

SAP EXPERT SECRETS

Why automation

WHITEPAPER

Benefits of TOSCA
and NeoLoad
with SAP

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■ Executive summary

As enterprises undergo digital transformation, SAP systems have become critical to business continuity. Automation plays a pivotal role in enhancing testing efficiency, reliability, and scalability within these complex environments. This whitepaper explores how leveraging TOSCA and NeoLoad can address modern testing challenges, accelerate release cycles, and ensure consistent system performance.

■ Introduction: The need for SAP test automation

SAP applications underpin many core business processes such as Order to Cash, Procure to Pay, and Record to Report. As organizations scale and evolve, ensuring the performance, security, and accuracy of these systems becomes increasingly complex using manual testing approaches. Test automation, especially with tools like TOSCA and NeoLoad, is essential to:

- Increase testing efficiency
- Reduce manual errors
- Ensure rapid feedback
- Scale testing to support complex environments

■ TOSCA SAP automation: Key benefits

- **Comprehensive test coverage:** TOSCA enables end-to-end automation of SAP GUI, Fiori, and web-based applications (e.g., Salesforce, SAP Hybris). It covers all business-critical processes, ensuring thorough validation across complex workflows.
- **Model-based approach:** With its no-code, model-based framework, TOSCA allows teams to create automated tests faster and with minimal coding effort. This significantly reduces the time to develop and maintain test scripts.
- **Regression testing:** Automating regression testing ensures that new changes or updates do not negatively impact existing processes, allowing for faster feedback and release cycles.
- **Integration with CI/CD:** TOSCA seamlessly integrates into Continuous Integration/Continuous Deployment (CI/CD) pipelines, enabling automated tests to run as part of every deployment, ensuring continuous quality validation.
- **Scalable test execution:** TOSCA handles large volumes of tests across multiple systems, scaling to meet growing business needs while ensuring faster test execution.

■ NeoLoad performance testing: Key benefits

- **Load and stress testing for SAP:** NeoLoad allows for comprehensive performance testing of SAP applications, simulating real-world traffic to assess system behavior under load. It ensures that SAP systems, including Order to Cash and Procure to Pay processes, can handle high volumes of transactions without degrading performance.
- **End-to-end performance monitoring:** NeoLoad provides detailed insights into system performance across the entire SAP ecosystem, helping identify bottlenecks and areas that need optimization.
- **Integration with SAP Systems:** NeoLoad integrates easily with SAP environments, providing a streamlined solution for performance testing across SAP, SAP S/4HANA, and integrated third-party applications like Salesforce and SAP Ariba.
- **Scalability and realism:** It can simulate complex user scenarios, enabling testing of both current loads and peak traffic and ensuring scalability without impacting production environments.

Together, TOSCA and NeoLoad help accelerate testing processes, improve release quality, and ensure that SAP environments perform reliably and efficiently. These tools enable faster time-to-market, reduced operational risk, and enhanced business continuity.



■ Key do's and don'ts of SAP test automation

DO'S

- **Leverage TOSCA's model-based approach:** Use TOSCA's no-code, model-based testing framework for efficient test design, reducing manual coding and enabling faster test creation and maintenance across SAP applications.
- **Integrate TOSCA with SAP CI/CD pipelines:** Automate the testing process and integrate TOSCA with SAP CI/CD pipelines for continuous testing and faster feedback on every code release.
- **Do automate critical SAP business processes:** Focus on automating end-to-end SAP processes like Order to Cash, Procure to Pay, and Record to Report to ensure comprehensive coverage and better risk management.
- **Do leverage NeoLoad for load testing:** Use NeoLoad to simulate real-world traffic and assess the performance of your SAP systems under heavy load to identify potential bottlenecks and optimize system performance.
- **Do focus on regression testing:** Automate regression tests for all critical SAP modules and integrated systems to ensure that updates or patches do not negatively impact business processes.
- **Do maintain test scripts and data:** Regularly update TOSCA test scripts and NeoLoad test data as SAP processes evolve to maintain test accuracy and reflect current business scenarios.

DON'TS

- **Underestimate test data management:** Neglecting proper test data management can lead to incomplete or ineffective tests. Ensure that TOSCA and NeoLoad use realistic and varied test data to simulate real-world conditions accurately.
- **Neglect performance baselines:** Avoid starting performance testing without established baselines for SAP performance. Establish benchmarks early on to compare future performance metrics effectively.
- **Overload with too many test cases:** While automation offers scalability, avoid overloading TOSCA with too many test cases in the initial phases. Start small and scale incrementally based on business priorities.



■ Success criteria for SAP test automation

- **Automation ROI:** Achieve clear return on investment by reducing manual testing costs, accelerating time-to-market, and improving testing efficiency. Automation enables faster issue detection, minimizes defects in production, and ensures reliable releases. Additionally, it simplifies technical upgrades by ensuring system stability and reducing testing effort during each upgrade, ultimately lowering operational costs and mitigating revenue impacts.
- **Improved test coverage:** Increase test coverage significantly across critical SAP business processes (e.g., Order to Cash, Procure to Pay, Record to Report) and integrated applications. A substantial increase in automated test cases ensures comprehensive validation, reducing the risk of undetected issues.
- **Faster test execution and reduced testing time:** Achieve a dramatic reduction in test execution time (e.g., from weeks to days), enabling quicker feedback on releases and faster time-to-market.
- **Defect-free transactions:** Ensure a defect-free production environment, with a high percentage of transactions (e.g., 99% defect-free) and reduced production incidents (e.g., <0.01% performance issues), improving system reliability and customer satisfaction.
- **Scalable and efficient testing:** Enable scalable testing across complex SAP landscapes, ensuring consistent quality as systems and business processes grow. Automation tools handle large volumes of tests without increasing resource requirements.
- **Enhanced performance:** Achieve consistent system performance, especially under high transaction loads, with performance testing integrated into the automation process. NeoLoad testing ensures SAP systems can handle peak demand without compromising on user experience.

■ Conclusion: Driving the future of SAP quality assurance

TOSCA and NeoLoad together offer a powerful testing ecosystem for SAP environments. By combining robust test automation and performance validation, businesses can ensure their SAP systems remain resilient, scalable, and aligned with business goals. As organizations move toward digital maturity, adopting a comprehensive test automation strategy is no longer optional—it's a necessity.

Empower your SAP transformation journey with automation that delivers speed, quality, and confidence.

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