



BUSINESS
ASSURANCE
& TESTING



TEST FACTORY IN A BOX™ OVERVIEW



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Challenges Faced

All leading client IT organizations are supported by multiple service providers spread across the globe. To develop and deliver applications quicker at a reduced cost and of impeccable quality, client IT organizations are adopting diverse tools portfolio as part of their tools strategy.

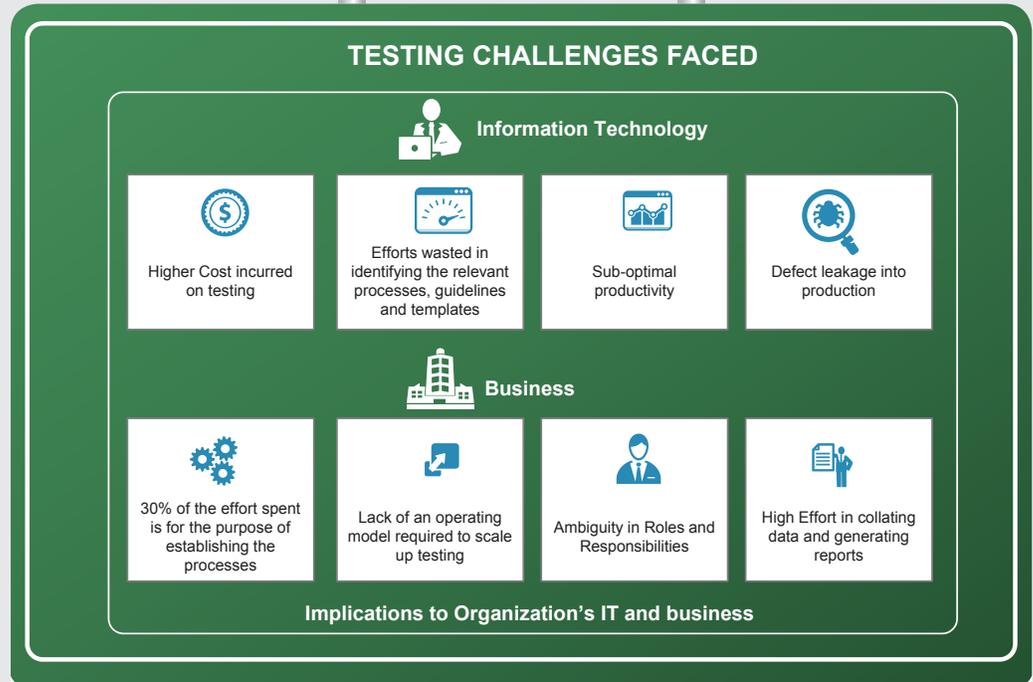
Many of these organizations are in the early stages of TCoE evolution characterized by - project execution in silos, non scalable teams, lack of standardized process

and tools, in-adequate adoption of best practices and in-effective utilization of resources.

Lack of mechanism to cross-leverage best practices, frameworks and metrics amongst various teams is resulting in testing in-efficiencies.

These complexities have created non standard ways of working and provide only limited insights to aid project predictability

Testing challenges discussed above impacts Business and IT in the following areas.



Above challenges can be broadly classified into 4 areas:





Need of the Hour

An enterprise wide testing solution to address testing challenges with focus on optimization, scalability, cross-leveraging of best practices and standardization



LEVERAGE BEST PRACTICES ACROSS ENTERPRISE

- Robust, Transparent and metrics driven Governance with RACI and escalation model
- Well defined workflows, dashboard and reporting
- Reusability of test cases/scripts
- Better Knowledge Management

IMPROVE SCALABILITY

- Flexible open architecture to enable seamless tool integration
- Clear separation of service lines leading to resource aggregation benefits

BRING STANDARDIZATION

- Process and Template Standardization
- Change Management
- Quality check points
- Workflow integration with process, tools, templates and guidelines

TESTING OPTIMIZATION

- Quick adaptation to business changes
- Optimizing the test suite based on Business criticality, Test Impact effectiveness and defect yield



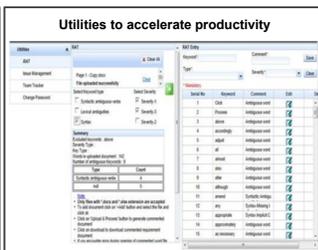
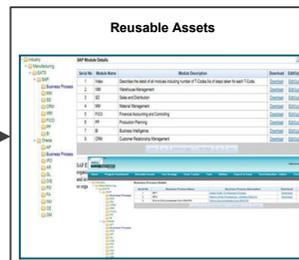
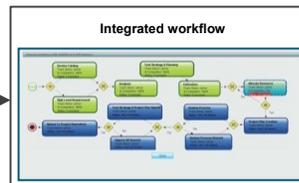
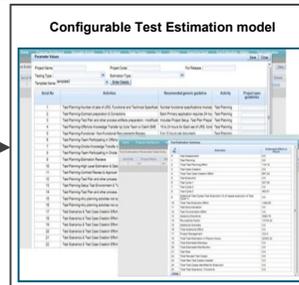


SOLUTION

HCL Solution

HCL has developed Test Factory in a Box™ (TFiB), an in-house platform to effectively manage all software testing activities efficiently with transparency and accountability.

One stop shop to launch testing services for the entire test organization



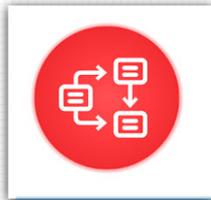
- **Process & Tool standardization**
- **Accelerators, tools and frameworks** for specialized testing for Performance, and Automation
- **Tool agnostic** integration wrapper platform
- **Process Monitoring** - Task wise effort & status
- **Configurable workflows**
- Clear transparent **metrics and dashboard** reporting
- In house **Automation Framework** for multiple technology and tools
- **Knowledge Management**
- **Accessible** over multiple platforms
- **Domain and Technology Specific Reusable Assets**

Salient features of TFiB:

HCL's Test Factory in a Box is a "One Stop Shop" to launch enterprise wide testing services. It empowers relevant stakeholders with visibility and transparency into day to day operations of the test organization through on-line dashboards.

Testing services are launched through a robust "Target Operating Model" powered by tools, guided by detailed work flows. This work flow is seamlessly integrated with process, tools, templates, guidelines, utilities and allied HCL organizational enablers.

All services are continually tracked through a 'Program Dashboard' by providing a unique snapshot of the entire testing landscape to the relevant stakeholders with options to customize.



1. Process workflows



2. Task Management



3. Project Status Monitoring



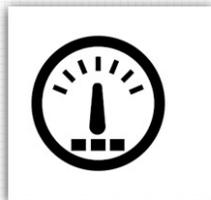
4. Measurement/ Metrics



5. Tool Integration



6. Roles and responsibilities



7. Program Dashboard



8. Requirements Ambiguity Testing



9. Estimation Navigator



10. Reference & Artifacts



11. Issue Management



12. Risk Based Testing

| | FEATURE | DESCRIPTION |
|---|--------------------------------|--|
| ✓ | Process Workflows | <ul style="list-style-type: none"> ▪ Dynamic Workflows to assign activities to team for Test Planning , Test Design and Test Execution ▪ Static Workflows for reviews across testing lifecycle from Estimation to Test closure |
| ✓ | Task Management | <ul style="list-style-type: none"> ▪ Create tasks lists ▪ Assign tasks on priority to team members ▪ Communicate task progress (% complete and effort expended) |
| ✓ | Project Status Monitoring | <ul style="list-style-type: none"> ▪ Monitor project progress at a glance for <ul style="list-style-type: none"> – Ongoing projects – Tasks on/behind schedules and – Dependencies ▪ Initiate corrective actions based on status |
| ✓ | Measurement/Metrics | <ul style="list-style-type: none"> ▪ Project performance is measured and reported at 3 levels <ul style="list-style-type: none"> – Core Metrics – Derived Metrics and – SLAs and KPIs ▪ Customized reporting based on roles .Consists of Operational, Program and Business |
| ✓ | Tool integration | <ul style="list-style-type: none"> ▪ Wrapper functions to seamlessly integrate with varied tools set ▪ Faster on-boarding of new tools |
| ✓ | Roles and Responsibilities | <ul style="list-style-type: none"> ▪ RACI matrix for clear definition and understanding of team members' role, function, and responsibilities ▪ Assist team members to understand their roles and responsibilities in relationship to the work of the team |
| ✓ | Program Dashboard | <ul style="list-style-type: none"> ▪ Unified dash board view irrespective of data source ▪ Customizable Real-time reporting |
| ✓ | Requirements Ambiguity Testing | <ul style="list-style-type: none"> ▪ Requirements are tested for Design and Quality attributes ▪ Identifies ambiguous patterns, which can potentially make a functional requirement ambiguous ▪ Increases requirements review efficiency and creation of testable requirements |
| ✓ | Estimation Navigator | <ul style="list-style-type: none"> ▪ Scientific way of estimation based on Test complexity ▪ Estimation at rough order of magnitude and detailed levels ▪ Derive estimate variation between planned and actual |
| ✓ | References and Artifacts | <ul style="list-style-type: none"> ▪ One click view/access to complete repository consisting all the requirements, Test design and Test case documents ▪ This acts as a quick reference for any point during the project planning or execution |
| ✓ | Issue Management | <p>Enables tracking of project issues by managers</p> <ul style="list-style-type: none"> ▪ Enables Issue Creation, Tracking and Closure ▪ Facilitates Status based Alerts |
| ✓ | Risk Based Testing | <ul style="list-style-type: none"> ▪ A framework that enables prioritization of test scenarios/ cases based on a combination of risk factors ▪ Prioritizes test scenarios/cases and determines effort savings |

What are the benefits it offers?

Key Benefits

1. **Services based on processes & methodologies derived from industry standards and HCL's best practices**
 - Task workflows with quality gates such as review and sign-off processes
 - Provides dynamic status updates on the tasks allocated to Various teams
 - Enables process & template standardizations across the programs
2. **Metrics and measurement driven platform**
 - Availability of test metrics round the clock to enable proactive decision making
 - Provides operational and business level metrics
 - Provides high transparency and visibility
3. **Tools Integration**
 - Seamless integration with HP, IBM and open source tools
 - Well integrated with HCL's Automation framework - supports Java, .Net, Web technologies, etc.
4. **Knowledge Management**
 - Knowledge Repository with version control mechanism
 - Options to maintain repository based on classification of artifacts
 - Ready to use domain specific reusable test assets



Key goal of TFiB is to improve test efficiency.
Through Successful implementation of TFiB,
HCL commits to deliver 20% to 25% efficiency improvement
in Test planning and Test management.

Case Study

Implementation of Test Factory in a Box™ for a global pharma major. Project teams profited by leveraging key TFIB features including Dashboard & Reporting, Process Flows, Checklists, Guidelines and Utilities



1

Metrics Dashboard including Live Defect and Test Metrics made available 24*7 to the project and leadership team. Report generation efforts significantly reduced.

2

Standardization of process across the testing organization resulted in significant improvement in test efficiency

3

Test Utilities (RAT & RBT) aided in early defect detection and reduced the cycle time. Reduced report generation efforts (more than 30 %) for every release

4

Operational Excellence achieved by workflow and task management

22% efficiency gain delivered to the customer



APPLICATION
SUPPORT &
MAINTENANCE



BIG DATA &
BUSINESS
ANALYTICS



BUSINESS
ASSURANCE
& TESTING



CLOUD, DIGITAL
EXPERIENCE &
MOBILITY



COLLABORATION,
CONTENT & SOCIAL



CUSTOMER
RELATIONSHIP
MANAGEMENT



DIGITAL
SYSTEMS
INTEGRATION



E-COMMERCE
& OMNI-CHANNEL



ENTERPRISE
RESOURCE
PLANNING



HUMAN
CAPITAL
MANAGEMENT



MODERN
APPLICATION
DEVELOPMENT



PLATFORMS &
INTEGRATION

For more details please reach out to – TeamTFiB@hcl.com



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