schema's in IT system databases and flat files and transformation highlighted with filled purple diamond. Transformations and business logic can be viewed between the IT systems and reporting layer. The lineage can be viewed forward or backward based on the starting point.





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CONCLUSION

Wipro has long standing expertise in Enterprise Metadata Management. Functional SMEs from our Risk and Finance domain along with ASG Technologies' Enterprise Data Intelligence solution provides extensively automated data lineage. DLaaS (Data Lineage as a Service) capitalizes on exclusive Wipro intellectual property that helps us speed up the execution process, provide automation, reduce manual efforts and deliver the scalable solution more accurately. Wipro leverages our strategic relationship with ASG Technologies and signed VAR (Value Added Reseller) agreement, allowing us to act as a single point of contact for customers globally, delivering ASG's Enterprise Data Intelligence solutions and support services on metadata management through a consolidated framework.



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