**JAROS**

**User’s Manual**

**Group 3**

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**Overview of COMHAN / MPX**

The MultiProgramming eXecutive, or MPX, is an experimental platform developed to realistically model various aspects of operating system design. Unlike UNIX or Windows, MPX is not intended to be a fully functional operating system. Instead, each module represents an integral part of an operating system such as the user interface, process management, program management, memory management, etc. An interactive command handler, known as COMHAN, interacts with the keyboard and display to facilitate user input and computer-generated output respectively. The necessary components for MPX are as follows:

* a PC using a processor with the Intel 80x86 architecture and the IBM-PC memory and interrupt structure, a VGA or better display, and at least one USB port
* a Microsoft MS-DOS or Windows family operating system
* an ANSI C compiler (Borland Turbo C/C++ is recommended)

**Summary of Commands**

date -- display and change the system date

dir -- display information about all files present in a specific directory

help -- display information about a command

load -- allocate and setup a new PCB

quit - stop execution of MPX

resume -- resume a process

setpri -- change the priority of a specified process

shall -- display information about all PCBs which are currently in use

shblock -- display information about all processes which are currently in the BLOCKED or the SUSPENDED-BLOCKED state

shpcb -- display all information contained in a single PCB for a process specified by name

shready -- display information about all processes which are currently in the READY state or SUSPENDED-READY state

suspend -- place a specified process in a suspended state

term -- terminate a process by deallocating its PCB and releasing its allocated program memory

unblock -- place a specified process in a READY state; its SUSPENDED status is not be changed

ver -- display a brief description of the version of MPX that is currently running

**Detailed Description of Commands**

NAME

date -- display and change the system date

SYNOPSIS

date

The Current Date Is (MM/DD/YYYY): CURRENT\_DATE

Would You Like to Change the Date (Y/N): Yes\_or\_No

Please Enter the New Year (YYYY): YEAR

Please Enter the New Month (MM): MONTH

Please Enter the New Day (DD): DAY

DESCRIPTION

The date command displays and if specified, changes the system date.

NAME

dir -- display information about all files present in a specific directory

SYNOPSIS

dir

DESCRIPTION

The dir command displays information about all files present in a

specific directory which contains executable MPX processes.

NAME

help -- display information about a command

SYNOPSIS

help

Help: Enter Command (or List for Command List): COMMAND

DESCRIPTION

The help command displays "help" information for MPX and for each command. Paging is supported.

NAME

load -- allocate and setup a new PCB

SYNOPSIS

load

Please Enter the Name of the Process to be Created: NAME

DESCRIPTION

The load command allocates and setups a new PCB.

NAME

quit - stop execution of MPX

SYNOPSIS

quit

Are You Sure You Want to Terminate MPX (Y/N): Yes\_or\_No

DESCRIPTION

The quit command stops execution of MPX and returns to the host operating system.

NAME

resume -- resume a process

SYNOPSIS

resume

Please Enter the Name of the Process to be Resumed: NAME

DESCRIPTION

The resume command places a specified process in a non-suspended state. The state chosen will be either READY or BLOCKED, depending on its previous state.

NAME

setpri -- change the priority of a specified process

SYNOPSIS

setpri

Please Enter the Name of the Process to be Reprioritized: NAME

Please Enter the New Priority Level: LEVEL

DESCRIPTION

The setpri command changes the priority of a specified process.

NAME

shall -- display information about all PCBs which are currently in use

SYNOPSIS

shall

DESCRIPTION

The shall command displays information about all PCBs which are currently in use.

NAME

shblock -- display information about all processes which are currently in the BLOCKED or the SUSPENDED-BLOCKED state.

SYNOPSIS

shblock

DESCRIPTION

The shblock command displays information about all processes which are currently in the BLOCKED state or the SUSPENDED-BLOCKED state.

NAME

shpcb -- display all information contained in a single PCB for a

process specified by name

SYNOPSIS

shpcb

Please Enter a Process Name: NAME

DESCRIPTION

The shpcb command displays all information contained in a single PCB for a process specified by name. The process name is the only argument.

NAME

shready -- display information about all processes which are currently in the READY state or SUSPENDED-READY state

SYNOPSIS

shready

DESCRIPTION

The shready command displays information about all process which are currently in the READY state or SUSPENDED-READY state.

NAME

suspend -- place a specified process in a suspended state

SYNOPSIS

suspend

Please Enter the Name of the Process to be Suspended: NAME

DESCRIPTION

The suspend command places a specified process in a suspended state. The state chosen will be either SUSPENDED-READY or SUSPENDED-BLOCKED, depending on its previous state.

NAME

term -- terminate a process by deallocating its PCB and releasing its allocated program memory

SYNOPSIS

term

Please Enter the Name of the Process to be Deleted: NAME

DESCRIPTION

The term command terminates a process by deallocating its PCB and releasing its allocated program memory.

NAME

unblock -- place a specified process in a READY state; its SUSPENDED status is not be changed

SYNOPSIS

unblock

Please Enter the Name of the Process to be Unblocked: NAME

DESCRIPTION

The unblock command places a specified process in a READY state; its SUSPENDED status is not changed. The process is removed from the BLOCKED queue, if necessary, and inserted in the READY queue. The only argument is the process name.

NAME

ver -- display a brief description of the version of MPX that is currently running

SYNOPSIS

ver

DESCRIPTION

The ver command displays a brief description of the version of MPX that is currently running.

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