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Embedded Developers Report on Design Issues and Design Outcomes

OS/IDE Selection, Development Processes,
Perceived Best Practices, Significant Design Issues

Jerry Krasner Ph.D., MBA

About EMF:

EMF is the premier market intelligence and advisory firm in the embedded technology industry. Embedded technology refers to the ubiquitous class of products which use some type of processor as a controller. These products include guided missiles, radars, and avionics as well as robots, automobiles, telecom gear, and medical electronics.

Embedded Market Forecasters (EMF) is the market research division of American Technology International, Inc. EMF clients range from startups to Global 100 companies worldwide. Founded by Dr. Jerry Krasner, a recognized authority on electronics markets, product development and channel distribution, EMF is headquartered in Framingham, Mass.

About the author:

Jerry Krasner, Ph.D., MBA is Vice President of Embedded Market Forecasters and its parent company, American Technology International. A recognized authority with over 30 years of embedded industry experience, Dr. Krasner has extensive clinical research and medical industrial experience, including the successful filing of more than a dozen 510k submissions.

Dr. Krasner served as President of Biocybernetics, Inc. and CLINCO, Inc., Executive Vice President of Plasmedics, Inc. and Clinical Development Corporation, and Director of Medical Sciences for the Carnegie-Mellon Institute of Research. He has been the principal investigator of several NIH funded clinical research programs.

Dr. Krasner was formerly Chairman of Biomedical Engineering at Boston University, and Chairman of Electrical and Computer Engineering at Wentworth Institute of Technology.

Dr. Krasner earned BSEE and MSEE degrees from Washington University, a Ph.D. in Medical Physiology/Biophysics from Boston University and an MBA from Nichols College.

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Overview

EMF data and research is not only used by major and smaller embedded vendors, but by government, military and prime contractors. The flexibility of the data to correlate between questions and an answer across the entire survey database is very powerful. EMF understands that although our comprehensive offerings are the least expensive in the industry, it is nonetheless beyond the budget of developers and managers who need information to make better design decisions. Also EMF feels that it is important for developers to have access to information derived from a large number of fellow developers, many of whom have faced similar considerations.

Hence we have assembled important developer information for a very affordable cost making information available that developers won't find anywhere else. This information has been derived from detailed surveys using statistically accurate means.

Executive Summary

In this report EMF has detailed the most used target operating systems for the period 2007 – 2009. This represents the responses of over 1600 embedded developers. In addition, EMF reports on which OSes developers say they will use in 2009.

Additional information, with commentary, is provided regarding:

- IDE use
- Criteria that is most important to developers for use in selecting an OS
- Significant issues affecting embedded software development
- Development processes that developer's use – and which they consider to be a best practice
- Comparative design outcomes for commercial and non-commercial Linux developments
- Comparative design outcomes between smaller and larger RTOSes

EMF considers information that informs developers and managers of the activities of the broader community of developers to be an essential strategic component of their development practices.

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