



Driving high performance and
cost effective solutions

Test Execution and Modelling Platform (TEMP) Architecture & Design

Software Testing Platform

Albia® TEMP



Introduction

Test Execution and Modelling Platform (TEMP) is a new technology developed by Albia®. TEMP allows business users and developers to create test cases without writing a single line of code or script, model test case using GUI tools, then schedule, execute, monitor, alert, and acquire results. TEMP is a concept that allows multiple types and levels of testing to be done for any enterprise system using one platform. It allows for test cases can be created within minutes, then carry out any maintenance within seconds. TEMP is a platform that can fully automate 95% of testing activities. TEMP saves enormous amount of development and maintenance time, bringing huge ROI to any organization implementing it.

TEMP Architecture

TEMP provides end-to-end architecture that enables planning, designing, configuring, running, acquiring, and measuring enterprise system testing. TEMP architecture consists of integrated solutions that enable testing external enterprise systems.

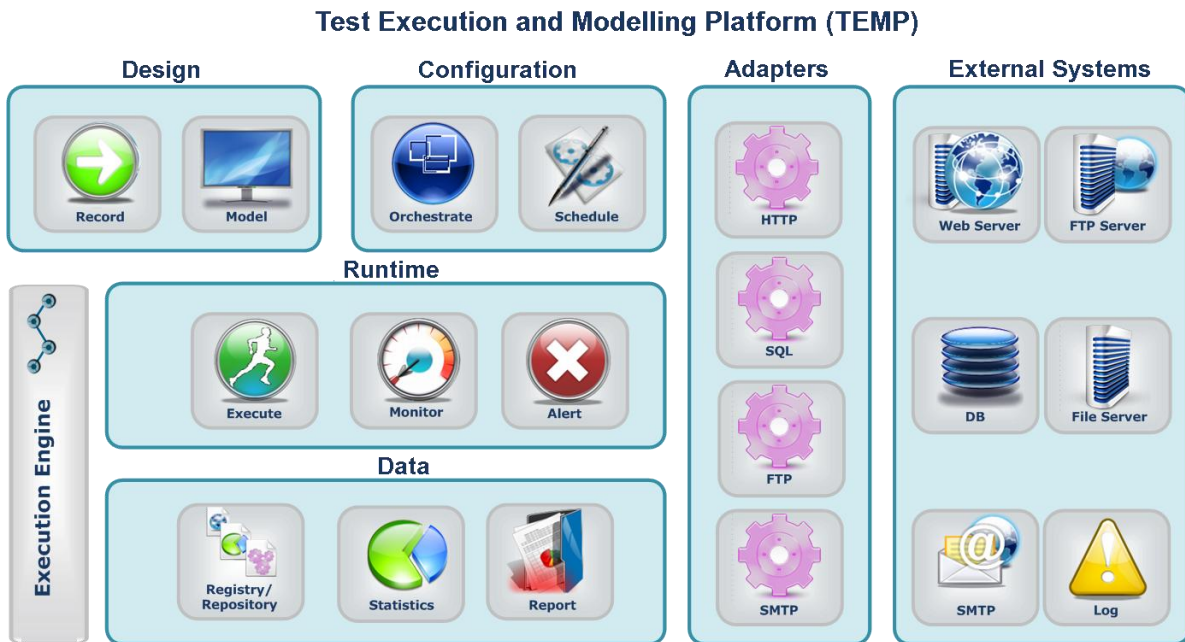
Test Execution and Modelling Platform (TEMP)



TEMP Layers

TEMP provides a unique platform for creating, maintaining, and running all different types of tests for enterprise systems. It consists of 6 different layers, each isolated from one another, but at the same time integrated into the platform. The layers are:

- ✓ Design
- ✓ Configuration
- ✓ Test Case Execution Engine
- ✓ Run-time
- ✓ Data
- ✓ Adapters

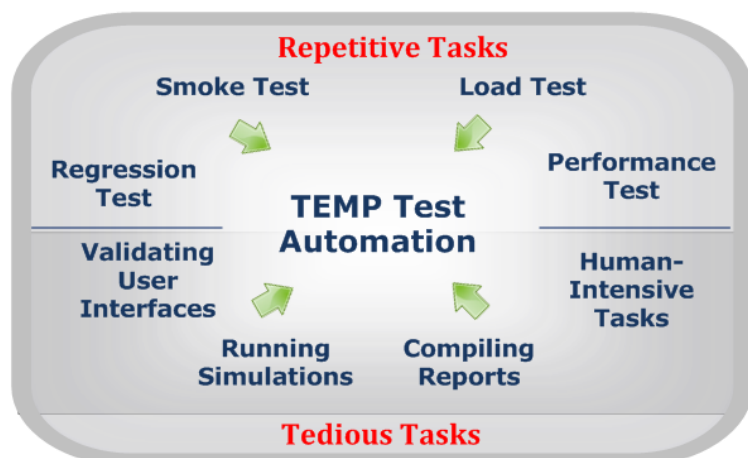


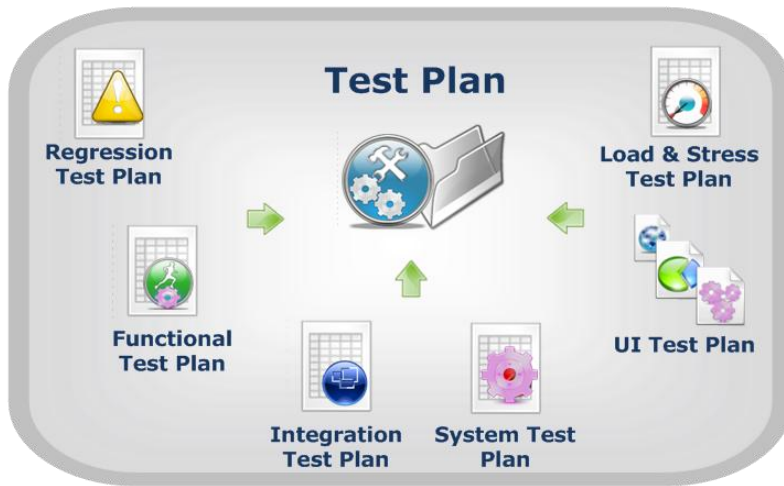
Design

Design layer is responsible for providing GUI tools for end users that allow recording and designing test cases for the following types of testing:

- ✓ User Interface Testing
- ✓ Functional Testing
- ✓ Load & Stress Testing
- ✓ System Testing
- ✓ Integration Testing

Having a set of design tools it is possible rapidly to produce test cases. Those tools are also used for maintenance. Since everything is done mainly through design screens, end users can do 90% of their tasks using the mouse. This is one of the benefits of TEMP, since no coding or scripting is required for creation and maintenance of test cases.





- ✓ Provide a Web Browser for recording test cases
- ✓ TEMP Modeller allows modelling test cases in a diagram (similar looking to flow-chart or BPEL)
- ✓ Any supported test case type can be recorder, then re-designed using the design layer tools

Configuration

TEMP Configuration layer is responsible for providing a set of tools that allow full configuration of test cases. This includes configuring adapters, connections, hosts, reports (contents and formats), language (including output language for reports), etc. This layer also contains TEMP Scheduler, responsible for scheduling of test cases.

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In real time TEMP Scheduler can display currently running test cases with complete percentage, list any previously ran test cases and their results, give quick access to reports, and allow scheduling and executing test cases in 24x7 mode.

- ✓ Provide scheduling ability
- ✓ Allow monitoring for scheduled tasks and activities
- ✓ Allow background mode execution (i.e. test cases can be ran without loading main software, so that the Scheduler can be a stand-alone application, running with minimized resource consumption)
- ✓ Allow test case orchestration, grouping test cases into test scenarios, and scheduling their execution

Test Case Execution Engine

TEMP Execution Engine is capable to execute any complex test case:

- ✓ Provide execution mechanism for running test cases
- ✓ Allow conditional logic execution paths
- ✓ Provide full control over execution blocks – conditional statements, Boolean logic, run-time decision blocks, etc
- ✓ Provide full automation for any supported test case type

Run-time

This layer is responsible for all run-time activities:

- ✓ Execute test cases
- ✓ Allow simultaneous test case execution, regardless of test case type (functional, load, etc)
- ✓ Monitor test case execution, including real-time statistics, meters, and dashboards
- ✓ Alert end users if something goes wrong
- ✓ Provide different alert mechanisms for external systems
- ✓ Allow playback of recorded test cases

Data

TEMP Data layer is responsible for providing test case repository, statistics, and reports:

- ✓ Store test case configuration in one repository
- ✓ Collect statistics for every test case execution
- ✓ Provide an extensive log for any test case execution
- ✓ Provide full reports during and after test case execution
- ✓ XML format for test all test case statistics, error log, and other collected data
- ✓ One repository for all execution activities

Adapters

TEMP adapters are all placed in one layer to allow easy integration with external systems:

- ✓ Allow interface to 3rd party systems
- ✓ Allow integration of test cases with 3rd party systems
- ✓ Allow full configuration and maintenance for 3rd party systems interfaces
- ✓ Provide GUI for adapter configuration
- ✓ Allow full configuration without any scripts or code
- ✓ Provide interface for building custom adapters for external systems

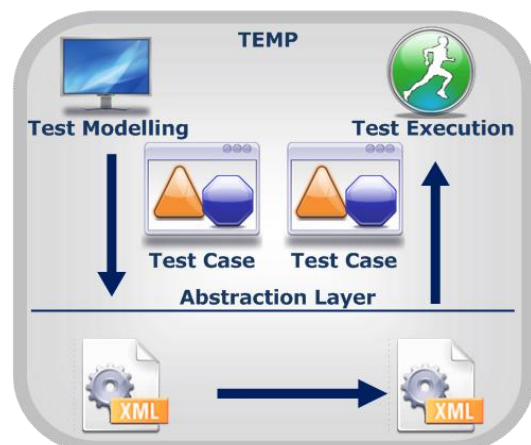


TEMP Integration

TEMP allows external systems to be integrated into testing. By default it provides the following integrations:

- Web server
- Database
- FTP server
- File server
- SMTP server

TEMP architecture allows integration of other external systems through custom adapters. Any external system can be also used for alerting and sending reports. By default TEMP provides mechanism for sending result reports to SMTP, FTP, and file servers.



TEMP Architecture Benefits

TEMP architecture allows creating and executing test cases without having to write a single line of code or script. This is achieved by GUI tools and communication between architectural layers, mainly done through XML. This means any test case created using GUI tools can be immediately executed by the test execution engine.

Real-time monitoring is achieved by internal layers that provide run-time statistics gathering, so that end users can visually see what is happening with their test case during the execution.

Since all TEMP architecture blocks are fully independent yet integrated, it allows utilizing all parts of the system for enterprise system testing, and extending the architecture in case system under test has un-supported requirements.

TEMP architecture supports the following processes:

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In case it is required to perform extra activities not supported by TEMP, it is possible to add new layers into existing solution. For instance if it is required to provide run-time statistics to an external system via SOAP, it is possible to extend Run-time and Data layers to enable new functionality. TEMP architecture allows scalability when adding new features and blocks. Another example would be if the system under test has unsupported interfaces (e.g. legacy applications), TEMP can allow new adapters to be quickly integrated into the main design.

One other benefit of TEMP architecture is the ability to focus on one part at the time. For instance, if a tester is creating a test case, then Design architectural layer provides all the tools and functionalities the tester needs for activities. Some layers can even run separately from the rest of the solution, which enables for instance running Scheduler in the background without consuming system resources.

Conclusion

TEMP architecture provides many benefits both for testers and developers. Its layered scalable design allows adding and integrating extra features. The platform covers all main areas needed for a testing project: from creation of test cases, to executing and reporting. Many tasks can be automated and optimized thanks to the flexibility design of TEMP architecture layers.

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- ✓ Online assistance
- ✓ Dedicated technical engineers
- ✓ Professional Services support

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Being an independent software vendor and IT services provider, we deliver innovative software platforms and integrated enterprise systems. By establishing long term partnerships, we work towards the success of our clients in Europe and the Middle East.

With headquarters in Sarajevo (Bosnia and Herzegovina) we cover many private and public sectors by bringing agile solutions delivered by top consultants with specially designed methodology. Our proven technologies and solutions help our customers to grow, be competitive, and get to the next level faster!

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