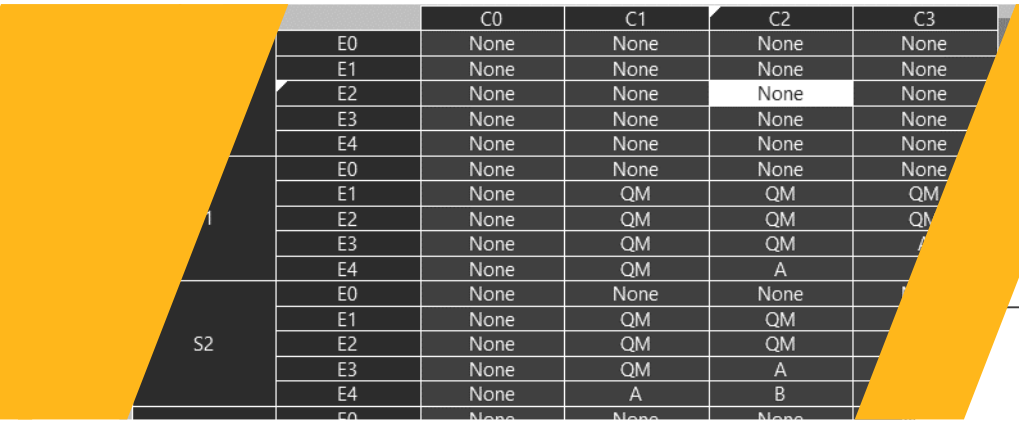
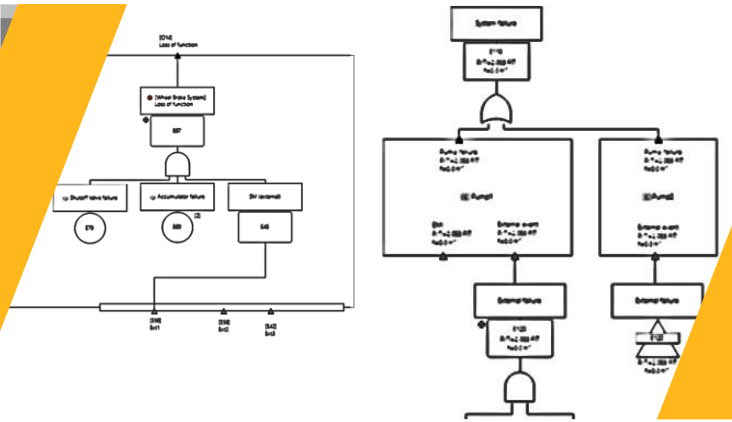
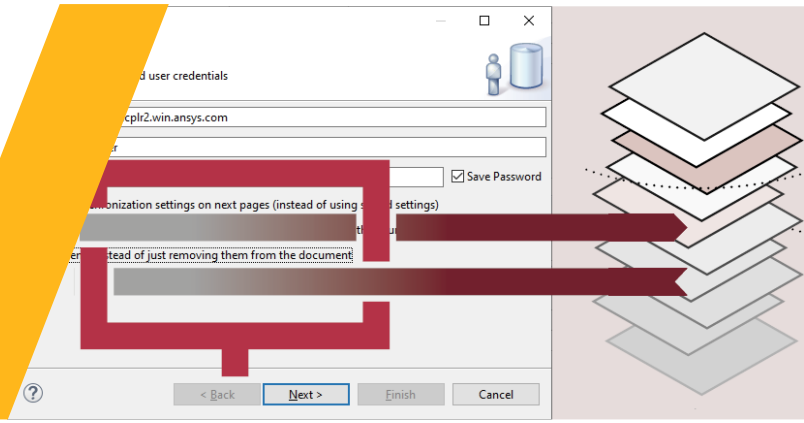
Release 2023 R1 Highlights
Ansys medini analyze

Ansys medini analyze Innovation Highlights



		C0	C1	C2	C3
	E0	None	None	None	None
	E1	None	None	None	None
	E2	None	None	None	None
	E3	None	None	None	None
	E4	None	None	None	None
	E0	None	None	None	None
	E1	None	QM	QM	QM
	E2	None	QM	QM	QM
	E3	None	QM	QM	
	E4	None	QM	A	
S2	E0	None	None	None	
S2	E1	None	QM	QM	
S2	E2	None	QM	QM	
S2	E3	None	QM	A	
S2	E4	None	A	B	





Enhanced Risk Graph for Automotive Hazard Analysis

- ✓ Option to distinguish hazardous from rare events in the ISO 26262 risk assessment
- ✓ Build consistency checks into your analysis that focus on the relevant driving situations
- ✓ Refine your risk management

Next Level Evolution of Fault Tree Analysis

- ✓ Compute the Mean Time To Failure (MTTF) and Mean Time Between Failure (MTBF) for complex systems
- ✓ Benefit from unique Component Fault Tree modelling support to structure and reuse faulty behaviour
- ✓ Leverage the uniform identifier handling for failure modes and malfunctions at events in FTA

Extensions to RMS and SysML Tool Connectors

- ✓ Configure the requirements exchange inline with corporate policies for retention and deletion
- ✓ Gain confidence and control in requirements exchange by new reporting and logging enhancements
- ✓ Get more model data into medini via extended SysML model importers

FTA : Fault Tree Analysis
CFT : Component Fault Trees
RMS : Requirement Management System

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Product Release Detail

Ansys medini analyze – Technical Highlights in 2023 R1

Automotive
ISO 26262, SOTIF

- **Glossary Support**: Manage terms in a glossary for the project
- **ASIL None**: Option for the HARA to receive a *None* as ASIL for C0/E0/S0 hazardous events (instead of QM)

A&D Safety
ARP4761, MIL-STD-882E

- **MTTF and MTBF:** Computation of Mean times to and between failures for FTA and RBD
- **Component Fault Trees (CFT):** Integrated component fault trees editing in SysML and evaluation support [BETA]

Join the Field Testing:
Collaboration Server

- **Centralized project portal:** Manage projects and versions at a central location with users and access rights
- **Live collaboration**: connect multiple users to the same project and support live collaborative editing

Join the Field Testing:
Digital Safety Manager

- **DSM Web App:** centralized project planning, monitoring, validation, and KPIs via pure web browser application

Common Functionality

- **Failure mode IDs:** Support for auto-counters at failure mode IDs and take-over into FTA events
- **FTA fold-out subtree** provides an option to stop at a certain level
- **Extensions to SysML model importers** from Cameo, Rhapsody, Enterprise Architect (EA)
- **ALM adapter improvements** for deletion and diff/merge
- **M2Doc** is available as new reporting technology

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2023 R1: ASIL None Risk Graph Enhancement

What's New

- ISO 26262 risk graph has a new option to rank E0/C0/S0 hazardous events as *None* (no ASIL)
- None is a new literal that can distinguish potentially hazardous entries ranked as QM from irrelevant ones
- Backwards compatibility of risk graph via option

		C0	C1	C2	C3
S0	E0	None	None	None	None
	E1	None	None	None	None
	E2	None	None	None	None
	E3	None	None	None	None
	E4	None	None	None	None
S1	E0	None	None	None	None
	E1	None	QM	QM	QM
	E2	None	QM	QM	QM
	E3	None	QM	QM	A
	E4	None	QM	A	B
S2	E0	None	None	None	None
	E1	None	QM	QM	QM
	E2	None	QM	QM	A
	E3	None	QM	A	B
	E4	None	A	B	C
S3	E0	None	None	None	None
	E1	None	QM	QM	A
	E2	None	QM	A	B
	E3	None	A	B	C
	E4	None	B	C	D

User Benefits

- Flexible choice how to document non-hazardous entries
- Explicit visualization of incredible/controllable/safe analysis entries

HE-051	crash into other vehicle, leaving road	S3	high speed	E4	General: Changing lanes	C3	distance to other vehicles, small road, braking not sufficient	D
HE-052	crash into structure	S1	low speed	E2	Stopped in entrance/exit of parking structure	C2	distance to structure	QM
HE-064	crash into other vehicles or leaving road	S3	high speed	E3	General driving on country road with narrow curves	C3	distance to other vehicles, small road, braking not sufficient	C
HE-199	no harm to a person	S0	no harm	E4	General: stopped car	C0	as no risk is involved	None

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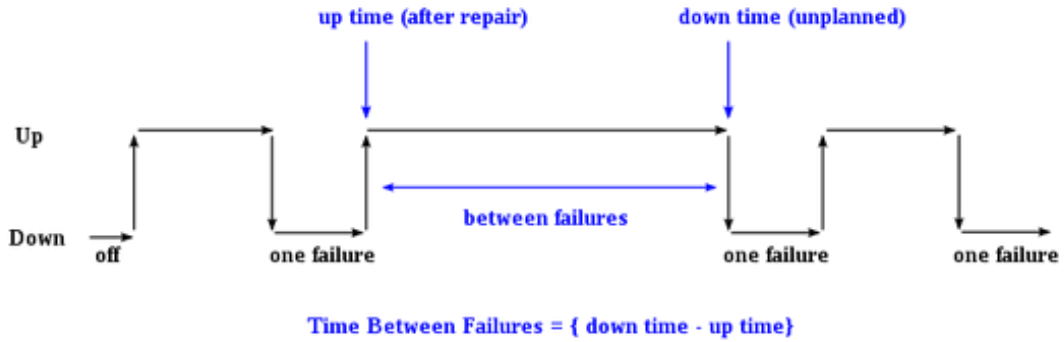
2023 R1: Mean Time to Failure Extensions

What's New

- Mean Time To Failure (MTTF) computation for system modelled via FTA and RBD
- Mean Time Between Failure (MTBF) computation in addition for repairable systems
- Effective MTBF for systems with scheduled maintenance and small relative repair time



User Benefits

- Computation of additional key measurements for system reliability analysis
- Widespread usage in Defense, Industrial, and Telecommunication industry sectors

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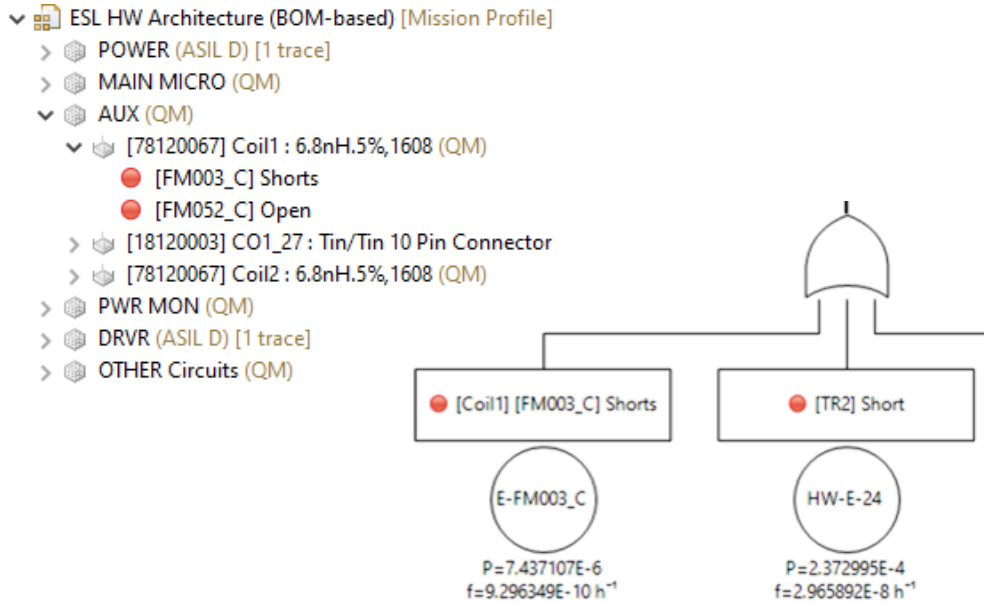
2023 R1: Failure Mode and FTA Enhancements

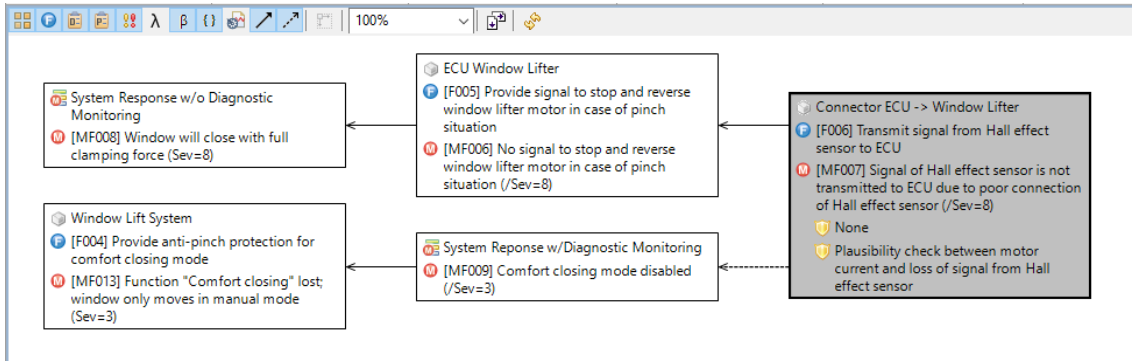
What's New

- Auto-counter for failure mode IDs to automatically assign IDs
- Consistent derivation of FTA Event identifiers from failure IDs (malfunction/failure mode/hazards)
- Restore FTA subtree up to level N
- Improved visualization of mitigated failure effects



User Benefits

- Easier traceability and consistency of failures in design and analyses
- Reduces effort to manage failure/event identifiers
- Increased usability in model handling and navigation



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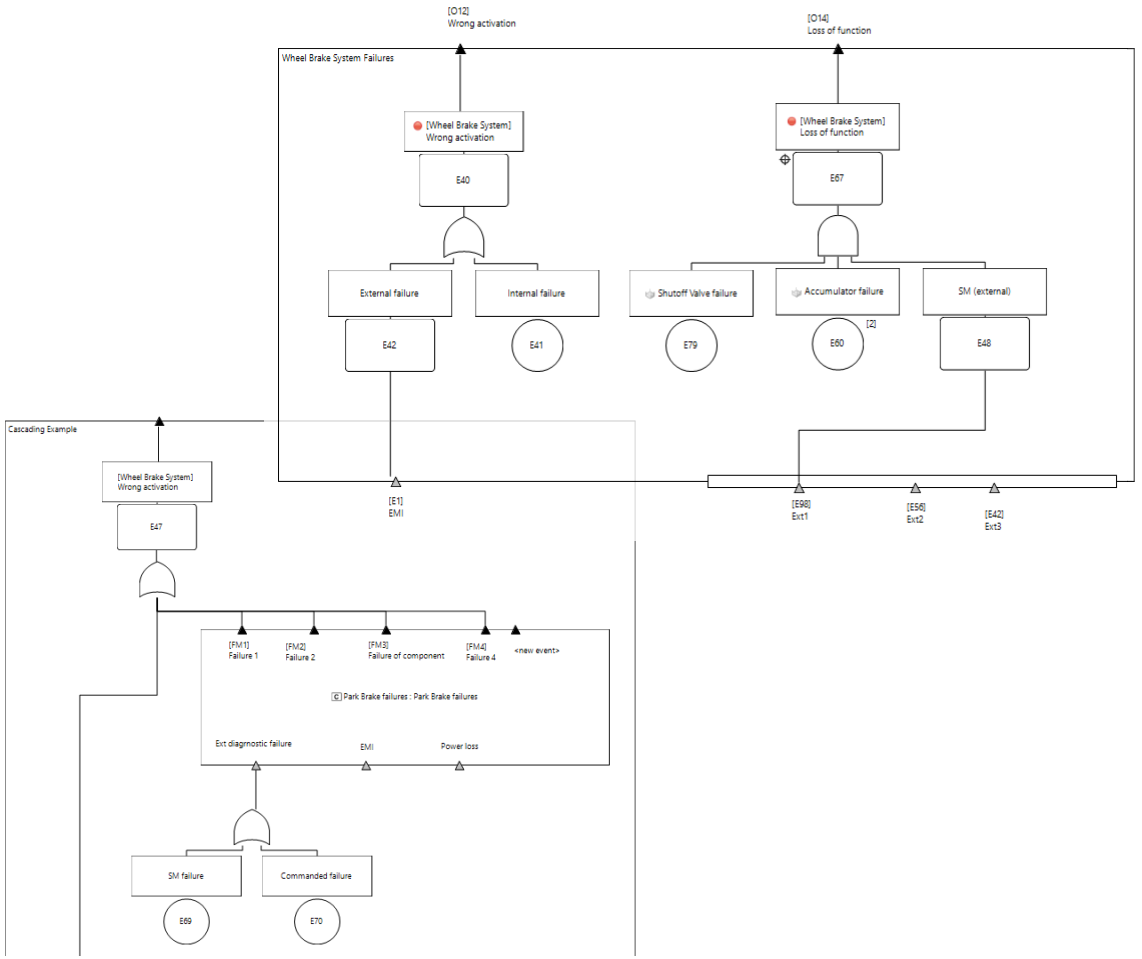
2023 R1: Component Fault Trees (CFT) – Beta

What's New

- CFTs are now integrated in the standard release cycle with probabilistic and diff/merge support
- Major extension of classical fault trees by component concept (definition and usage)
- Definition of failure logic by fault trees embedded into SysML parts
- Consistent usage of CFT by means of "complex events" referencing component definitions



User Benefits

- Increase of structuring large fault trees by component concept
- Reuse of fault tree by sharing of fault logic together with models/libraries

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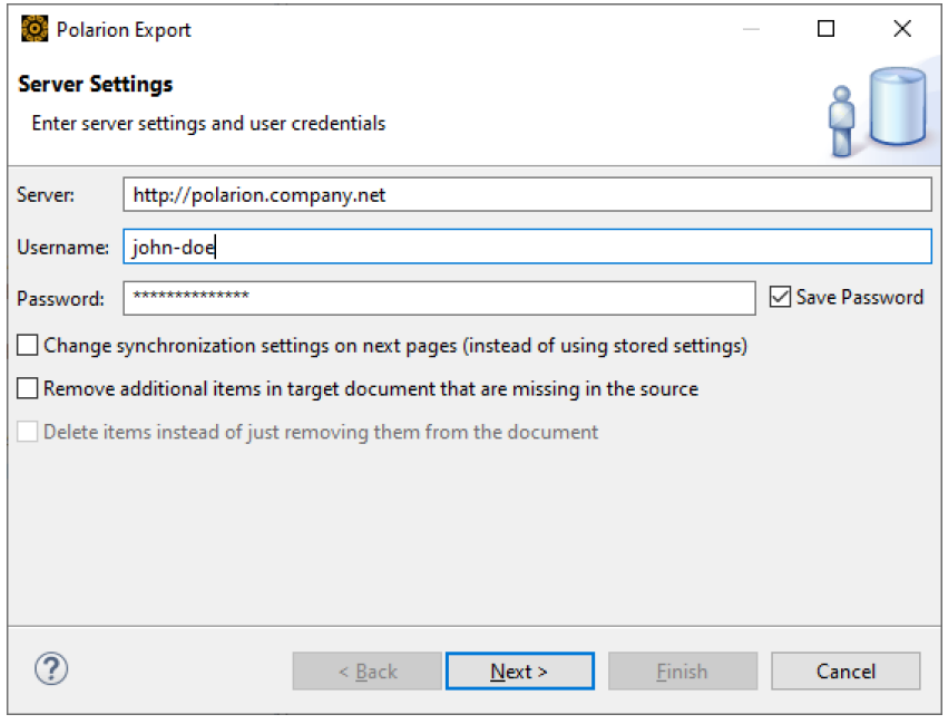
2023 R1: ALM/PLM Tool Connector Improvements

What's New

- Consistent deletion of requirements during exchange with requirements management systems
- Diff/Merge using external identifiers for better teamwork on parallel branches
- Improvements to error handling and logging when exchanging requirements



User Benefits

- Easier roundtrip between requirements tools and Ansys medini analyze
- Diff/Merge enables teams to maximize parallel activities when exchanging requirements

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