RAPITA
SYSTEMS
A **DANLAW** COMPANY

Safety through quality

PRODUCT BRIEF

🎓 Training

DO-178C Multicore training

Product Brief: DO-178C Multicore training

Introduction

Rapita Systems offer expert training relating to DO-178C, multicore certification (A(M)C 20-193 / CAST-32A) and the R**VS** toolsuite.

Delivery

We can accommodate training in a variety of formats in order to meet your needs:

- **Local workshop training**, where we provide training at a public venue

- **Private workshop training**, where we provide closed training at your preferred location

- **Online training**, where we provide training through an online platform

We provide both printed and digital copies of our training materials that become a valuable reference for on-going project activities.

Syllabus

We have developed a DO-178C Multicore training course to offer value to both beginners and experts alike.

Led by DO-178C multicore certification experts, the training focuses on practical approaches to satisfying A(M)C 20-193 / CAST-32A objectives for both civil and defense multicore avionics projects.

The two-day training course includes both theory components and demonstrations of how evidence of multicore verification for A(M)C 20-193 can be achieved in practice. (see Table 1).

Table 1. Typical training syllabus

Day 1 The Challenge		Day 2 The Solution	
Session 1	The multicore challenge	Session 7	Multicore Avionics Certification for High-Integrity DO-178C projects (**MACH**[178])
Session 2	Concepts and terminology		Rapita's approach to A(M)C 20-193 / CAST-32A
Session 3	Identifying and quantifying multicore interference	Session 8	DO-178C Planning for A(M)C 20-193 / CAST-32A
Session 4	Identifying interference channels in a T2080	Session 9	Data Coupling and Control Coupling (DC/CC)
Session 5	Introduction to A(M)C 20-193 / CAST-32A		Critical Configuration Settings (CCS)
Session 6	Single core activation		Safety Net
	Selecting hardware and RTOS	Session 10	Interference channel testing
	AMP vs SMP	Session 11	Worst-case execution time (WCET) determination
	Integrated Modular Avionics	Session 12	Review and conclusions

Customized training

As well as our standard course, we can offer customized courses to meet your needs. If you have a specific training format, topics you'd like to consider, or duration in mind, contact us for a custom quote.

Presenter profiles

Our DO-178C Multicore training course are delivered by industry experts:

Dr. Guillem Bernat
Rapita Founder

In 2004, Dr. Guillem Bernat founded Rapita Systems to commercialize technology for measurement-based worst-case execution time (WCET) analysis technology. Guillem has a PhD in Computer Science and is an expert in timing analysis for modern multicore processors.

Dr. Sam Thompson
Senior Multicore Analysis Engineer

Dr. Sam Thompson has worked in both the development of Rapita's multicore solution as well as the delivery of customer projects on multicore platforms.

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What attendees say

We take pride in the quality of training courses we deliver. Here are some of the things past attendees have said about our training courses:

> "The presenters led us through the certification process from start to finish and I was finally able to really see where I fit into the project I'm on."

> "I liked how interactive it was and the level of discussion the instructors allowed"

About Rapita

Rapita Systems are experts in the field of DO-178C software verification & validation and have developed a unique commercial solution to address the extra A(M)C 20-193 / CAST-32A objectives that supplement existing DO-178C guidance. This solution is called **MACH**[178], you can find out more about it at:

rapitasystems.com/products/mach178

Rapita is trusted by the world's most prominent aerospace companies to provide solutions to help meet A(M)C 20-193 / CAST-32A objectives, for example Bell, who are using our **MACH**[178] solution for the Bell Invictus 360 next-gen rotorcraft.

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About Rapita

Rapita Systems provides on-target software verification tools and services globally to the embedded aerospace and automotive electronics industries.

Our solutions help to increase software quality, deliver evidence to meet safety and certification objectives and reduce costs.

Find out more

A range of free high-quality materials are available at:
rapitasystems.com/downloads

SUPPORTING CUSTOMERS WITH:

Tools	Engineering Services	Multicore verification
Rapita **Verification Suite**:	V&V Services	**MACH**[178]
Rapi**Test**	Integration Services	Multicore Timing Solution
Rapi**Cover**	Qualification	
Rapi**Time**	SW/HW Engineering	
Rapi**Task**	Compiler Verification	

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