# Professional Testing Tools

## *Cantata++*

## *AdaTEST 95*

IPL

BSI REGISTERED FM 01589

UKAS QUALITY MANAGEMENT 003

IT

Certificate Number FM 01589

# Overview

Software has to work correctly and reliably

In many cases systems are ‘mission-critical’

- To your business
- To someone’s safety

Testing remains the most effective verification technique available to ensure that software works

This is why, for over ten years, professional C, C++ and Ada developers have been using ***Cantata++*** and ***AdaTEST 95***

Tools offering the optimum set of facilities required for effective testing

# Overview - Features

***Cantata++*** and ***AdaTEST 95*** features:

## Dynamic testing

- Does the software work correctly?
- In both development and target environments?

## Test coverage analysis

- How much of the code has been exercised?
- Is testing complete?

## Generation of code metrics

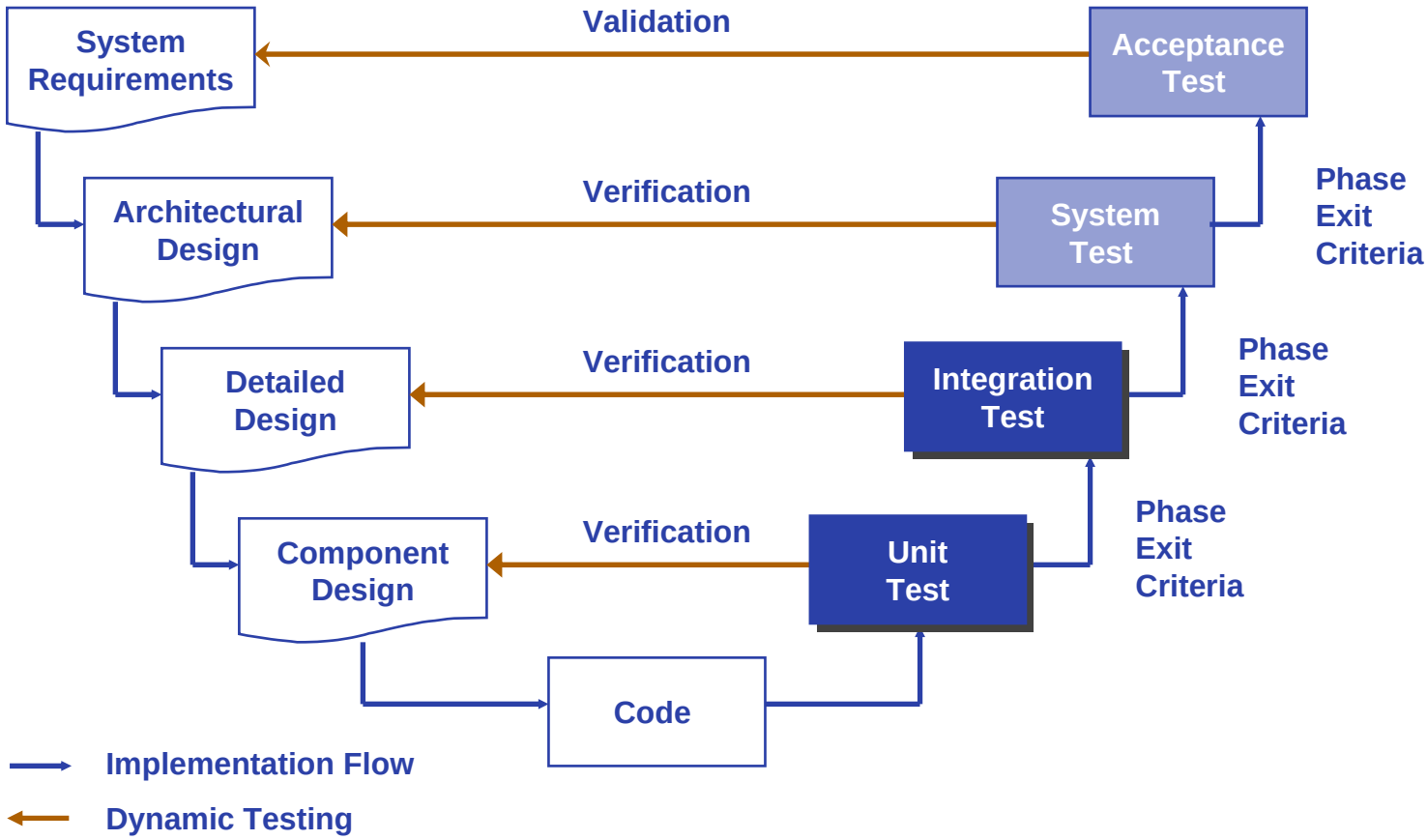
- Does source code meets quality and maintainability standards?

# Overview - Aims

The ***Cantata++*** and ***AdaTEST 95*** testing process is:

- Repeatable
- Automatic
- Auditable
- Portable
- Measurable
- Productive and Efficient

# Overview – Software Lifecycle



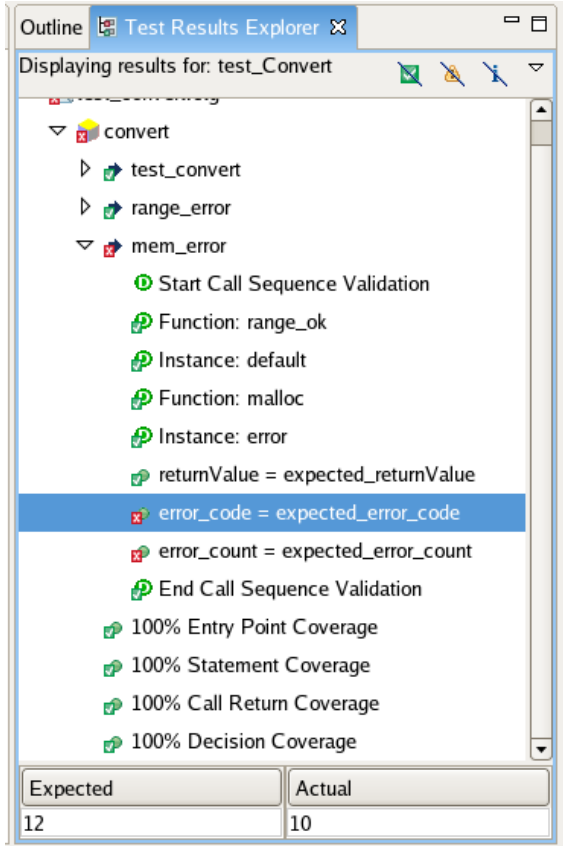

- ***Cantata++*** and ***AdaTEST 95*** can be used at all testing stages in the lifecycle
- Most help is offered at the Unit and Integration levels

# Overview – Dynamic Testing

## Dynamic testing involves:

- Defining inputs
- Predicting expected results
- Running the code
- Checking the results are as expected

Any unexpected results
cause the test to fail



# Overview – Dynamic Testing

## ***Cantata++*** **and** ***AdaTEST 95*** **support:**

Host and Target testing

- Test on development platform and in the target environment

Regression testing

- Automated re-execution of tests

White-box and Black-box testing

- Testing with and without knowledge of the code

Isolation testing

- Testing with simulation of external code interfaces

# Overview – Coverage Analysis

## What is Coverage Analysis?

It is a way of measuring how much of the code has been exercised during testing

It can be used to determine when sufficient testing has been carried out

It can identify unexecuted code structures

- Add more test cases?
- Remove dead or unwanted code!

# Overview – Coverage Analysis

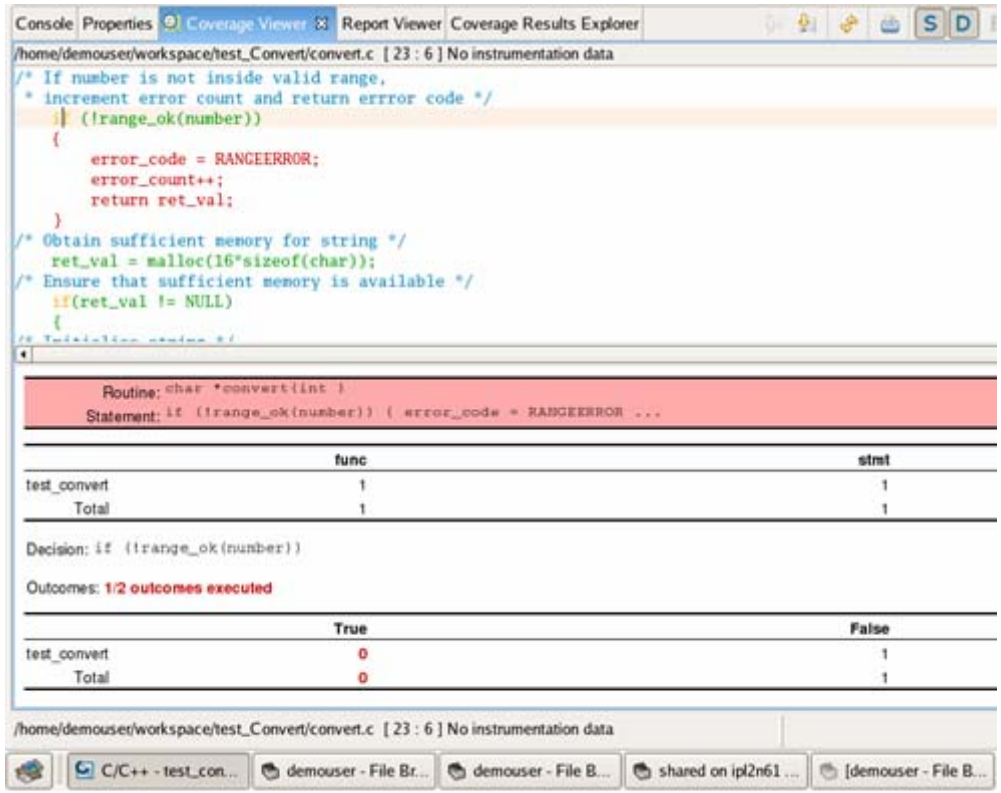
## *Cantata++* and *AdaTEST 95* allow you to:

Measure and report coverage

Set a Pass/Fail coverage checks for your project

Metrics supported include:

- Entry-Points
- Statements
- Decisions
- Conditions
- MC/DC



# Overview – Static Analysis

## Static Analysis derives metrics from the source code to help improve its quality

***Cantata++*** and ***AdaTEST 95*** provide facilities to generate up to 300 source code metrics

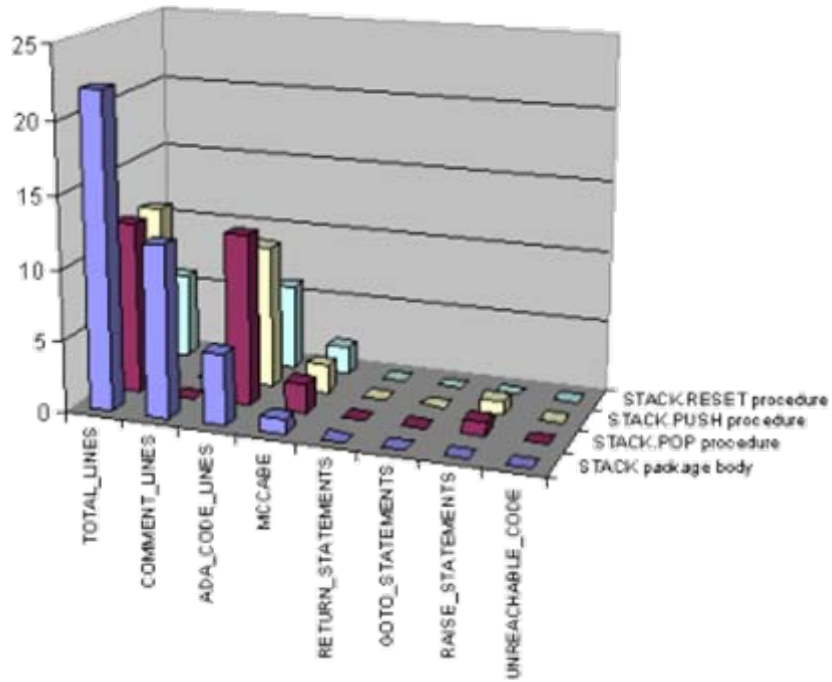
- Code construct counts
- Complexity metrics
- File metrics

Output data in CSV format for

- Numerical or graphical analysis

Provide objective data for

- Code reviews
- Project management
- End of project statistics



# Customers

## Our Customers have one thing in common

A need to deliver working, reliable and maintainable software

Nuclear Reactor Control - Thales

Train Control - Alcatel

Medical Systems – GE Medical

National Telecom Network – A large German telco

EFA Typhoon – BAe Systems

International Space Station – Dutch Space


Airbus A340 – Ultra Electronics

# Further Information

Your software product will only be as good as your testing.

For a reliable product you need reliable testing tools

***Cantata++*** and ***AdaTEST 95*** are available on a wide range of platforms, and have the backup of IPL's unrivalled training and support services

You will not only benefit from our products – but from IPL's 25-years of experience of software testing

Please see our web site for further details