D+H's global payments solution, Global PAYplus (GPP), one of the leading products for core payments transformation, combines an extensive set of payment services including high value payments, mass payments and immediate payments, in a single consolidated payments hub. Implementing GPP for bank mainly involves configuration of parameters in rules engine. GPP implementation testing is critical because of significant monitory and credibility risk.
Infosys large GPP program installations include Bank Of America, Barclays, Westpac, NAB, HSBC and American Express. With rich experience of testing GPP implementation across different organizations and geographies, we know the challenges and most importantly, the solution.

**Support needed to make GPP Implementations bullet-proof**

By addressing issues faced by large financial organizations serviced by Infosys during GPP implementations:

- **10,000 test cases** created to validate base functionality
- **Rigorous regression testing** required
- **Performance bottlenecks** in real-life situations
- **Comprehensive infrastructure testing** required
- **No test cases for compliance certification**
- **Issues while integrating with 3rd party systems**
- **Extensive Integration testing** for standard touch points

Considering the typical issues faced while testing GPP implementation and the next generation QA practices we would have built GPP testing solution which would:

1. **Transform from defect detection to defect prediction**
2. **Reduce lead time for GPP implementation**
3. **Increase system uptime: Self learn and Self cure**
Infosys Solution - Tenets

Predictive Analytics
- Perform Ticket and Defect Analytics
- Early Defect Detection
- Bring efficiency in planning by providing actionable insights

Testing in a Box
- Maximizing test automation
- Build and deploy robust Configuration, Data Integrity test

Artificial Learning Led QA
- NextGen QA Testing Standards using Use unsupervised Machine learning (ML) to Transform from ‘Defect Detection’ to ‘Defect Prediction’
- Self learn and self cure Automated Tests

Infosys IP

Transforming from defect detection to defect prediction

- Identify common issues/problems across implementations
- Provide feedback to Design, Development and Deployment teams

- Identify most rigorous issues impacting customer behavior
- Identify the areas that creates negative sentiments for end users
- Helps identify usability, performance issues

- Infosys defect prediction tool can predict high failure modules for with an accuracy of over 85% based on historic data for an effective risk based testing
**Actionable Insights**
- Actionable insights are provided to help improve the plan to achieve an optimized implementation by analyzing the issue patterns from historic implementations.
- Use defect prediction to give proactive information about implementation weak links.

**Reusable Assets**
- Geography specific compliance and regulatory requirements and related test scenarios are readily available for use of the customer.

**Test Automation**
- Leverage Infosys MiTWA framework to build end to end automation.
- Reusable automated test suite for configuration validation and test stubs for API testing help accelerate development.

**Smart Test Cycles**
- Analyze requirements and trigger related regression scripts from the inventory thereby reducing the test cycle time.
- Infosys Test Optimizer BOT can help reduce the regression suite redundancies to the tune of 30%.

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**Infosys Solution**
Intelligent Automation Suite that is capable of self-learning and triggering automation scripts in an unattended manner using Machine Learning / Artificial Intelligence based algorithms for pattern recognition and clustering.

**Key Features**
- **Pattern Recognition driven testing:** Log pattern analyzer would recognize error patterns from application log files. Input would be the application log file and the logging patterns.
- **Self-Learning script sequencer:** Based on the error patterns in the log files, test scripts would be automatically triggered and sequenced to run against the application under test.
- **Self-Cure:** Initiates the defect fix process by communicating the failures from test runs.
- **Algorithm driven test sequencing:** Ranking of patterns and behaviors will be done and corrective actions will be derived based on ranking algorithms.
- **Errors Correlation and Traceability:** Error patterns recurring across multiple cross-connected applications can be identified and correlated to a root cause.

**Benefits**
- **Detect System Vulnerably:** Analyze system log files to identify potential weaknesses in system.
- **Increased Test Coverage:** Suggest system test coverage based on QA analytics.
- **Shift Left:** Early defect prediction.
- **Reduced cost:** due to early defect detection.

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Self Learn & Self Cure Analyzer BOT

Infosys expert testers will take up responsibility of GPP testing for your organization.
Infosys has a strong expertise in GPP testing Services

Creating and retain/sustain domain expertise within our Testing Practice

- Infosys addresses this aspect of employee competency by conducting domain trainings and certifications to gauge the employee expertise
- Through a standardized training programs, client can be assured of adequately trained, certified and skilled staff for project deployment
- Training are delivered through a variety of channels/modes like
  - Face to Face formal trainings by a dedicated team
  - E-Learning
  - Domain/Product focused workshops
- Employees are certified through an internal assessment which is on par with external certifications

A detailed view of the E2E Test Automation Solution

[Diagram showing the process flow between Client Channel, Sanctions Check, Payment Processing, Accounting, and Clearing.]
How Infosys solution will help a new GPP implementation

1. **Business Assurance**
   - *Increase in System up time* by addressing issues identified by AI and Machine Learning based algorithms which Sense and Predict potential system failures

2. **Cost Effective**
   - *Automated system regression suite for enhanced test coverage* to avoid disruption in payment processing flows

3. **Tools & Process Optimization**
   - *Customer sentiment analysis* driven QA helps to identify the areas that need focus from an end customer/user point of view

4. **Customer Centric**
   - *Actionable insights* are provided to help improve the plan to achieve an optimized implementation
   - *Reusable test assets* comprising geography specific, compliance and regulatory requirements and related test scenarios
   - *Automated Testing* of Configuration Setups, Data Quality Analysis, Environment readiness issues to preempt potential failures
   - *Infosys IP tools/utilities and stubs* provided to the IT teams to accelerate development and testing processes

For more information, contact askus@infosys.com