

Unlock the power of continuous validation for MBSE



IncQuery Validator

Devops-ready quality assurance for MBSE.

Automatically generates **model quality reports**, powered by **standard and custom rules**, including a high-level **Quality Score**, as well as **detailed rule violation breakdowns**.

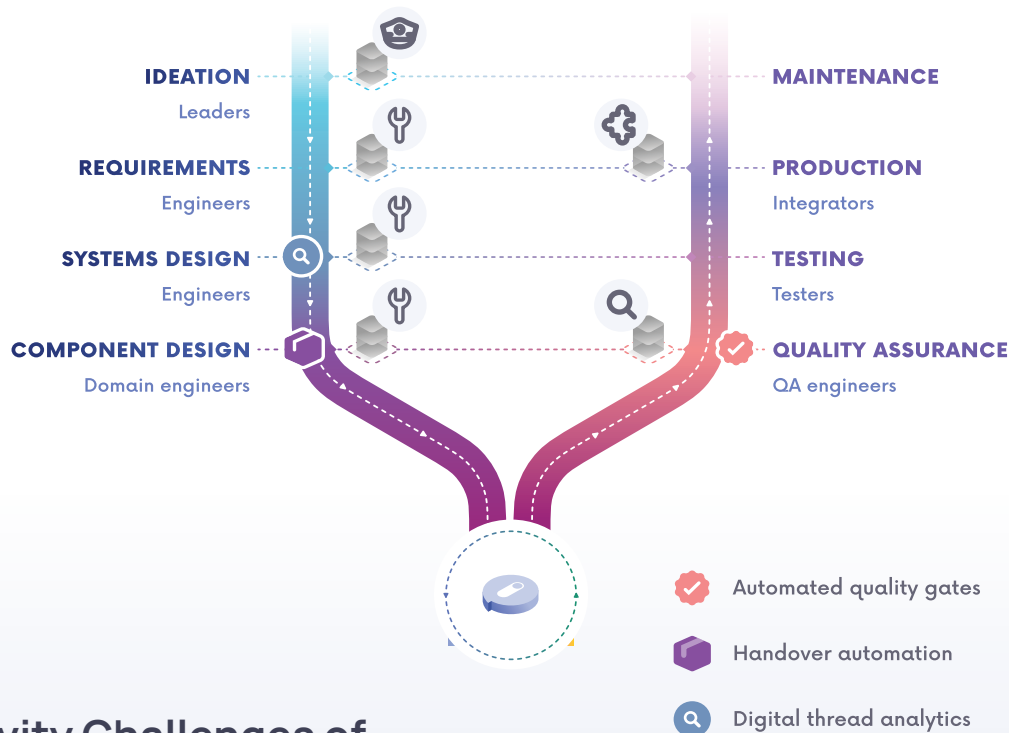
Help **Quality Assurance Engineers** to assess **key quality metrics** of a SysML model, in terms of **standards compliance** and **adherence to custom rules**.

Assist **Project Managers** in understanding and tracking **quality-related metrics of MBSE artefacts** as a project progresses.

Run either as a **stand-alone desktop application** or as a **server-side automated workflow** (e.g. on Jenkins), directly accessing projects on Git and Teamwork Cloud.

Supports **standard** (UML/SysML), and **custom** (SAIC Digital Engineering Validation Tool) **rule libraries**, which are **extensible**.

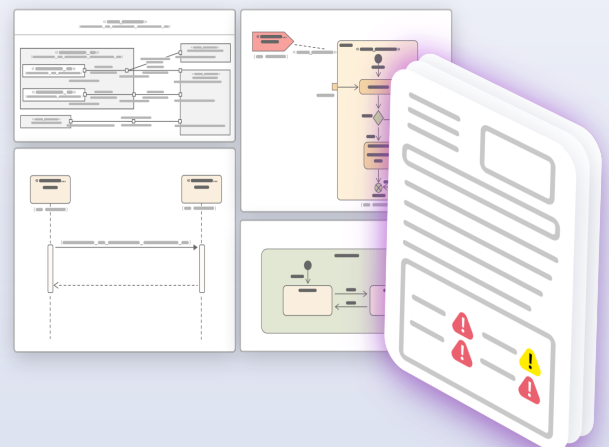
Share and review analysis reports using popular collaboration platforms like **Jupyter** and **Confluence**.



Productivity Challenges of UML/SysML Quality Assurance

As model-based systems engineering (MBSE) is gaining traction in many industries, there is an **increased need to ensure** that MBSE artefacts meet **quality** standards that are necessary not just for documentation practices, but also for traceability management and code generation, as well as integration with advanced engineering domains such as simulation and analysis.

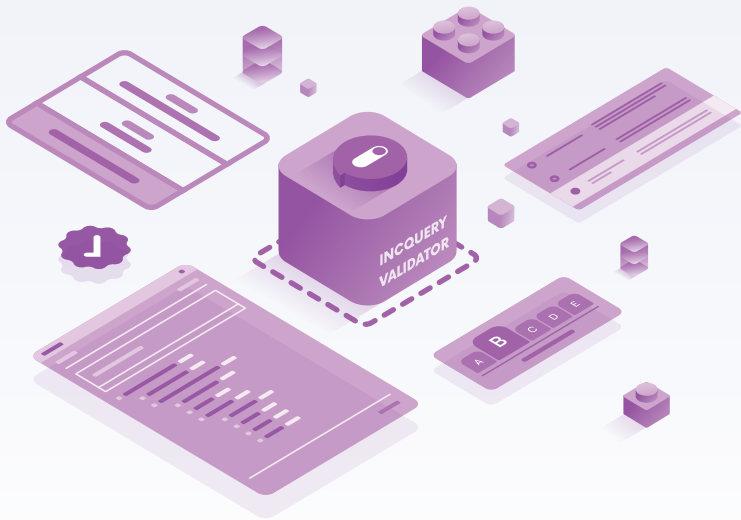
While many authoring tools offer **built-in error-checking**, these are typically **simple features limited to basic capabilities**. Additionally, it is left up to the user to run them regularly, which is often missed or neglected - resulting in **governance gaps** where **projects are plagued by numerous issues** like **incorrect profile applications**, **missing attribute values**, **non-standard-compliant models**, **design errors**, or **anti-patterns**. As they accumulate over time, they become a **major productivity hindrance** and source of **missed deadlines** and **cost overruns**.



INTRODUCING



IncQuery Validator



IncQuery Validator is a new product to help overcome the productivity problems associated with quality issues in UML/SysML projects, seamlessly **integrating with Sparx Systems Enterprise Architect 15/16 and CATIA Magic 19.x/2021x/2022x**

IncQuery Validator can **generate quality reports** for UML and SysML projects authored with popular tools, and **check for UML and SysML standards-conformance, profile / stereotype application correctness, and basic sanity checks for diagrams**,

Additionally, IncQuery Validator can perform **in-depth design error and anti-pattern analysis**, based on well-known libraries such as the SAIC Digital Engineering Validation Tool.

With **easy integration options** with **version control repositories** such as Git, collaboration platforms such as Teamwork Cloud, CI/CD **DevOps pipelines** such as Jenkins, you can easily add powerful **automated validation capabilities** into your UML/SysML workflows.

This way, stakeholders can get **quick feedback on the quality** of their work, **find and fix issues quickly**, and maintain high quality UML/SysML models across the entire project lifecycle - thus saving your valuable time, and helping you meet deadlines and budgets.

Finally, your team can **focus on really important tasks**, instead of wasting time with manual reviews.

Key Features



Enables powerful and automated quality assurance for UML/SysML projects, including diagrams.



Long and error-prone manual review processes become automated workflows that delivers results in a few minutes.



This automated process remains fast, even for large UML/SysML projects.



The workflow is user-friendly and efficient, freeing up your engineering team to focus on important work.



Enterprise Architect 15/16 and CATIA Magic 19.x/2021x/2022x (including Teamwork Cloud) are supported.

Validation Report

INCQUERY VALIDATOR

Digital Engineering Validation 2.0

SAIC provides a free system model validation tool for SysML that guides modeling consistency to reduce errors, aid analysis, and improve quality. Validation rules are originally available as MagicDraw structured expressions. The Digital Engineering Validation analysis checks a subset of the validation rules implemented using the VATTIA Query Language (available rules: 74 of 220).

Report ran at 2022-05-19 16:11

incquery automation

Number of elements in the model: 205,654

Home > Teamwork Cloud > IQS Forest Fire Demo > DISMOD-ForestFireDetectorSystem-FTDS-v4.2 MASTER > trunk > 50

Overview

Severity	Rules with occurrences	Occurrences
Error	2 rules	210 occurrences
Info	2 rules	98 occurrences

Rules without occurrences: 1 rule

Category	Name	Description	Severity	Occurrences
Activity Diagram Integrity	Activity entry incoming	Control nodes must have at least one incoming control or object flow	Error	1 occurrence
Activity Diagram	Activity parameter flow	All activity parameter nodes must have incoming or outgoing object flows. Nodes owned by activities with the "Is Leaf" attribute set	Error	10 occurrences

Check out incquery.io/validator

INCQUERY

Digital Engineering Automation:
Get Your Work Done Faster!



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