Reliability And Data Accuracy for Right Decisions - Data Assurance
Organizations are adopting newer technologies to draw insights from gathered data for driving their business strategies. Ensuring Data quality, integrity and security is no more optional. Many organizations are now looking for scalable, flexible and reliable cloud-based data warehouses. Infrastructure plays a key role for organizations to obtain an acceptable return from their data warehousing investments. Organizations usually face issues in areas of Data Coverage, Performance & Security of Data Processing Systems, Data Quality & Correctness, and Test Data Availability. Another issue is the lack of holistic data QA strategy, which not only impacts quality but also leads to higher expenses.

To overcome the above challenges, LTI has developed a proprietary innovative solution, RADAR (Reliability and Data Accuracy for Right Decisions), to handle data assurance needs.

Data Assurance using RADAR

LTI’s RADAR is designed with a keen focus around People, Processes and Technology engaged for Data Assurance. It offers end-to-end solutions across the data warehouse/business intelligence lifecycle as mentioned below:

**Data Warehouse Testing**
- Data Structure and Schema Validation
- Data Quality & Integrity Validation
- Data Completeness & Correctness Validation
- E2E Business Rules Validation

**Data Migration Testing**
- Data Transformation Validation
- Referential Integrity Verification
- Data Corruption/Redundancy Verification

**Business Intelligence Testing**
- Dimensions and Metrics Validation
- Pixel to pixel text comparison and Layout validation
- Data reconciliation
- Report Testing
## Reliability And Data Accuracy for Right Decisions

### Database comparison across:
- Oracle, Teradata, DB2, MySQL, SQL server, Sybase, Netezza, SAP BW
- Flat, Excel, CSV, PSV, XML, Fixed Length File

### Big Data Assurance
- Heterogeneous data sources validation
- Field level validations for structured and semi-structured data
- Checksum based data validation for un-structured data
- Data validation engine using MapReduce
- Validation in Hadoop cluster

### Business Intelligence & Reports
- Text and image comparison in PDF files
- Excel sheet comparator and merger utility
- XML comparator and merger utility

### Business Benefits
- Dedicated DW/BI Testing Practice with a certified pool of domain and technical experts
- Strong expertise in setting up DW/BI Testing CoEs for global clients and a well-defined readily available DW/BI Process Framework
- Intensive Delivery Model, improving test data coverage upto 100%
- Proprietary comprehensive framework RADAR, enabling reduction in testing efforts by 60%
- Pre-defined Data Validation strategies to identify bad or unwanted data
- Continuous innovation by creating client-specific IPs, and implementing continuous improvement
CASE STUDY - Implementation of RADAR increases Test Coverage and Automation for a leading US-based P&C Insurer

The Client
US-based Global Insurance Company, offering a wide variety of Insurance & Surety products, as well as Risk Management Services, to numerous types of businesses, organizations and individuals.

Challenges
- Large volume of data from multiple and disparate sources affecting Data Accuracy, Consistency & Reliability
- Lack of technology agnostic automation tools
- Extensive efforts & time required for comparing the volume of data

LTI solution
- 90% Regression and Functional data testing automation
- Set up DW/BI Domain and Data assurance experts team
- Leveraged propriety tool RADAR for Data Validation for Oracle, DB2, Teradata, etc.
- Established a common ETL framework, to facilitate Application Development with built-in optimization
- Completed Risk based testing by preparing Test Suite, based on functionalities
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info@Lntinfotech.com

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Business benefit delivered

- 100% test coverage for all database tables tested through RADAR
- 90% Effort Savings in requirement ambiguity review, and 64% Test case Preparation Effort Savings using RADAR
- Reduced efforts by 40% per cycle
- 60% Reduction in Residual Defect Count
- Improved Defect Analysis and Resolution by rich and detailed reporting