

**PACKAGE ID** - 001078MLTPL01 EASY-MAC

**KWIC TITLE** - Extensible Argonne SP Scheduling sYstem

**AUTHORS** - Lifka, D.  
Argonne National Lab., IL (United States)

Henderson, M.  
Argonne National Lab., IL (United States)

Rayl, K.  
Argonne National Lab., IL (United States)

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

**COMPLETION DATE** - 02/01/1994   **PUBLICATION DATE** - 05/01/1995

**DESCRIPTION** - The Argonne SP Scheduler provides deterministic queuing of jobs for exclusive access to the SP nodes for either batch or interactive use.

**PACKAGE CONTENTS** - Media Directory; Software Abstract; ANL/MCS-TM-201; ReadMe File; Media Includes Source Code, User Guide, Executable Module, Auxiliary Material, Installation Instructions;

**SOURCE CODE INCLUDED?** - Yes

**MEDIA QUANTITY** - 1 3.5 Diskette

**METHOD OF SOLUTION** - The SP Scheduler was designed to be very modular so that the queuing algorithm could be modified without requiring a rewrite to the entire code. Users were encouraged to get involved in the development process. To facilitate this, users were able to see the current queuing algorithm and the queue of jobs so that they could see how it worked. The benefits of this were that users could quickly become acquainted with the problems the Scheduler was trying to solve and thereby help with the debugging process and suggest improvements.

**COMPUTER** - MLT-PLTFM

**OPERATING SYSTEMS** - AIX 3.2.4 and 3.2.5

**PROGRAMMING LANGUAGES** - Perl (97%) Tk/Tcl (2%) C (1%)

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

**UNIQUE FEATURES** - The code provides exclusive access for batch and interactive use and uses a deterministic queuing algorithm.

**OTHER PROG/OPER SYS INFO** - To enforce exclusive access to the SP nodes, the scheduler utilizes an NIS server which all the scheduable resources can rely on for user authentication information. When the

**PACKAGE ID** - 001078MLTPL01 EASY-MAC

**OTHER PROG/OPER SYS INFO - (CONT)** scheduler allocates an SP node to a user, it adds that user's username to the SP nodes/etc/password file. This username is used by the NIS server to ensure that the user has access to the SP node. Other sites have made slight modifications to the scheduler so that it can use its Kerberos component to control SP node access instead. The SP Scheduler does not use any version specific features of Perl and is currently using Perl version 4.036. It has not yet been tested with Perl 5. Tcl and Tk are required if the xspusage GUI (graphical user interface) is desired.

**HARDWARE REQS** - An IBM RS6000 system with a minimum of 20 Mbytes of free disk space in a file system that can be made NFS mountable to all scheduled resources in the SP complex is required.

**REFERENCES** - David A. Lifka, Mark W. Henderson, and Karen Rayl, Users Guide to the Argonne SP Scheduling System, ANL/MCS-TM-201, May 1995.

**ABSTRACT STATUS** - Submitted 3/29/96. Released AS-IS 10/08/96

**SUBJECT CLASS CODE** - P

**KEYWORDS** -

COMPUTER PROGRAM DOCUMENTATION  
E CODES  
IBM COMPUTERS  
TASK SCHEDULING  
ALGORITHMS  
MULTIPROCESSORS  
ANL

**EDB SUBJECT CATEGORIES** -  
990200

**SPONSOR** - DOE/ER

**PACKAGE TYPE** - AS - IS