ORKID

OPEN REAL-TIME KERNEL INTERFACE DEFINITION

Drafted by
The ORKID Working Group
Software Subcommittee of VITA

Draft 2.1
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FROM THE CHAIRMAN

Before you lies the draft of VITA's Open Real Time Interface Definition, known as **ORKID**. This draft is the result of the activities of a small working group under the auspices of the Software Subcommittee of the VITA Technical Committee.

The members of the working group are:

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Alfred Chao	Software Components	
Chris Eck	CERN	
Wayne Fischer	FORCE Computers	
John Fogelin	Wind River Systems	
Zoltan Hunor	VITA Europe	(secretary)
Kim Kempf	Microware	
Hugh Maaskant	Philips	(chairman)
Dick Vanderlin	Motorola	

I would like to thank these members for their efforts. Also I would like to thank the companies they represent for providing the time and expenses of these members. Without that support this draft would not have been possible.

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FOREWORD

The objective of the **ORKID** standard is to provide a state of the art open real-time kernel interface definition that on one hand allows users to create robust and portable code, while on the other hand allowing implementors the freedom to profilate their compliant product. Borderline conditions are that the standard:

- be implementable efficiently on a wide range of microprocessors,
- imposes no unnecessary hardware or software architecture,
- be open to future developments.

Many existing kernel products have been studied to gain insight in the required functionality. As a result **ORKID** is, from a functional point of view, a blend of these kernels. No radical new concepts have been introduced because there would be no reasonable guarantee that these could be implemented efficiently. Also they would reduce the likelihood of acceptance in the user community. This is not to say that the functionality is meagre, on the contrary: a rich set of objects and operations has been provided.

One issue still has to be addressed: that of MMU support. Clearly, now that new microprocessors have integrated MMUs and hence the cost and performance penalties of MMU support are diminishing, it will be required in the near future. At this moment, however, it was felt that more experience is needed with MMUs in real-time environments to define a standard. It is foreseen that an addendum to this standard will address MMU support.

Furthermore it is foreseen that a companion driver interface definition will be published.

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