



Introduction

MCP_Resource_Usage_3:

The applicant has **identified the interference channel** that could permit interference to affect the software applications based on the MCP rules, and has verified the applicant's chosen means of mitigation of the interference.

CAST-32A

- "A platform property that may cause interference between independent applications is called an interference channel."

AMC 20-193

- "Interference channel: a platform property that may cause interference between software applications or tasks."

 RAPITA Systems

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Safety through quality

PRODUCT BRIEF

 Training

DO-178C Multicore training

Product Brief: DO-178C Multicore training

Introduction

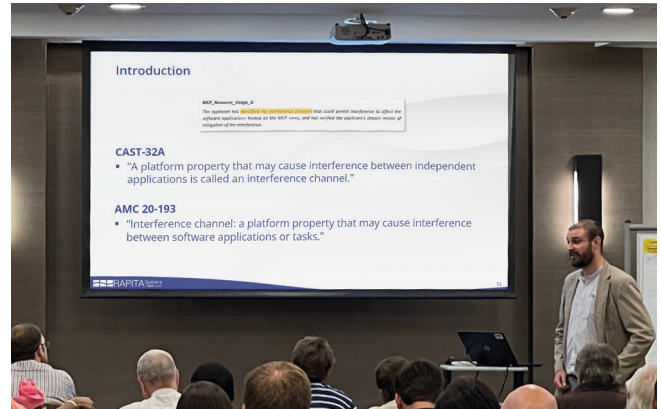
Rapita Systems offer expert training relating to DO-178C, multicore certification (A(M)C 20-193 / CAST-32A) and the RVS toolsuite.

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	
<i>Session 1</i>	The multicore challenge	<i>Session 7</i>	Multicore Avionics Certification for High-Integrity DO-178C projects (MACH¹⁷⁸)
<i>Session 2</i>	Concepts and terminology		Rapita's approach to A(M)C 20-193 / CAST-32A
<i>Session 3</i>	Identifying and quantifying multicore interference	<i>Session 8</i>	DO-178C Planning for A(M)C 20-193 / CAST-32A
<i>Session 4</i>	Identifying interference channels in a T2080	<i>Session 9</i>	Data Coupling and Control Coupling (DC/CC)
<i>Session 5</i>	Introduction to A(M)C 20-193 / CAST-32A		Critical Configuration Settings (CCS)
<i>Session 6</i>	Single core activation		Safety Net
	Selecting hardware and RTOS	<i>Session 10</i>	Interference channel testing
	AMP vs SMP	<i>Session 11</i>	Worst-case execution time (WCET) determination
	Integrated Modular Avionics	<i>Session 12</i>	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.



Daniel Funke

Multicore Software Engineer

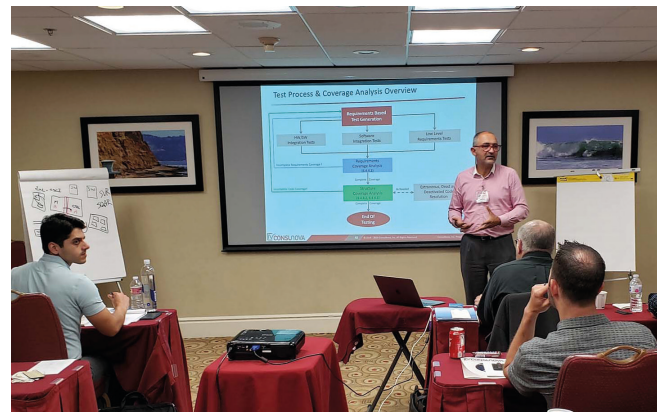
Daniel received a Bachelor of Science in Computer Engineering from The College of New Jersey. Based in Novi, MI, Daniel plays a key role in delivering multicore verification projects in the USA.

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 **MACH¹⁷⁸**, 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 **MACH¹⁷⁸** solution for the Bell Invictus 360 next-gen rotorcraft.



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

Rapita **Verification Suite:**

Rapi**Test**

Rapi**Cover**

Rapi**Time**

Rapi**Task**

Engineering Services

V&V Services

Integration Services

Qualification

SW/HW Engineering

Compiler Verification

Multicore verification

MACH¹⁷⁸

Multicore Timing Solution

Contact

Rapita Systems Ltd.

Atlas House
York, YO10 3JB
UK

+44 (0)1904 413945

Rapita Systems, Inc.

41131 Vincenti Ct.
Novi, Mi, 48375
USA

+1 248-957-9801

Rapita Systems S.L.

Parc UPC, Edificio K2M
c/ Jordi Girona, 1-3
Barcelona 08034
Spain

+34 93 351 02 05



rapitasystems.com



[linkedin.com/company/rapita-systems](https://www.linkedin.com/company/rapita-systems)



info@rapitasystems.com