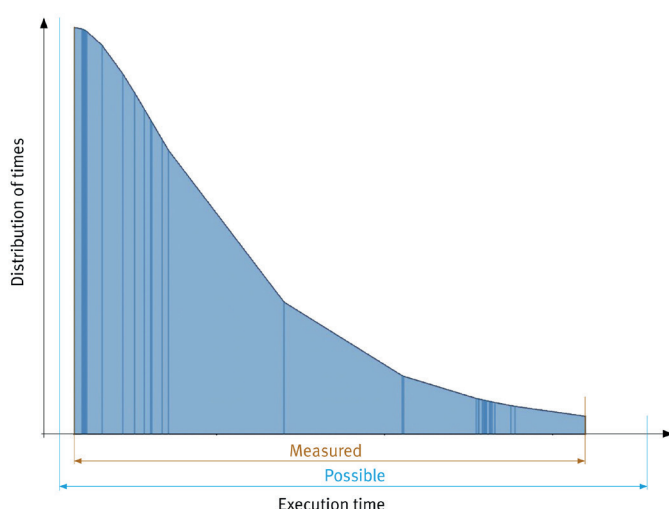


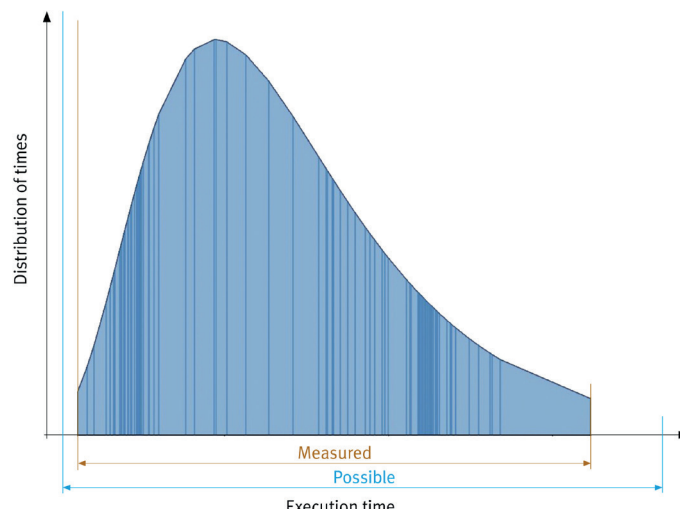
TBwcet – Worst Case Execution Timing by measurement

LDRA, leader in standards compliance, automated software verification, software code analysis and test tools, maintains its commitment to supporting the development of critical embedded software systems with the introduction of TBwcet.

When multicore processors are involved, interference channels resulting from shared resources mean that theoretical calculations are insoluble. The only way to provide evidence of adequate resourcing and mitigation for interference is by measuring worst case execution times on the target.



TBwcet timing diagram without interference



TBwcet timing diagram with interference

Benefits

- intuitive mechanism for the measurement of execution times on-target
- configurable to allow focus of analysis on a task-by-task basis
- variable resource stress levels to show the effect of interference and its mitigation
- supports almost any target devices
- graphical representation of execution times provides instant feedback
- provides test platform for interference research, supported by automated requirements traceability
- static analysis provides focus for interference research
- presents evidence of adequate mitigation for interference
- supports the fulfilment of WCET related objectives in CAST-32A, A(M)C 20-193, and ISO 26262

Solution Details

- TBwcet builds upon the proven TBrunit test technology used in hundreds of certifications
- TBwcet is supplemental to the LDRA tool suite, making it easy to integrate as part of the project-wide solution
- Evidential artefacts are appropriate for submission in support of functional safety and cybersecurity standards compliance
- Hardware interfaces to target devices are supported by means of Target License Packages
- Instrumentation for timing analysis is optimized to ensure negligible impact on task execution times
- Supports applications with or without the provision of robust partitioning
- Complements LDRA tool suite's Data and Control coupling coverage to provide an extensive solution to the challenges posed by CAST-32A and A(M)C 20-193