Software Testing

CANTATA

Connectivity Pack

Connect. Automate. Integrate.

Extend Cantata with structured test definitions, machine-readable results and AI-assisted test generation.

The Cantata Connectivity Pack extends Cantata with AI-assisted test generation and structured JSON workflows, making test cases and results easier to manage, reuse and integrate with external tools, scripts and automation pipelines.

Three Capabilities. More Connected Testing.

AI
Test Case Generation

Generate test cases using your preferred AI model.

Generate Cantata test cases directly within Visual Studio Code and Eclipse, using compatible AI models.

An AI-driven option alongside Cantata AutoTest, designed to produce natural and intuitive test cases with meaningful names and descriptions.

JSON
Test Case Definition

Define and manage test cases independently of source code.

Create and edit test case definitions in structured JSON format, specifying test inputs and expected outputs without writing C or C++ code.

Reuse test case definitions across multiple configurations and manage test information separately from implementation code.

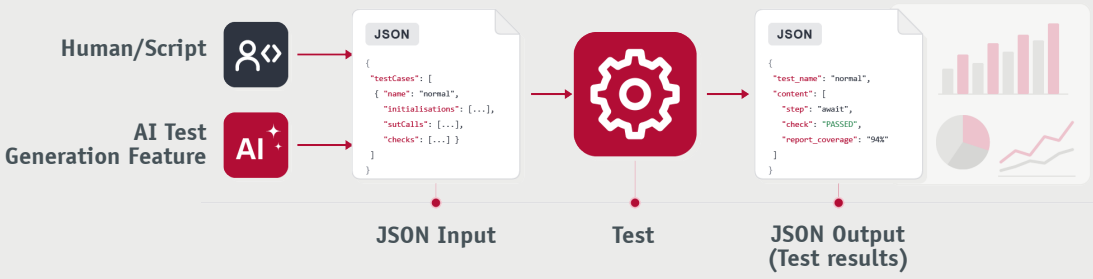
JSON
Test Results

Turn test results into structured, actionable data.

Generate machine-readable JSON test results designed for reliable processing by scripts, automation pipelines and AI tools.

Enable more flexible integration of Cantata test results into your existing development and testing workflows.

From test definition to actionable results



Connectivity Pack Capabilities in Detail

AI Test Case Generation

An integrated AI-assisted approach to Cantata test generation.

Available within the Visual Studio Code and Eclipse GUIs, AI Test Case Generation offers an additional option alongside Cantata AutoTest.

While AutoTest uses a methodical, deterministic approach, AI-assisted generation aims to produce natural and intuitive test cases, with corresponding names and descriptions.

Bring Your Own Model

Connect compatible AI models using the following authentication methods:

- **OpenAI-style:** Authorization: Bearer
- **Anthropic-style:** x-api-key
- **Azure-style:** api-key

Model capability influences the quality of generated test cases, with more capable AI models generally recommended for optimal results.

JSON Test Case Definition

Define test cases in a structured format, without writing test code.

Users and AI agents can create and edit JSON files to specify test inputs and expected outputs independently of the source code.

The Cantata Test Manager (cpptestman) processes these JSON definitions to generate executable test cases within a test script. Users can modify the JSON definitions and regenerate test cases, or edit the generated test code directly.

Key Benefits

- **Simplified Test Management:** View and manage test definitions without searching through source code.
- **Reusable Definitions:** Generate equivalent test cases across multiple configurations using the same JSON definitions.
- **Flexible Test Creation:** Create and modify test cases through structured JSON definitions or directly in the generated test code.

JSON Test Results Generation

Make Cantata test results easier to process and integrate.

Generate structured JSON test results designed for reliable interpretation by scripts, automation pipelines and AI-driven tools.

Unlike traditional .ctr result files, which are free-form and human-readable but cannot always be fully parsed reliably, JSON provides a consistent, machine-readable format for automated processing.

This Enables

- ✓ **Automated Processing:** Read and process test results programmatically.
- ✓ **Pipeline Integration:** Incorporate structured test results into automated workflows.
- ✓ **AI-Assisted Analysis:** Make test results easier for AI tools to parse, including the Cantata AI Skill.

Request a demo and learn more at **sales@qa-systems.com.**

Supporting AI-Driven Workflows

The Cantata Connectivity Pack's JSON capabilities also enable more efficient agent-driven test creation and results interpretation when using the Cantata AI Skill.

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