

SAP Testing

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TESTING IN ERP ENVIRONMENT...

Organizations implement ERP applications to respond to major business challenges of reducing costs and improving revenue.

ERP applications make use of a single, centralized data repository for all modules. This interrelationship between ERP applications and the shared data structure creates the need to implement robust testing and monitoring programs to ensure the health of the company's mission-critical applications. The main focus in any ERP implementation is to ensure that all business requirements are satisfied prior to releasing the application into production.

IN-HOUSE TESTING... DIFFICULTIES...

The time and cost of testing can add up a substantial portion of the total resources needed for an SAP implementation/upgradation project. Several problems can arise if thorough testing strategy has not been included in the implementation process. Enterprises that do not test and tune the entire system (applications, networks, and hardware) are likely to experience technology-based failures that will negatively affect the business.

Often Clients tend to use in-house functional resources for their testing and validation processes ending up with issues such as...

- Super Users being senior functional resources, ensuring their complete commitment to testing is often not feasible for the organization.
- Difficulty in balancing commitments towards ones' own function and participating thoroughly in the testing processes.
- Primary focus of a functional super user is limited to ensuring replication of previous system processes minimizing scope for further improvement during testing.
- Testing of high risk areas are not prioritized due to lack of SAP product knowledge.
- Lack of expertise in testing methodologies and tools.

WHY 3RD PARTY SAP TESTING...

- Independent 3rd party SAP test specialists implement industry best practices and provide stakeholders with an expert evaluation of risks and deliverables thus acting as customers' advocates in meeting project goals.
- Independent 3rd party testing allows the business to direct, control and monitor deliverables thereby consistently improving quality.
- Passing on the varying demand cycles of testing processes to the independent testing partner leads to reduction in costs of human and other resources.
- In scenarios where multiple vendors are responsible for various components of the implementation, 3rd party testing entities bring in a holistic and objective perspective towards the system being tested leading to greater accountability through comprehensive single-point validation of cross-vendor deliverables.

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TYPES OF TESTING DURING THE IMPLEMENTATION LIFECYCLE...

There are different types of testing that occur during the SAP project lifecycle, and each plays a critical role in the project's ultimate success.

Functional Testing - Functional testing is normally the first testing phase which is focused towards the program's inner functions, rather than towards the integration. This is the lowest level of testing where the program or transaction is tested and evaluated for errors

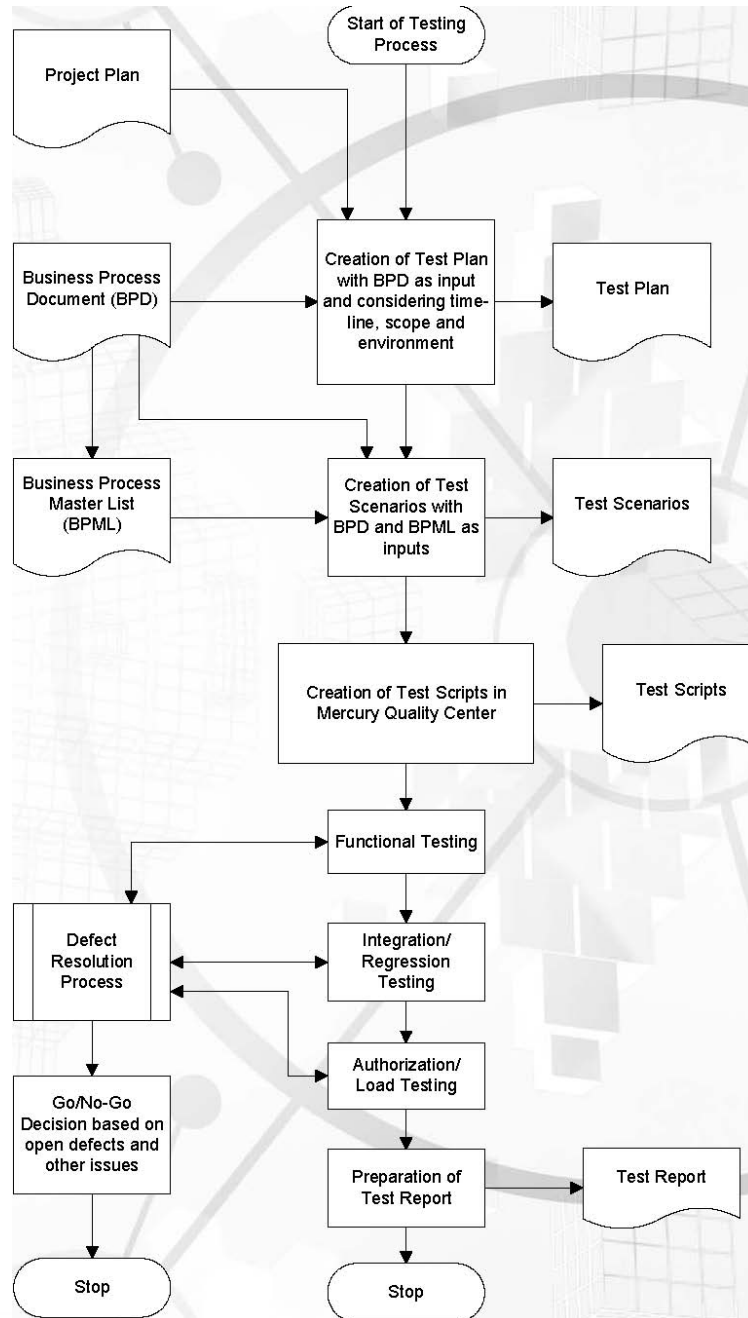
Integration Testing - Integration testing is accomplished through the execution of predefined business flows, or scenarios, that emulate how the system will run your business. These business flows, using migrated data from the pre-existing systems, will be performed in a multifaceted computing environment comprised of R/3, third-party software, system interfaces and various hardware and software components. It is this environment that builds the necessary level of confidence that the solution is complete and will perform in your business.

Regression Testing - The selective retesting of system that has been modified to ensure that bugs have been fixed and that no other previously working functions have failed as a result of the reparations. Regression testing also validates that newly modified part of system still complies with its specified requirements and that unmodified part of the system has not been affected by the maintenance activity.

Authorization Testing - Authorisation and User Profile Testing is designed to ensure that SAP security profiles have been created to the specification of the role mapping and to ensure that the profiles are appropriate to the business processes being delivered.

Performance Testing - Testing conducted to evaluate the compliance of the system with specified performance requirements. Performance testing measures the response time of key business processes and transactions, uncovering end-to-end performance problems. This is typically performed using an automated test tool like Load Runner, Win Runner etc to simulate large number of users and voluminous data.

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ITC INFOTECH'S TESTING PROCESS...

Test Planning – This step determines which R/3 application modules and transactions are most critical to the business processes being implemented in the R/3 system. A priority level is established for each business scenario. Based on priority and availability, a schedule is created and responsibility for creating and executing tests is assigned for each R/3 transaction that supports the identified business processes. Highly customized R/3 transactions and potentially high-risk business processes with heavy user volumes are identified and scheduled.

Test Design – During this phase, the individual business requirements and their associated tests are identified, and the R/3 master data required for each must be established. The master data established during this phase is vital to ensure that comprehensive test coverage and accurate test results are produced. A plan is established for resetting or regenerating master data for each test cycle. During this step, test scripts and test cases are created and stored using standard tools like Mercury Quality Center, Mercury Quick Test Professional and SAP eCATT.

Test Environment Preparation – This step of the testing process establishes the technical environment in which the test(s) will be executed. Testing Team takes complete control over the environment and it is not shared with other entities during the course of testing.

Test Execution – In this step, the test scripts are executed according to the test plan guidelines either:

- Manually - Using tools like Mercury Quality Center
- Automated – Using tools like Mercury Quick Test Professional and SAP eCATT.
- Automating the test cases rules out subjective factors in the comparison of the expected and actual results and significantly reduces, in particular, the effort for regression tests because all test cases can subsequently be run at the press of a button, be it as part of an update or one-by-one in the case of quality assurance parallel to development.

Results of the test execution are recorded using these tools thus maintaining a complete audit trail.

Defect Tracking and resolution – In this iterative step the defects identified during test execution are logged into a defect tracking and resolution tool like Mercury Quality Center, Dev Track or Team Track. Scenarios for which defect resolutions are provided by the configuration/development team are retested to ensure conformity with the requirements.

Test Evaluation and reporting – After the tests are executed, the test results are analyzed, and evaluations are made as to the readiness of the R/3 configuration. Test summary report is prepared and distributed to all the stakeholders in the client organization highlighting attention areas / weak spots.

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A CASE STUDY...

Company Brief

The client is one of the leading global logistics service providers who continues to be at the forefront of information technology, offering e-commerce enabled service fulfillment and intelligent logistics solutions.

Background

The client has chosen SAP R/3 as the ERP package for implementing a common financial system globally. The implementation addresses the need to:

- Harmonize and standardize finance and accounting processes
- Deliver a common IT platform to increase transparency
- Deliver more cost effective financial transaction processing

ITC Infotech is currently engaged as the global testing partner for this project.

WHY ITC INFOTECH WAS PREFERRED AS PARTNER

- A globally deployable talented resource pool, with diverse domain knowledge, whose expertise can be leveraged by the client.
 - Certified/Skilled Resources in the following:
 1. Functional Modules [SD, MM, PP, HR, FI, CO]
 2. Technical [BASIS & ABAP]
 3. New Dimension Products
 4. Testing/Defect tracking Tools [Mercury Quality Center, Load Runner, Win Runner, Quick Test Professional, Dev Track, Team Track]
 5. Business Analysts and PMI certified Project Managers
 - Process of continuous training in technology, domain and culture at our Learning Center
- Easy ramp-up and ramp-down of resources, both onsite and offshore, acting as an extended arm of customer's QA team.
- Ability to rapidly gain competence in client's business processes to reach full potential in minimum time leading to increased testing efficiency.
- Expertise in varied testing tools to perform functional and performance tests and to automate the same.
- Proven track record to finish projects on time and within budget.
- Comprehensive Infrastructure dedicated for SAP services
- SAP implementations in the ITC Group which is a diversified conglomerate and parent company of ITC Infotech, gives us a unique and very effective perspective that of an implementer as well as of a user.
- Leveraging time zone difference in a follow-the-sun philosophy accelerates the test cycles by enabling the testing processes to continue 24 hours a day.

SAP Testing

Testing Performed by ITC Infotech

- ✓ Functional Testing
- ✓ Integration Testing
- ✓ Regression Testing
- ✓ Authorization Testing
- ✓ Interface Testing
- ✓ Performance Testing

Value addition to client...

1. Increased end-user confidence in SAP implementation
2. Reduced cost and time of implementation
3. Better decision-making based on increased test result transparency.
4. Re-usable regression test pack that simplifies and reduces cost of future upgrades and maintenance
5. Re-usable automated test scripts
6. Enhance effectiveness of costly test automation tools— leading to lower costs.

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