



An introduction to MISRA and its coding standards

Abstract

The author will give a brief introduction to MISRA, stating its objectives and showing how its working groups produce the various guidelines that it publishes. A general introduction to coding standards will then be given, explaining what they are and are not, and describing the attributes they need to exhibit in order to ensure that they are a valuable tool within the software development environment. This will be followed by a more detailed look at the MISRA C and C++ guidelines, and will examine some of the challenges that have been identified during their development. The adoption of MISRA guidelines within a project will be covered, followed by a look at what it means to make a claim of “MISRA compliance”, especially when such a claim is supported by one or more *deviations* (authorised non-compliances). Finally, advice will be given to help quality assurance teams ensure that the code under their control is demonstrably MISRA compliant, and guidance will be given to help them validate and quantify any claim of compliance issued by third-parties.

In conclusion, it will be shown that the best-practice coding guidelines published by MISRA help to ensure that a system’s critical software quality objectives are achieved when coding standards are adopted within a software development process.

About the author

Chris Tapp is currently employed as a Technical Specialist at LDRA, where he specialises in coding standards. He is currently chair and a founding member of the MISRA C++ Working Group, has been a member of the MISRA C Working Group for over 20 years, and is co-author of MISRA Compliance. He has over 30 years of experience as an embedded systems engineer, and manages to remain active in this area in his “spare time”.