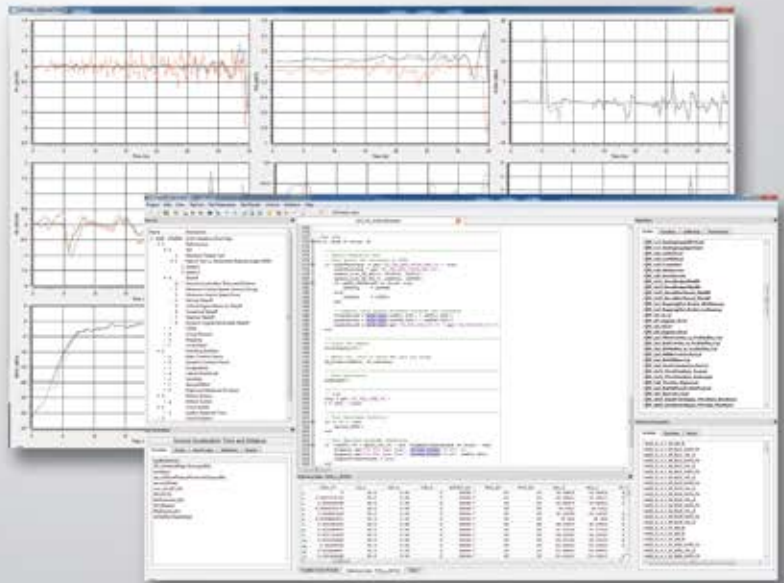


# CompARE™

Simulation Evaluation, Acceptance  
and Reporting Software



# CompARE -- Computer-based Acceptance Recertification and Evaluation

Interface, collect, analyze and report data



CompARE is a full-featured software toolset for conducting simulation evaluation, acceptance and recertification. It is designed around the complex project cycle of validation testing & provides rapid, multi-user test generation using mature, optimized components to provide a powerful scripting, plotting and reporting environment.

## Overview

With CompARE's development environment, a user creates tests in the project hierarchy. These tests can be grouped and categorized to facilitate the organization of hundreds of tests. The test is built using scripts, functions and reference data loaded into the project repository. The scripts and functions included in a test interface with the simulation software and hardware to get/set/record data while interpolating and retrieving test parameters from the included reference data set. Upon completion of the test(s), the data is stored in a complete project-independent form, thereby allowing the user to post-process the run into onscreen plots or PDF reports. CompARE was designed to conform with ARINC Report 436, "Guidelines for Electronic Qualification Test Guide"

## Rapid, Multi-User Development

Realizing validation testing and verification is one of the last major tasks in the project development cycle, CompARE was designed to allow rapid and efficient test development. The development project is stored in an XML format allowing simplified version control software integration resulting in multi-user development and collaboration. A CompARE test is comprised of functions and scripts linked from a repository of functions and scripts, thus allowing a single update to affect all tests utilizing a particular script or function.

## Multi-Platform

Not every testing and validation environment is the same. CompARE supports all current generation operating systems and environments -- supporting Windows (Windows 2000 through 64 bit Windows 7), Mac OS X (10.4 or newer), Unix (Linux, Solaris 10, AIX 6, and others). CompARE provides a common user interface while maintaining cross-compatibility with the development project, test scripts and results, thereby allowing the user to work with their platform of choice.

## Modular Design

CompARE provides a simple interface API to allow connection to virtually any system. CompARE supports remote connections (Network, Serial, etc), direct connections (shared memory) or driven connections (CompARE directly loads and executes functions), thereby providing maximum flexibility to new or existing systems or test environments. Similarly, the GUI interface can be quickly modified to create a custom user environment with simplified controls for task specific and recurrent use.

## Scripting

CompARE leverages the mature, fast and dynamic scripting language Lua, which is up to 7x faster than Python, 8x faster than Perl, and 21x faster than Javascript. In addition to speed, Lua supports classes and inheritance allowing for dynamic and powerful functions and scripts.

## Plotting

The CompARE design utilizes a plotting engine capable of presenting large quantities of high-resolution data onscreen or on paper. CompARE supports up to 18 plots per window and an unlimited number of data series per plot. As with the validation and testing, CompARE automatically computes tolerance values and displays tolerance bands on plots as required.

## Report Generation

CompARE's report generation is handled through a LaTeX engine producing professional PDF documents, which are optimized for size and viewing. The plots included in the documents can be scaled and rotated as needed and are imported as vector graphics. Unlike BMP, PNG, or JPEG the vector graphics plots allow zooming without pixelation, thereby enabling close scrutiny of results without special software.



### Applications

- Conduct simulation unit testing during development.
- Conduct FAA/ICAO Automated Qualification Test Guide (QTG).
- Run customer approved Acceptance Test Procedures (ATP) on software and hardware.

