Software Testing Business Intelligence (STBI)

Lesson 4: Testing for BI

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Lesson Objectives

➢ **To understand the following topics:**
  – Testing document purpose (Test documentation)
  – General BI Testing Principles
  – BI Testing Mission
  – Production Verification Testing
  – Possible Areas of Automation

Objectives

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4.1: Testing document purpose
Test documentation

➢ **The purpose of this document is to define a template for the Testing Strategy of Business Intelligence Solutions.**

➢ **The document will:**

- – Identify and describe each testing phase
- – Identify and describe each test type
- – Define entry and exit criteria of each test phase including test activities and validation tasks

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4.1: Testing document purpose
Test documentation (Cont…)

➢ Each phase will have its own test plan prepared and accepted that will cover all aspects in detail appropriate to that phase.

➢ It will reference this document where necessary.

➢ The document also sets some high-level guidelines for BI testing.

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4.2: BI testing principles
General BI testing strategy

- For each Reporting Solutions, all canned reports specified with the business should each be tested individually.
- To demonstrate the add-hoc capabilities of the system, the solution development vendor should demonstrate that all canned reports within the scope of the application can be produced using the ad-hoc toolset.
- Following release to production there should be process to support retro fitting of minor changes done by the application-support team and with major changes done by the development team.

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4.2: BI testing principles

General BI testing strategy (Cont…)

- ➢ BICC should record defects in a tool (such as excel or better) with the intention to display bugs per modules and bug discovery rate
- ➢ As data quality is a major consideration in these type of projects the following should apply:
  - – Data quality issues should be fixed in the upstream system, rather in the data warehouse.
  - – A review of the data quality should be performed at each project decision point.

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4.2: BI testing principles

General BI testing strategy (Cont…)

➢ **The usability test should be conducted as follows.**
  – Step 1 - Untrained users should be trained on the usage of the system.
  – Step 2 - These users should then be given a list of tasks to perform within the environment. The users performance should be monitored.
  – Step 3 – Based on the users feedback and performance either the training data set, or the training material should be improved.

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4.2: BI testing principles
General BI testing strategy (Cont…)

- ➢ In case of unavailability of sufficient test data a test data-generating engine such as GS Data Generator or DBUnit may be used.
- ➢ For data security purposes, test data should be generated by appropriately massaging production data

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4.3: iGATE BI testing mission
BI testing mission

➢ **BI Testing Mission**
  – "The objective of testing is to verify that the deliverables of BI solutions meets the agreed business requirements, and comply with both IT and BI operations as well as domain standards."

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4.4: Production verification testing
Production Verification Testing

➢ **Production Verification Testing (PVT)**
  - It verifies that the correct functionality, architecture and procedures have been defined and implemented.
  - It allows for the running, maintenance and support of the system in production in accordance with common practice and agreed standards.
  - PVT also confirms that all necessary hardware, software, application functionality migrated from validated test environments, converted data, connectivity and interface capability are available and confirmed for the system to be implemented into production.

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4.5: Possible areas of automation
Possible areas of automation

ETL Layer	➢ Generic Data Reconciliation: Programs to automate Data Reconciliation process ➢ Generic Data Auditing Routines: Programs to collect statistics related to the data being loaded from source to target
Portal/OLAP Reporting Layer	➢ Portal Look and Feel Check ➢ Reports Generation & Data Validation (CSV File Compare)
Performance /Stress Testing	➢ ETL Process Performance ➢ Report Generation Time ➢ Response times OLAP & Presentation Layer

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Summary

➢ **In this lesson, you have learnt:**
  – Test document identifies and describes each testing phase.
  – Each phase has its own test plan prepared and accepted.
  – The objective of testing is to verify that the deliverables of BI solutions meets the agreed business requirements.

contd.

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Summary (Cont...)

➢ **In this lesson, you have learnt:**
  – Production verification testing confirms the system to be implemented into production.
  – There are various areas of BI where in testing can be automated.

Summary

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Review Questions

➢ **Question 1:** _____ is to define a template for the Testing Strategy of Business Intelligence Solutions

➢ **Question 2: Data quality issues should be fixed in the Data warehouse**
  – True / False

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