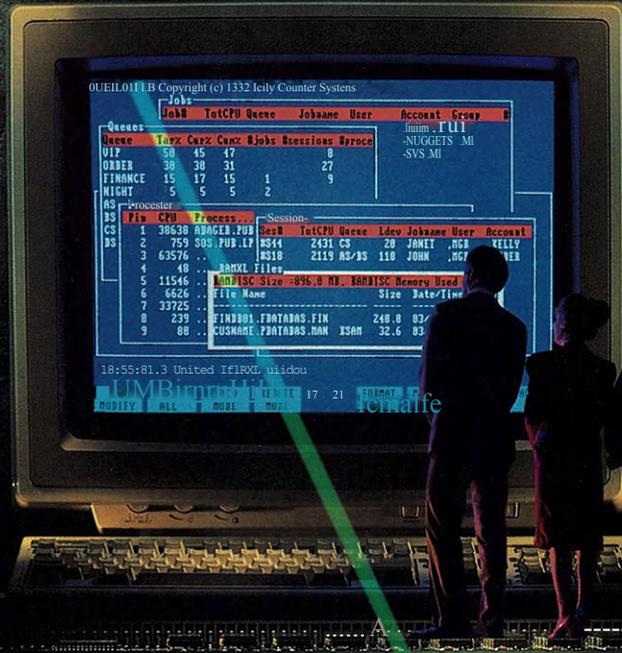


OVERLORD™ STEPS UP YOUR PERFORMANCE...

WITH
PUSH BUTTON CONTROL OVER CPU, MEMORY AND I/O!
...PLUS UP TO 2 GIGABYTES OF MEMORY

STEP 1. Overlord™ gives you visibility into the usage of critical system resources: CPU, main memory and I/O rates to disk.

STEP 2. Overlord™ gives you ultra-fast hardware: Up to 2 Gigabytes of dynamic RAM for use either as operating system main memory or as solid state Ramdisc'i.



STEP 3. Overlord™ gives you ground breaking software:

- Percentages™, for managing how and where your CPU is spent.
- Ramdisc™, the solid state disk software for eliminating I/O bottlenecks.

STEP 4. You get improved performance.

For the first time, one product gives you control over CPU, Memory, and I/O resources.

KELLY
COMPUTER SYSTEMS



•■■■■.sU-av

RAMDISC
OVERLORD

tfiew

KELLY

KELLY
COMPUTER SYSTEMS

32 MBYTE
ECC MEMORY

16MB

32 MBYTE
ECC MEMORY

HEWLETT
PACKARD

32MB

```

OUERLORD 1.1 Copyright (c) 1992 Kelly Computer Systems
~Jobs-----
J/S#  TotCPU Class  Ldev Jobname User  Account Group  #ps Curx
#J4   75973 MRKT   10 FILERPT ,MGR  .KELLY jPUB   1 1x
# Jobs : 1
  ~Sessions-----
  J/S#  TotCPU Class  Ldev Jobname User  Account
  #S1   2172  UP   20 JOHN  ,MANAGE,SYS
  #S9  14773  NIGHT 32 JANET ,MGR  .KELLY
  #S2   2584
  #S3   3978
    ~Classes
    Class  TarX  Curx  Totx  #Jobs  #Sess  #Procs  TotCPU
  1 linear *      1x      1      59 161931
  2 s      *      2x      25  78536
  3 s      *      1x      0      0
  4 s      *      1x      0      0
  5 s      *      1x      0      0
  6 s      *      1x      0      0
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100 s      *      1x      0      0
  ~Processes-----
  Pin CPU Process...
  1 41612 PROGEN.PUB.S
  2 37410 LOAD.PUB.SY
  ~RAMDISC Size = 896.0 MB, R
  File Name
  FINDB01.FDATABAS.FIN
  CUSNAME.PDATABAS.MKS
  1 file loaded
  ~Status Window-----
  14:52:09.4 Updated Classes window
  Help Zoom Print Misc & 17 28 Select Next Update EXIT
  In/Out Screen Global or Edit Window Windows
  14:22

```

With Percentages, you can instantaneously grant more CPU power to users who need it and restrict others from obtaining too much.

PERCENTAGES™

The New Paradigm For CPU Resource Management

Percentages™ is the *new* interactive "push-button" tool that lets you explore, control and manage how your CPU is shared among all the competing jobs, sessions and processes on your system.

Percentages™ introduces a new and simpler paradigm for managing CPU resources: "the percent of the CPU that a session or job is getting."

"HOW DO I USE IT?", YOU SAY...

First, you look at activity on the system by selecting one of the **Percentages™** windows, for example, sessions, jobs or processes. This lets you see exactly how much of the CPU is being consumed by each user.

Next, you decide on a *target percentage* of the CPU for each user. You will want some users to have more CPU than they are currently getting and other users to have less. You can even group together several users in a *class* and decide what percentage of the CPU should be given to each class.

Then, with **Percentages™** easy to use, window driven interface, you enter the target percentage for each of the users.

(At this point, you think to yourself, "Wow, convenient, push-button control over who gets the CPU.")

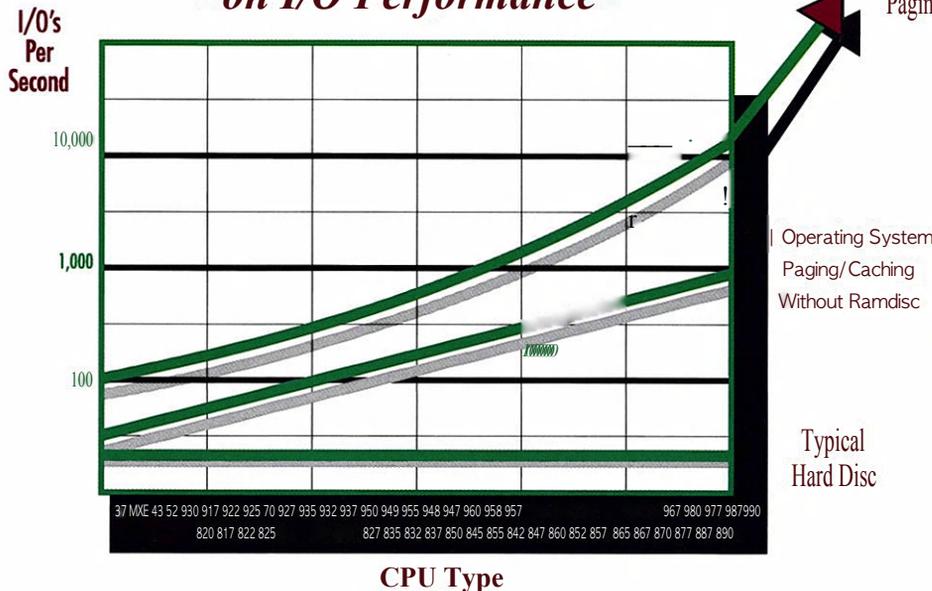
"WHAT ELSE DOES IT DO?", YOU SAY...

With **Percentages™**, the number of classes you can define is unlimited. A class is a group of sessions, jobs or processes that meet certain "membership criteria", such as account name, or program name.

Furthermore, **Percentages™** lets you define new classes and switch classes in and out of the "active" state dynamically. This allows you to change CPU allocation *instantaneously* and alleviate CPU problems quickly.

"OKAY, SO WHAT IF THE PROBLEM IS I/O?", YOU ASK...

Ramdisc Effect on I/O Performance



Ramdisc and
Operating System
Paging/Caching

MEMORY

**"WHAT IF THE SYSTEM
IS MEMORY BOUND?",
YOU ASK...**

Overlord™ comes with up to 2 Gigabytes of memory, depending on your system. PA-RISC systems make good use of memory, almost indefinitely. The experts say that MPE/iX and HP-UX can never have too much memory. In fact, the performance of PA-RISC computers is tied directly to main memory capacity.

You can immediately enhance the performance of your system by adding main memory. If main memory is small, a lot of information has to be moved between memory and disk. With an increase in main memory, a greater number of larger applications can fit in the system at the same time. This eliminates operating system overhead and CPU "wait" time.

Our **Overlord™** memory can be used for either **Ramdisc™** memory or main memory. Furthermore, it is *dynamically* switched between **Ramdisc™** and main memory by **Overlord™** while either MPE/iX or HP-UX is running. You never have to reconfigure the system. The accompanying chart (on the back) shows how **KELLY** can take your system to its original maximum capacity and beyond.

For the first time, one product. **Overlord™**, increases your computing power and provides better control over CPU, memory and I/O resources on your system. Imagine how well you can fine tune your system's performance with just a few keystrokes: add a class here, move a user to a new class, switch class sets between daytime interactive and night time batch, load files into **Ramdisc™** when they are needed, eliminate memory management overhead, and so on.

Finally, you can relax now that your system is running smoothly.

It's really that simple.

RAMDISC™

THE SOLID STATE
DISK SOFTWARE

Overlord's Ramdisc™ eliminates I/O bottlenecks by placing I/O intensive files in a "solid state disk" on the main memory bus. Traditional magnetic disk drives only perform at a rate of about 30 I/O's per second. Operating system enhancements such as paging, caching and mapped files improve on this rate at the expense of CPU power.

Since neither operating system overhead nor CPU cycles are required for its operation, **Ramdisc™** performs I/O at the highest rate physically possible in your system. Reads are instant. Writes are instant. An I/O takes place in less than one *microsecond* rather than in 30 *milliseconds*. At the device level, that's 30,000 times faster. At the system level, overall performance gains of 30% to 70% are typical. You can see the improvement in the graph above.

After you have identified the "culprit" files, you can use an **Overlord™** window to conveniently load them into **Ramdisc™**

Depending on your system. **Overlord's Ramdisc™** can hold up to 1,792 MB of files for instant access.

Now, you are well on your way to solving system performance problems.

RAMDISC AND MEMORY CONFIGURATION SUMMARY (IN MEGABYTES)

CPU	BASE MEMORY	NOMINAL LIMIT	KELLY ARRAY SIZE(S)	MAXIMUM MEMORY WITH KELLY	MAXIMUM RAMDISC
990/992/890	192/256/128	2048	256	2048	1792
9x7/LX	24/ 32/ 48/ 64	192	128, 64	1024	896
937/947/957/967/977/987	48/ 64/ 96	384/768	128	1024	896
807S/817S/827S/837S/847S/857S/867S/877S/887S/897S	16/ 32/ 64	192/384/768	128, 64	1024	896
980/870S/865S	192/ 96/ 64	512/1024	64, 16	1024	896
960/860S	128/48	256	16	256	192
955/855S	96/48	192	16	256	192
950/850S	64/ 48	128	16	256	192
958/948/852S/842S	96/ 64/ 64/ 32	256	32	384	320
932/832S	32/16	128	32	384	320
922LX/922RX/922/822S	24/ 24/ 32/ 8	128	32	384	320
920	24	56	32	384	320
949/845S	64/32	224	32, 16	224	160
935/835S	48/ 24	96	32, 16	224	160
925LX/925/825S	24/ 32/ 8	48	32, 16	224	160
6X/70	8	16	16, 4	32	112
4X/5X	1/4	8	16, 4	8	57/112
37/MicroXE	2	4/8	8, 4	8/16	7/15

DESIGNED-IN QUALITY AND RELIABILITY

KELLY **Ramdisc memory** products are designed using conservative HP design rules and HP preferred parts. Extensive use of computer-aided design techniques and manufacturing capability ensure that a consistently high level of quality is designed and built into each product. All products are automatically tested and inspected at each stage in the manufacturing process. Each product is "burned-in" on a unique intelligent test fixture and then tested in the appropriate HP 3000/9000 using both on-line and off-line system diagnostics. As a result of this attention to detail, KELLY **Ramdisc memory** products have a mean time between failure of over 60 years.

SINGLE SOURCE OF HP 3000/9000 PERFORMANCE PRODUCTS: RAMDISC, MEMORY, AND PERFORMANCE SOFTWARE

KELLY is the leading supplier of HP expansion products, offering the broadest line of performance software, Ramdisc, and memory products for HP 3000 Systems, HP 9000 Servers and Workstations, and HP LaserJet and InkJet Printers. KELLY provides the flexibility to upgrade from today's configuration to tomorrow's.

FULLY HP 3000/9000 COMPATIBLE

KELLY **Ramdisc memory** is 100% compatible with the HP 3000/9000. Features such as Error Correcting Memory, Memory Error Logging and Battery Backup are fully implemented on all KELLY **Ramdisc memory** for the HP 3000/9000. KELLY **Ramdisc memory** is fully compatible with MPE/iX and HP-UX. Our Ramdisc memory is transparent to your system and does not affect your hardware support agreement.

Overlord's software modules, **Percentages** and **Ramdisc**, are fully compatible with both MPE/iX and HP-UX and were designed using the Architected Interface Facility (AIF). Performance software from KELLY is fully compatible with operating systems functions such as the transaction manager, scheduler, dispatcher, memory manager and the I/O system.

LIFETIME WARRANTY AND SERVICE

All KELLY **Ramdisc memory** products for the HP 3000/9000 are backed by a **LIFETIME WARRANTY** on the hardware. There are no monthly hardware maintenance charges. If a **KELLY Ramdisc memory** product needs service, professional support is available directly from **KELLY**. We guarantee replacement of a **KELLY Ramdisc memory** product within one working day of a reported failure. **KELLY's** "Before Return" replacement service minimizes downtime by sending you a replacement before you return the original product. For more information on service alternatives, contact us at (800) 934-2000.

KELLY
COMPUTER SYSTEMS

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