Modeling and ALM: The Integrity integration with Simulink® and the MATLAB® environment

INTEGRITY, A PTC PRODUCT, ENABLES SIMULINK AND THE MATLAB ENVIRONMENT TO BECOME AN INTEGRAL PART OF THE OVERALL APPLICATION LIFECYCLE; THE VALUE OF WORK DONE BY DESIGN ENGINEERS IS EXTENDED TO AND ACCESSIBLE BY ALL CONTRIBUTORS TO THE PRODUCT. THIS INTEGRATED SOLUTION EXTENDS PROVEN ALM CAPABILITIES TO ADDRESS THE SPECIFIC NEEDS OF A MODEL-BASED DEVELOPMENT PROCESS. THE END RESULT IS COMPLETE TRACEABILITY AMONG REQUIREMENTS, TEST CASES, MODELS, AND OTHER ASSETS TO ENSURE THE ACCURACY OF DESIGNS, ADDRESS DESIGN CHANGES IN THE MODELS (AND TEST CASES) AND ULTIMATELY REDUCES DEVELOPMENT CYCLE TIMES.

Solution Features	Solution Benefits
• Repeatable, enforceable processes	• Enhances efficiency and ensures compliance
• Full traceability among assets	• Improves quality while reducing both cycle times and rework
• Change management across assets including models, requirements, and test cases	• Ensures delivered product is on time and meets expected requirements, at extended quality
• Version control for models	• Simplifies roll backs and comparison to previous version or builds
• Input/output of simulations is captured and managed	• Superior delivered quality, with full traceability to establish delivery to spec
• Auto-generated code captured and linked to associated assets	• Reduces cycle times needed for discovery and root casue analysis

Connecting models within the application lifecycle means:

- Root cause analysis is accelerated and can be performed with greater certainty
- Tracing the impacts of change is greatly simplified and streamlined
- Direct linkage of product and final requirements - ensuring consistent delivery to spec
- Enforceable and repeatable processes, driving compliance and consistency across teams
- Risk is mitigated through change notification both upstream and downstream
- Data from models and test runs is automatically captured and related to the relevant assets for reference, discovery and other ongoing needs

Summary

The capabilities offered by the combined solution from PTC and The Mathworks allow organizations to increase the quality of their products while reducing the amount of time and effort needed to deliver those products. Incorporating models from Simulink and the MATLAB environment into the overall application lifecycle provided by Integrity is rapidly becoming a competitive necessity in today's market.

Every asset and process can be managed using an enforceable, repeatable workflow. By implementing repeatable processes, organizations can increase efficiency in their cycles and reduce cycle times. Processes across projects and locations can be held to common standards, with full visibility for management.

Within the solution, there are also full audit trails associated with each activity and asset, greatly streamlining the effort needed to meet governance demands.

When change occurs, contributors can be notified by email as well as by visual indicators in both Integrity and Simulink. When model developers and test engineers receive this real-time notification for requirement or model changes, it allows quick assessment of the change and the impact on their work. The net result is that changes can be addressed before they cause lengthy delays in the model -> simulation -> test cycle.

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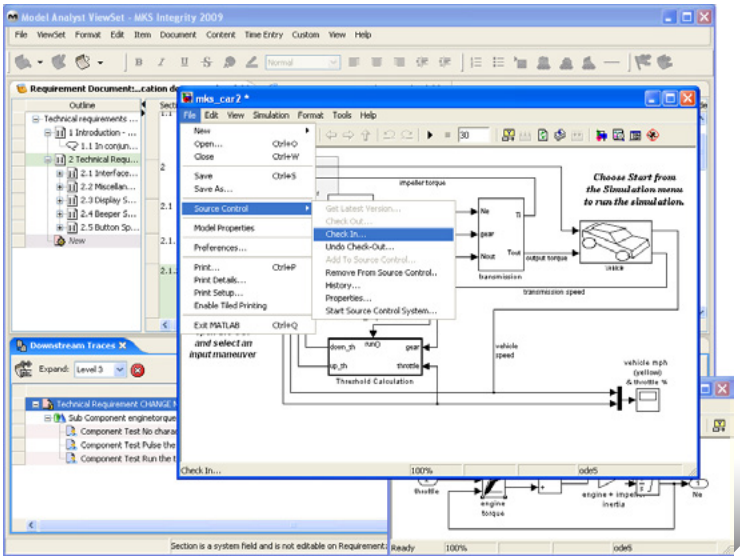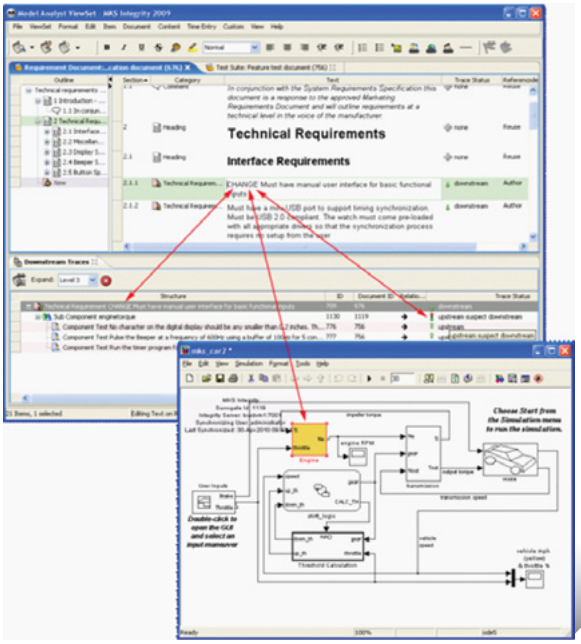
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