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On-target verification solutions for critical embedded software

We provide **software verification tools** and **services** to the avionics and automotive electronics industries. Our solutions reduce the cost of verifying critical real-time embedded software.

**Where can we help?**

Our tools help you test your code throughout the software development life cycle, through system and integration testing to low-level functional testing.

By providing an automated framework that lets you collect test data and verification metrics directly from your embedded target, our software reduces the effort required to run your test project, right up to certification.

**Our approach**

We believe that a one-size-fits-all approach cannot fully meet the needs of the embedded software industry due to the complexity of their development and target environments.

Because of this, we deliver flexible solutions that can be tailored to meet the needs of the project they are used in, and thus reduce overall testing effort.

For example, by harnessing the flexibility of our toolset and effort from our engineers, we can customize integrations with embedded targets to collect verification data in a variety of ways.

"The more challenging the development and test environment, the less likely it is to benefit from pure "off-the-shelf" solutions.

Our engineers work with you to understand the issues you face, helping you to devise a customized solution for your target environment."
We are the industry leader in on-target testing of Ada, C and C++ projects, with extensive experience working with complex embedded architectures including multi-core systems.

We offer a range of solutions for outsourcing your software verification projects. As a subsidiary of Danlaw Inc, we provide experienced software test engineers in Europe and the USA.

Our solutions eliminate inefficiencies in embedded software testing, with a dedicated multi-user platform, powerful result traceability, and minimal on-target overheads.

Our tools integrate seamlessly into your existing build and test environments, supporting you even when your code base changes.

We have developed the processes, documents and tests needed to qualify our solutions for use in DO-178B/C and ISO 26262 projects, so you don’t have to.
**Software verification solutions**

### Verification tools

**RapiTest**
- Manage tests from the system to unit level
- Apply and execute tests on-target and on-host
- Designed to significantly reduce testing times

RapiTest reduces the effort needed for embedded software testing. By offering a variety of powerful test authoring formats and injecting and running tests automatically, RapiTest streamlines test development and execution.

**RapiCover**
- Measure code coverage up to and including MC/DC
- Lowest on-target overheads on the market
- Merge coverage from multiple tests and builds

RapiCover is the lowest overhead tool for structural code coverage analysis. By using efficient, configurable instrumentation, RapiCover collects coverage data up to and including MC/DC from embedded targets and exports this to a report for certification.

**RapiTime**
- Calculate WCET and high water mark times
- Identify where to focus optimization
- Single and multi-core analysis

RapiTime calculates timing metrics such as WCET and high water mark times from embedded targets, helping produce certification evidence and identify optimization candidates. RapiTime’s configurable instrumentation can be applied to even the most complex targets, including multi-core systems.
RapiTask helps to understand the scheduling behavior of multi-core and multi-threaded embedded systems. By providing a variety of helpful charts and graphs, RapiTask makes it easy to identify timing and system capacity issues.

Mx-Suite provides an integrated platform to manage software tests. Using a novel approach of interpreting native signal interfaces from the software under test, Mx-Suite lets you test your software from early design to the end of its life cycle.

RTBx captures trace data from embedded targets at extremely high rates. With a configurable, low overhead instrumentation library and easy-to-use web interface, RTBx is the most advanced data logging solution on the market.
**Multicore Timing Services**

**Multicore timing services**
- Analyze multicore systems for timing behavior
- Support use of multicore in critical environments

Our unique multicore timing services help you migrate to, use, and certify multicore systems for use in critical environments such as DO-178C/CAST-32A projects.

Combining expert knowledge from dedicated engineers, products from groundbreaking academic research and industry-leading software tool support, our multicore timing services have no equal on the market.

**Integration**
- Tie RVS tools into existing build system
- Collect data on embedded targets

For you to collect verification data using our tools, they must be integrated into your build and target systems.

We can provide the effort needed to produce high-quality integrations, so you can focus yours on testing. Because integration is a one-time procedure, achieving a high-quality integration early will pay dividends later.

**Qualification**
- DO-178B/C & ISO 26262 tool qualification
- Reduce certification effort

Qualifying software tools is costly. That’s why we have developed qualification kits for our tools, so you don’t have to. These kits can significantly reduce the effort needed to qualify our tools for use in your testing project.

Qualification is part of our design philosophy. We design our tools to be fully qualifiable against standards including DO-178B/C and ISO 26262 from the offset.
Software verification services

• Expert engineers to work alongside your team
• Independent outsourcing of V&V activities

We offer specialist services to support your V&V projects, stepping in wherever and whenever you need us.

We perform activities including the following: unit, integration, system and acceptance testing; DO-178C process definition and optimization; test automation; timing analysis and optimization; on-target problem solving; third-party software verification and assurance services.

Customization

• Customize tools to meet needs
• Targeted solutions

Our tools are built on a powerful framework so we can customize them to meet your specific needs. Using this framework, combined with our team of expert engineers, we are confident that we can create a solution for you.

Whether you need us to develop new trace hardware or software to collect data from your embedded target or add support for a custom compiler, we can.

Support & Training

• Cornerstone of our business
• Get the best from our tools

We have a strong history of excellent customer support and regard this as a cornerstone of our business. We support you throughout your use of our solutions and inform you whenever we discover issues in our tools that could affect the validity of your test results.

Our customizable training courses help you get the most from using our verification solutions based on your specific needs.
Meeting global testing needs in the critical embedded software industry since 2004

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