Response time.
When it matters, make it Memorex

MEMOREX

3864 3 5/84 E

Designed and produced by Bell Carter Elliot Richards Limited, Basingstoke, England.

MEMOREX 3864

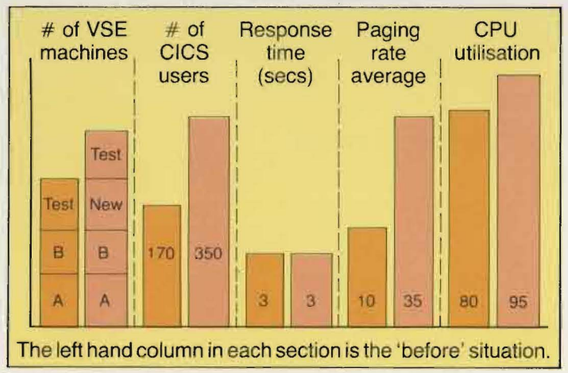
Saving vital seconds

The Memorex 3864 in action

CICS/VM/DOS/VSE

A large European medical insurance company had a 3031AP, 8mb running multiple copies of DOS/VSE under VM/SP. They used two DOS/VSE systems for production, one for CICS and one for batch production with typically three job streams running. An occasional third DOS/VSE system was used, from time to time, for testing purposes.

Response time for the CICS users, who numbered 170, was three and a half to four seconds on average, peaking in excess of ten seconds.



The paging rate averaged ten pages per second with a maximum of 42 pages per second. Average CPU usage was between 70 and 80%.

After installation of a 24mb 3864, significant improvements were shown.

To the original CICS and batch production systems a further DOS/VSE machine was added for a new 24 hour online application. The previously restricted 'test' machine was permitted, without any inhibitions on its usage. The number of CICS users increased to 350, whilst maintaining an average response time of less than three seconds. The system now pages on average 35 pages per second with a maximum of over 120 pages per second. Daytime CPU usage is now around 95%.

The customer plans to replace the 3031AP with a 3083E some time during 1984, but will continue to use the 3864.

VM/CMS – 3033

A large US transport organisation was surprised when systems performance suddenly degraded with the addition of a few extra users. The company was running VM on a 3033 processor. Monitoring showed that the problem was a paging bottle-neck. Paging started to experience large queueing delays as users increased (see figure 1).

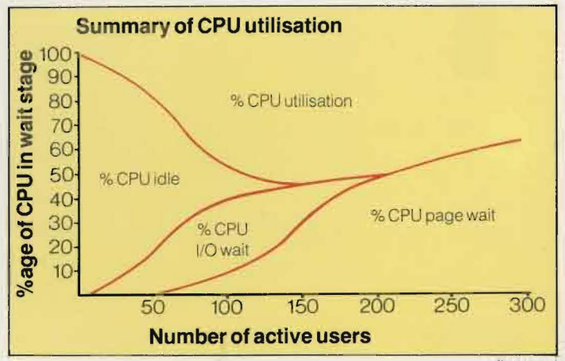


figure 1

The initial solution was thought to be the addition of more memory, possibly coupled with extra DASD for paging purposes. Having increased the memory size, the situation was re-examined. Although response time decreased (back to only double the original level), the CPU page wait figure still increased. Projecting new growth plans showed that this page wait would also increase to an unacceptable level. The extra memory was obviously a short term solution. The extra DASD would not help (see figure 2).

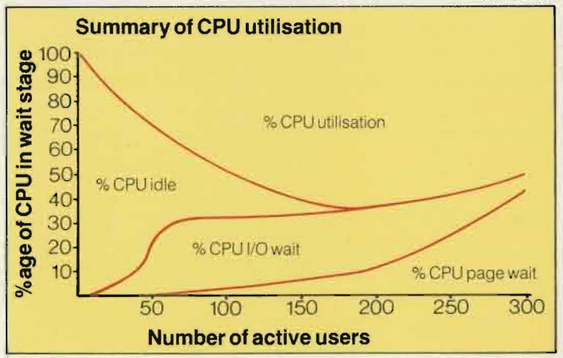


figure 2

The company decided to install the Memorex 3864. The resulting response time – with even more users than originally – was half that before the problem started, and CPU page wait had disappeared completely (see figure 3).

Additional users were able to enter and leave the system far more quickly and a greater number of active users were sustained, due to the latent demand that had surfaced with the improvement in available resources.

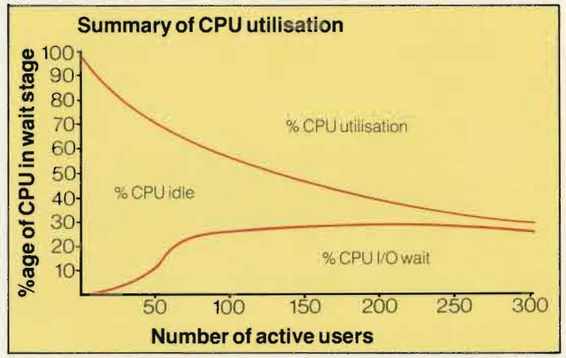


figure 3

MVS/CICS

A UK public utility was experiencing peak time response degradation which affected not only the users critical scheduling application, but also overall user response and, therefore, productivity (see lines A and B in figure 4).

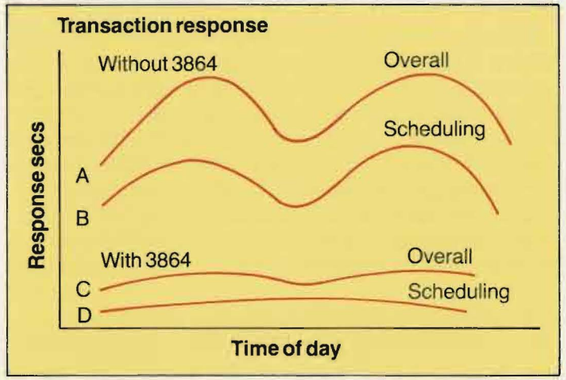


figure 4

After evaluating various alternative solutions, a Memorex 3864 was installed. The impact was immediate. Overall user response time (line D in figure 4) was significantly improved and the critical scheduling application (line C in figure 4) had over 99.5% of its peak time transactions completed in under two seconds. This compared to 85% in just over two seconds before the 3864 installation.

MVS/TSO – 3033/3081

A large 3033 TSO shop ran a network of over 400 active users. At peak times they experienced paging rates in excess of 300 pages per second. Yet their average TSO response stayed at around two to three seconds. How? Quite simple, a Memorex 3864.

Their problem was how to convince management that the impending 3081K, even with a 50% increase in real storage and the benefits of MVS/XA, would still need a 3864. The solution was a demonstration.

After installation of the new CPU their TSO network was switched over. The impact of the 50% increase in real storage was obvious – a 30% reduction in page rate at peak times, to around 200 pages per second. The only problem was that, without a 3864 to handle the paging, TSO response was between eight and ten seconds.

MVS/TSO + CICS

A large 3033 MVS user in the US found that its CICS users were experiencing very high peak response, coupled with elongated page service times, and were unable to expand the service (see figures 5 and 6).

The user also ran a TSO service and Memorex 3650 devices were in use for both paging and swapping.

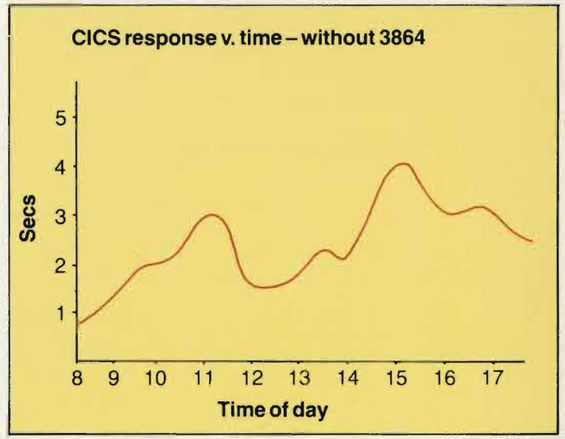


figure 5