

**PACKAGE ID** - 000136MMVME00 RTBS

**KWIC TITLE** - Real-Time Benchmark Suite

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**LIMITATION CODE** -UNL                   **AUDIENCE CODE** - UNL

**COMPLETION DATE** - 05/01/1991   **PUBLICATION DATE** - 01/17/1992

**DESCRIPTION** - This software provides a portable benchmark suite for real time kernels. It tests the performance of many of the system calls, as well as the interrupt response time and task response time to interrupts. These numbers provide a baseline for comparing various real-time kernels and hardware platforms.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; SSCL-397;

**SOURCE CODE INCLUDED?** - Yes

**MEDIA QUANTITY** - 1 3.5 Diskette

**METHOD OF SOLUTION** - A program was written that simulates the skeleton of various real-time applications. This skeleton code contains only the kernel calls. This code is run repeatedly, and a time is calculated for the time to execute the code once. This code can then be ported to various systems of interest and the results can be compared.

**COMPUTER** - MOTOROLA MVME

**OPERATING SYSTEMS** - pSOS+ version 1.1; VRTX-32; VxWorks Version 4.0

**PROGRAMMING LANGUAGES** - C (95%), 68030 Assembly (5%)

**SOFTWARE LIMITATIONS** - The software provided requires start-up code for the operating system being used. The code normally used may be supplied by the operating system being used. The code normally used may be supplied by the operating system vendor, or written by the user of this system. In addition, standard include files provided with the operating systems for which the software is targeted are required. Refer to the installation instructions for the system in use to determine which files are required and their appropriate locations in your file system.

**SOURCE CODE AVAILABLE (Y/N)** - Y

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**UNIQUE FEATURES** - The software has already been ported to pSOS+, VxWorks and VRTX-32. Comparison to other kernels on the MVME147 platform can be made by porting the program to that kernel platform. In addition, comparing platforms using the kernels already tested can be done by simply running the program on the hardware in question.

**RELATED SOFTWARE** - None

**HARDWARE REQS** - The target system should have 4Mb of RAM.

**TIME REQUIREMENTS** - The software makes system performance measurements using the time functions provided by the operating system being tested. That operating system should provide for a clock with resolution of 100 ticks per second.

**REFERENCES** - Overview of Real-Time Kernels at the Superconducting Super Colliding Laboratory, Keng Low, et al., May 1991.

**ABSTRACT STATUS** - Submitted December 1991

**SUBJECT CLASS CODE** - VP

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
KERNELS  
SUPERCONDUCTING SUPER COLLIDER  
R CODES  
BENCHMARKS  
REAL TIME SYSTEMS  
COMPUTERIZED CONTROL SYSTEMS

**EDB SUBJECT CATEGORIES** -  
990200 430303

**SPONSOR** - DOE/ER

**PACKAGE TYPE** - SCREENED