

## Testing in Outsourcing Scenario

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### **Abstract:**

This paper is on Testing in outsourcing Scenario. This paper is intended for companies who want to get into testing in outsourcing mode. Testing in outsourcing Scenario became popular because of various reasons. "Legacy applications being extended on the Web; standards for testing emerging because of standardized tools in the market place such as Rational, Win Runner, Load Runner and Silk Test from the houses of IBM, Mercury and Segue; and product companies embracing third-party testing will see even greater emergence of this sector

To improve quality when building a software system and ensure the delivered product satisfies business user's operational needs, Independent Verification and Validation (IV&V) is fast being recognized as an important step in the software development process. IV&V is a series of technical, managerial and financial activities performed by resources independent of the project team to provide management with an assessment of the ongoing health of a project. The IV&V assessment and associated recommendations provide management and the project team with actionable advice based on industry standards and best practices.

By focusing on an unbiased audit and assessment of processes and deliverables, IV&V ensures goals are met for cost, dates and results. The benefits include reduced creation of defects, increased detection of defects, risk mitigation and greater visibility at the financial, managerial and subject matter level.

# Testing in Outsourcing Scenario

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## 1.0 Introduction

### Evolution of outsourcing in testing scenario

#### Onsite Staff Augmentation (In-sourcing)

- Import high-quality, low cost services
- Offshore professionals brought onsite and paid lower hourly rates
- Mostly limited to highly defined application maintenance or development projects
- Limited cost saving, as talent needs to be imported

#### Offshore Production (Outsourcing)

- Outsourcers establish regional marketing offices
- Starts sending work offshore
- More cost-effective
- Little Project management at offshore
- Suitable for well-defined, less complex engagements

#### Offshore Ownership(Outsourcing)

- Onsite/offshore model
- Increased offshore Project management
- Liaison staff to improve staff coordination and problem resolution
- Slightly higher complexity projects can be handled

#### Partnership &/ local Presence (Captive offshoring)

- Seamless Integration
- Low-cost at offshore + critical management presence at onsite
- Meaningful partnerships
- Focus on business, rather than technology
- Partner helps undergo business transformation

### **2.0 Challenges to be addressed by client organization in Outsourcing testing activities**

- Verification takes at least 30% of the overall release life cycle – however there is pressure to reduce test cycle time
- To deliver competitive products – role of an independent verification team as the voice of customer
- Effective use of expensive lab infrastructure – test configuration, resources sharing etc.
- Cyclic nature of release verification effort – multiple releases of single product
- Parallel/ overlapping releases
- Detect defects introduced during verification phase – due to bug fixes
- Optimize test effort while at the same time maximize coverage
- Effective test case selection/ re-use
- Test automation
- Order of testing based on priority – catch ‘big’ problems early in the test cycle.
- Maximize defect find while at the same time with minimal raising of ‘false’ bug reports
- Customer scenario based testing

### 3.0 Independent Verification & Validation in outsourcing

It offers several benefits which make it a popular practice including financial value, operational efficiency and increased quality.

#### 3.1 Financial Value

Many senior management teams believe that IV&V is cost prohibitive. Full-phase IV&V increases development costs 10 percent to 20 percent. This only translates to 3 percent to 4 percent of total lifecycle costs. However, the savings through earlier and more thorough detection can be 200 percent or more than the cost of the IV&V work itself.

From a maintenance perspective, one of the more crucial support items is documentation. An accepted fact (supported by numerous studies) is that post-deployment maintenance accounts for approximately 60 percent to 80 percent of the true life-cycle cost of an application. To facilitate effective post-deployment maintenance, the delivered documentation must reflect the actual application design, implementation and operational profile. The constant oversight of the IV&V group along with the insistence of the group that noted anomalies are addressed and resolved results in higher quality documentation and training materials.

#### 3.2 Operational Value

The benefits derived from employing IV&V are substantial and span the product life cycle, beginning with improved requirements specifications and ending with a complete, more maintainable application that meets user needs. In effect, IV&V can be viewed as an effective risk mitigation strategy that significantly increases the probability of producing a quality application, on time and within budget.

#### 3.3 Quality Benefits

Although an IV&V firm cannot control the quality of the primary vendor's personnel, methodologies, work habits or commitment, an IV&V vendor can and should diligently review and analyze results, challenge and recommend processes and proactively protect the interests of the client.

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A project of this scale will benefit significantly from even minor process changes that prevent just a small percentage of defects and/or detect those defects as close to the point of creation as possible. In software development, the expense and time to repair defects increases exponentially the later a defect is detected in the process. An ambiguous requirement that is detected during user acceptance testing will cost up to 100 times more to repair than if it is caught prior to technical specifications. It is the responsibility of the IV&V vendor to sample test for defects at each stage, to audit the primary vendor's project management processes for deviation and to constantly challenge the comprehensiveness and accuracy of each deliverable and milestone achieved.

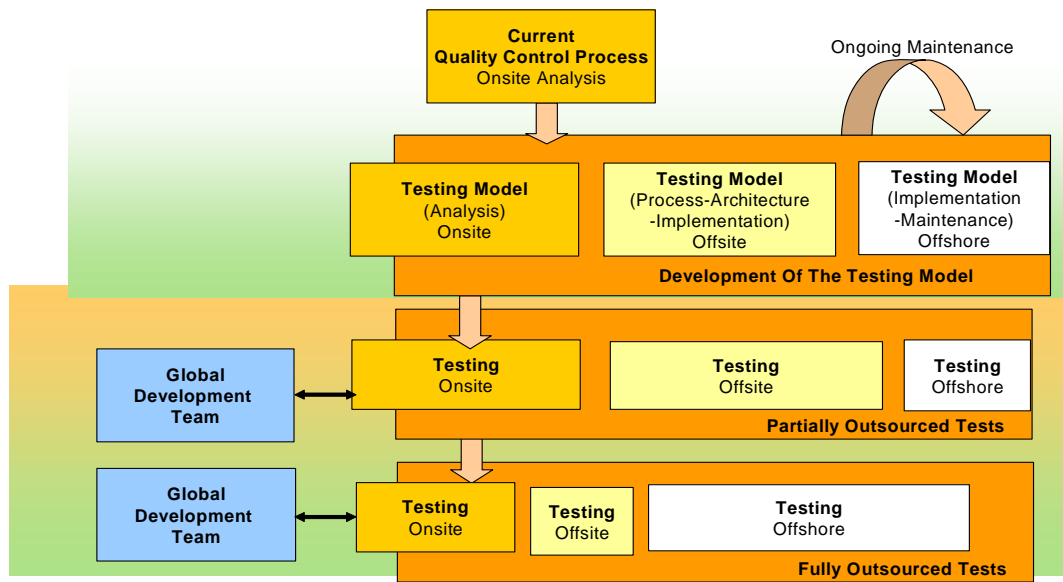
### 4.0 Business Benefits of Outsourcing in Testing Scenario

- Stabilized QA Processes
- Multi location roll-outs and associated testing.
- Provide consistent processes and frameworks for the enterprise
- Provide critical resources for testing
- Set up a test lab for automation and manual testing
- Creation and management of a repository for reusable components
- Managed Services QA model for the client
- Effort reduction close to 40% using test automation
- Service contract as SLA driven

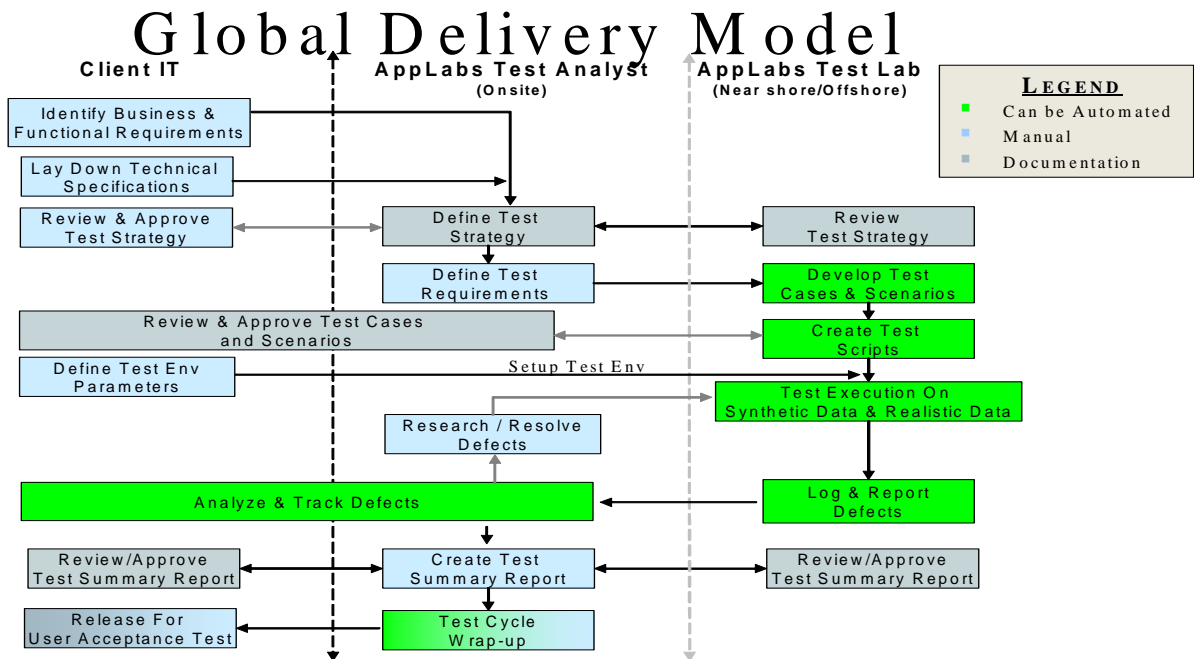
5.0 Gradual Migration to Offshore

# Testing Delivery Model

## Gradual Migration to Offshore



6.0 Delivery Model



- **7.0 Citations: Journal articles:**

Sreenivasa Pisupati: Software Test & Performance, Volume 5, Issue 4, April 2008, A BZ Media publication.