| Testing Lifecycle for Data |
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| Enterprise Data |
| Quality Assurance |

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| **Date** | **Prepared By** | **Reason for Update** |
| 4/12/2018 | Jason Brooks | Initial submission |

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# Executive Summary

As the importance for data collection, data transformation, data movement and data reporting continues to grow, so does the importance of quality assurance activities in this space. Data is the foundation of almost all business processes, business financials, business budgeting, business decision making and much more. It is pertinent that data is accurate, assessible, available and consumable. Data integrity is essential to success in any area of strategic business.

# Problem Statement

Due to the growth and continued development of the various databases, datamarts and reporting tools, risk to data integrity has increased. Data integrity from source system thru multiple adapters and transformations to destination systems must be validated for accuracy.

Testing Lifecycle

## Test Preparation

* Analyze story(s) of new/modified ETL, database, database element or reference data
* Define what database(s), integrations, schemas, files or data source to target need to be tested
* Define what data points need to be tested
* Define how to produce and access source and target data
* Define how and where to access source data to include needed queries, views and schema defintions
* Define what query(s) or view(s) is needed for validations

## Test Planning

* Creating test cases, test scenarios or test tasks. Components below:
  + Test Scope
    - High level description of test
  + Recreate Steps
    - Document any prerequisites/setup necessary to execute the test
    - Document any Environment specific variables
    - Document how source data will be produced
    - Document what query(s), view(s) or other format(s) are needed to validate results
    - Document any test completion actions (ex teardown/clean up)
  + Expected Result
    - Document what datapoints are validated
    - Document exactly what you expect to see
  + Comments (Optional)
    - Any additional information needed to execute the test

## Test Execution

* Execute Test Case(s)
* Execute Regression (If available)
* Report pass/fail status
* Provide Testing Evidence
* Communicate discrepencies
* Create Defect(s) as needed

## Post-Execution

* Create manual or automated regression tests
* Provide defect and execution metrics
* Analyze defects for trends
* Analyze defects for common points of failure

# Dependencies

* + Source system access or source system liason
  + Database access
  + Query Tools
  + Data transformation rules per object
  + Data destination requirement per object

# Reference Documents

* + [Testing Procedures](http://projects.myafglink.com/sites/BUE/testing/_layouts/WordViewer.aspx?id=/sites/BUE/testing/Documents%20and%20Reports/01-QA%20Document%20Repository/Testing%20Procedures_v03.docx&Source=http%3A%2F%2Fprojects%2Emyafglink%2Ecom%2Fsites%2FBUE%2Ftesting%2FDocuments%2520and%2520Reports%2FForms%2FAllItems%2Easpx%3FRootFolder%3D%252Fsites%252FBUE%252Ftesting%252FDocuments%2520and%2520Reports%252F01%252DQA%2520Document%2520Repository%26FolderCTID%3D0x0120003568EEC69376364FA24878821054FE90%26View%3D%257b5D0AD2AC-648C-4248-9655-720EB5048B57%257d&DefaultItemOpen=1)
  + [Defect Flow](http://projects.myafglink.com/sites/BUE/testing/Documents%20and%20Reports/01-QA%20Document%20Repository/Reference_Defect_Flow_v03.pdf)