

Memo To: Kent Roberts, Roy Neese

Memo From: Frank Durda IV x2865 20-Nov-86 611201

Copies To: Richard Wolf, John Elliott IV, Gordon Burditt

Subject: Proposal to add on-line floppy formatting to XENIX 3.2

This memo is to inform you that the potential now exists to add the ability to format standard XENIX floppies (single or double sided) while XENIX is running on the 6000.

Due to a space reorganization to improve performance of the 20 Meg Iomega drive in the 3.2 release, sufficient buffer space became available to create the track pattern that is written to the disk during formatting. In previous versions, there never was sufficient contiguous RAM available on the Z80 that could be dedicated to the formatting task.

If this feature is added, XENIX floppies could be formatted and verified while XENIX is running, with much less impact on users when compared to shutting the system down to run diskutil.

This feature would have some restrictions. During the actual formatting (about 25-30 seconds on single-sided media, and about 50-60 seconds on double-sided media), no other disk I/O of any kind would be allowed. This restriction is due to the fact that formatting requires the DMA, and Iomega, hard disk and normal floppy operations also require the DMA. I/O requests on the other devices would simply block until the format is complete.

It is possible that the code could release the DMA from time to time so that the system would not come to a complete halt after 50 or so seconds of formatting, but it is not known if this is feasible at this time. Naturally this arrangement would increase the time it takes to format a disk. Other floppy activity will always be blocked, since only one floppy operation can be requested at any given instant.

Once the media is formatted it is then verified, and during this time floppy and Iomega operations would resume, so some overlap of activity is allowed.

To format IBM single-density media, diskutil would still have to be used.

Another important point: the code needed to implement on-line formatting of floppy media may use up nearly all the space remaining in the 32K Z80 area. Subsequently, it may not be possible to add Vianet drivers for some future release. If we have no future commitments for Vianet support, then this is not an issue.

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Because I am making this proposal so late in the development cycle for the 3.2 release, I suggest the following strategy if you are interested in having this capability.

1. The 3.2 release as current prepared, tested and documented is submitted to CPE for test. I expect this in the next few days.
2. About three weeks from now, either as part of a future submission to correct any problems found by CPE, or on its own, we submit to CPE a 3.2 release that supports on-line formatting, along with updated utilities and documentation.

This plan has the advantage that if some major technical problem prevents this feature from being added, the original 3.2 will still be in test and can still reach the field in a timely manner.

Please look over this proposal and discuss it with CPE. I believe you will find that the lack of this feature has been a major gripe since the introduction of XENIX, and may well be worth the delay of implementing it.

If you have any questions, please feel free to call or come by.

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