

# AUTOMATING WORKFLOW FOR V&V

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# What is Workflow?

- Team-in-the-loop analysis workflow
  - Network of analysis activities
  - Analysis artifacts configuration controlled
  - Team decisions (abstractions, modeling) recorded
  - Appropriate for quick design iterations, test planning/design, etc.

# What is Workflow?

- Team-in-the-loop analysis/testing driven product development workflow
  - Network of integrated **design/analysis/testing** activities
  - V&V tools used as needed to develop designs: SA, Optimization, UQ
  - Testing is integral; hierarchical: specimen, component, system
  - Team decisions (design alternatives, abstractions, modeling) recorded
  - Design/analysis artifacts (CAD, derivative items) configuration controlled

# What is Workflow?

- Automated analysis workflow supporting V&V
  - Automatically executed network of arbitrary parametric analysis activities
  - Algorithmic decisions
  - Workflow map, analysis artifacts, execution procedure configuration controlled
  - Required for UQ part of the Qualification Evidence Package

# Workflow System Requirements

- Workflow engine independence
- Minimal server installation
- Flexible system architecture
- Low cognitive load
- Transparent and escapable

# SAW Workflow Architecture

- Graphical Workflow Editor
  - Leverages some tech from Triquetrum/ESWG
  - Integrated with model-building tools
  - Data-driven
- Workflow Runtime
  - “Abstract dataflow”
  - Integration layer for workflow engine independence
  - Highly portable
    - Desktop
    - HPC (Queued or Unqueued)



- Video

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