
* d i g i t a l *

TO: see "TO" DISTRIBUTION
EST

DATE: SUN 1 JUN 1980 3:42 PM

cc: see "CC" DISTRIBUTION

FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1/A51

SUBJECT: WPS 278, HUMAN FACTORS AND IMPROVED DESIGN

Am enjoying the response time of the 278. If it is good enough, we might consider selling this as the key feature. Also, I think we have to sell having a machine that has a complete, well-designed environment based on what Martin and Abernathy find out from their wps survey.

Am now more convinced than ever that a high volume standalone is the ideal, and for the multiuser, we have a 278 with a rom for the program and a ram for the document of up to say 20 pages and we use a central host to only store documents. Possibly a 278 with RL's could be an alternative place to store documents, acting as a central repository in much the sayme way that a 248 does. (Is the communications suffiently good to allow this? or could we do it this way to further lessen the need to have 248's and only have one product? This is DATAPOINT's secret of success I believe). The elegance and simplicity of independence is overpowering from an organizational standpoint. Given that we are doing the 278/RL, what about it being a centralized host type of structure for filing documents or for central printing for those systems without printers?

Total environment means: the physical machine, the software that gives it an apparent feel, noise, aesthetics, lighting (and lack of glare), the work station including how documents are stored and how floppies are stored in it, where reference documents are stored (taped to it or attached to it for quick reference), the documentation and reference documents, the copy stand for making changes, and a work surface when one has several documents that are being used in a creative fashion, and also don't forget the modem when used as cx.
Thus, the details are:

1. Physical machine

Got a bum keyboard, any chance that this problem hasn't been solved? On pushing down a key and holding it for repeat, the action occurs faster than either the software handles it or than I can co-ordinate when the action is independent of the video feedback. Somehow, we have to solve this both in hardware and software so that we don't go ahead too fast, nor do we go faster than human can deal with it. Speed control? Is volume controlled in it (I don't have VT100 setup card here)? Is the

278 also 132 cols.

2. Human factors around the machine

Lighting and glare are critical. We may need the tilt swivel option here to solve it. Also, the added height may be good. What's the story? (By pushing at energy, one can cut down ambient if the work station has self contained lighting. Thus, we could advertise a trading off of task for ambient.

We still have the open issue of how many piles (areas) of paper/ work exist for various types of use. (Would like to see any preliminary results).

Anyway to quiet it, eg. with a different desk top, or fan?

3. Work station design

We have agreed to put wings to get a work surface. This includes having a place for copy that could be attached to the vt100 shell as in the sketches couldn't it, since this is the right place for copy? The variability of a keyboard place so that one doesn't bump knees is also important. Thus one can locate tube and keyboard at separate heights. Note, I find the vt100 shell loses a critical space, ie the top of it, eventhough I still put floppies and little cards that slide off. Believe we want the emblem to allow holding of card-type reference, plus one can put sticky labels on too as per the one in my office. Do we want or would a light help?

A critical need is the addition of a special filing cabinet that goes where the second set of floppies would go in a bigger system to hold: the documentation, all critical floppies, and possibly some other reference documents like instruction manuals when used for other systems communications.

These accessories should be compatible with the furniture that ASG settles so that when we use an RL or second set of RX's, the documents, floppies and files normally in this new bottom shelf goes in another place.

The cables should be exactly the right length: no need for extra cable between the junction box and floppies cause they move; also the VT to floppy and vt to function box should be the same length as one is limited by the minimum of the two anyway.

4. Documentation (and structure for ease of use)

The new batch that I just got looks pretty good, coupled with the ideas we've discussed about improving it. The reference manual and quick reference guide solve my problems, but I assume the tutorial approach is needed for most users. It is a shame we can't use the books that EDU Services developed for this purpose.

The quick reference doesn't feel ideal, but it is small and can let you find stuff (note error in SWAP command and SWAP isn't in the reference manual). Tabs would help.

Basically the approach we are taking is to consider various

levels of use: as a typewriter (anyone should be able to use it immediately by following the guide... and there would be a card for this level) We fail if we can't get this part of the guide down to 15 minutes max and all the instructions on a 3 x 5 card. At this level, one should only know: advance/backup keys (for all syntactic units), deleting characters and words, GOLD: FILE, MENU; plus responding to menu commands to index, edit, create, print; ALSO, one has to know how to set margins (L/R/T...not Justify, wrap etc.). NOTE HOW EASY THE MACHINE IS, IF WE JUST HAVE FIRST USERS STICK TO THESE AND GET FAMILIAR AND DO THINGS IMMEDIATELY.

The second level of use gets into full editing.

The third level of use let's the user put his own information in, including rulers, libraries, user defined keys, etc.

The fourth level is skilled in communications

The fifth level is list processing

Although this was discussed briefly on Friday, I think we have to get together to review a proposal to formalize the levels in terms of what feature (buttons) each level has and what each knows, just as I have tried to do in the first section above. Note, I mean we enumerate every instruction that can be given to wps, and associate this with a level of use and when it is introduced. Now, I feel we glob this together in a fairly unclear way. Fran, could you get a proposal together with this list, and get John Martin and P/L experts to help? We could also, make special keyboards that only have these keys on them too. I BELIEVE WE CAN PRESENT THE WPS AS THE CLEAREST, EASY TO USE SYSTEM IN THE INDUSTRY... but a large amount is presentation via the documents.

5. Software

Given that we are under the gun here, I don't know what we can do to make a better product. To the experienced user, productivity is all that matters (I get angry with it when it gets into some of the insufrable parts of the tree and all I want to do is start over... I wish GoldM always let me restart. Also, I would like to press any key and get a description of what the key did (I still have to look each time what a page marker is versus a new page). Note, there is the problem of having the right interaction speed so that I don't repeat faster than the software responds... something we all complain about.

6. Modems

Where are these going to reside? Again, this looks like a mess. We can either sell our own where it is non-acoustic coupled and connects to the phone, making matters pretty straightforward cable wise. Morally, we shouldn't support 300 baud as it can't be justified to have people connected

at this rate. Pragmatically, I suspect there are systems that can only speak at this rate. Therefore, do we have 2 cases: DEC 300 (and hopefully 1200 soon) with autodial and daa where phone is relatively irrelevant; acoustic or other modem either at 300 or 1200 or both where the phone has to be accessed too. Therefore, where do the phone and modem sit in the 2 cases?

When there is a separate phone it is either dedicated to the station or is the office phone. Let's handle both.

7. Performance understanding and productivity.

Frankly, I think the only reason why people want or care about these systems is productivity. We gotta measure this and if we are not good enough we gotta fix it so we are. Where are we. (The 278, fixed some more really feels good, although admittedly, I haven't worked on any other system besides various computer editors.) Wee can simply win on this.

8. Learnability and ease of use

This was discussed in the documentation section and that's where we have to reinforce it, but the concept has to be everywhere. Frankly, I don't know who should be responsible for this. I am distressed and disgusted with the segmentation I see between our development and training people.

(Del Lippert, would you please transfer the team responsible for this to the MK site so that we can work this as a joint effort and as part of the development.)

It is patently idiotic to think that one has to have a training course to learn most of these wps functions, and if we insist on this, we perpetuate messy to use and magic. I WANT THIS TO CHANGE. DEL, LET'S TALK... BOB TRAVIS YOU HAVE THE OTHER PART.

Overall, I think we have our work cut out for us to improve based on what we have, and to move into more capability after we have this understanding.

Are there any questions about who is responsible for what parts?

I expect the next mock-up of the 278 to have solved these design issues that are easy to change. When is the viewing?

"TO" DISTRIBUTION:

G COLE VIA FORBES PHONE	JOHN KIRK	FRAN LADD
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STAN OLSEN

LARRY PORTNER

GB1.S4.34

MAY 21 1980

DATE: SAT 24 MAY 1980 11:34 AM EST

FROM: GORDON BELL
DEPT: ODD
EXT: 223-2236
TO: BUZZ BROOKS
cc: BRIAN FITZGERALD @MP3A
BOB DALEY
LES DOLE
WIN HINDLE
BILL JOHNSON
ANDY KNOWLES
ED KRAMER
SI LYLE
JULIUS MARCUS
STAN OLSEN
LARRY PORTNER
BRUCE STEWART
TOM VLACH

Gordon Bell

JUN 16 1980

Bill

introduction

SUBJECT: RE: STATUS OF WS200 SYSTEM

Fixins and distributins this software is mandatore to our reputation.

Given the overall quality and lack of extendability of the product, I believe it should be a marketing committee decision as to whether or not we continue to sell it. From what I currently understand about our plans, its quality and this marketplace, my current, rather strong position is:

WE DO NOT CONTINUE TO MARKET THE MULTI-TERMINAL WS/WDI

Command >

John
Quick input, no more
cc P 6 wsh

EMIS Brian
TO: PG MGRS.
DAVE FERNALD

QUICK INPUT, PLEASE. HOW DO YOU FEEL?

*To *G. Marcus*
**D. Marcus*
**Prod Gr. Mgrs. Comm.*
J. Marcus 6/9/80

Let's sell to competent customers ONLY
i.e. ADP, Rapidata, etc. We have a lot of
business hanging on this product,

** Let's sell to competent customers ONLY, (i.e., ADP, RAPIDATA, etc.) We have a lot of business hanging on this product, WVK, 6/13*

not a command Type "H" for Help

* v i s i t a l *

TO: see "TO" DISTRIBUTION
cc: see "CC" DISTRIBUTION

DATE: THU 22 MAY 1980 1:50 AM EST
FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1/A51

SUBJECT: PROPOSED WPS PRODUCT STRATEGY

This reflects discussion with Fisk, Stewart and Travis,
followed by a discussion with Stan.

My perception of the 200 series product is so poor that it looks
like it can never be extended beyond where it is now. Furthermore
the 200 (multiuser) and 78 (single user) versions are so divergent
that there are really 2 separate systems, and there is actually a
third variant based on the 11M.

Based on the above, I would pick the best set of modules that run
on the 8, segment them between operating system and editor parts
so that they can be managed and evolve and put all the effort into
evolving this single set of code for the single user 278. I would
see what single user code exists for the Dibol run time system and
if ok, then use it so as to keep consistency and to get the benefit
of communications modules that will be required here. (Remember,
we are being asked to extend the 8's to handle all sorts of terminal
emulators and that will be exacerbated in the future.. and we will
have to interface with other wps and dp systems).

I WOULD NOT MARKET THE MULTIUSER 200, GIVEN ITS LACK OF FUTURE,
QUALITY, EXTENDABILITY, AND ABILITY TO DEAL WITH FOREIGN CHARACTERS.

I WOULD NOT BRING IN, NOR TOUCH THE DPD PACKAGE BECAUSE IT WILL
REQUIRE SIGNIFICANT EFFORT HERE AND ONLY DIVERT US FROM GOING TO
THE ULTIMATE PACKAGE.

I would put the file handler (DX) on RSTS and VAX so that they can
be used to hold the files for a multiterminal system of 278's! Also,
this will have to be done anyway for the longer term.

I would go AFAP to set EDT to be WPS compatible and have it run first
on RSTS and second on VMS. This provides both for multi-terminal
support for the shared freaks on 11's, and allows documents done
on 8's to be moved over and edited there and otherwise operate in
the shared and stand-alone mode, according to user needs and desires.
(Let's assume, worst case that the shared editor may take 18 months,
even though we can test it now.)

This sets us from:
78, 2xx, wps 11m

to:
278, Use of 11/M, RSTS, and VMX for central filings

followed by:
shared system using dumb terminals on RSTS and VMS;
PDF for single user version

NOTE:

Eliminates shared 200 we can't maintain or enhance.
Eliminates bringing in DPD code we have to fool with... and worse yet,
we will have to be compatible with it's file system that is WPS incompatible!
Gets focus on single user and shared user (RSTS).
Let's us align the work with the resources, and if we can build this, then
we can go further. Given what I see, this is about all I can honestly
recommend we do (it will still be tight to make the enhancements to the
8 to remain competitive and to get the foreign and communications option
in it).

Well folks, what do you think? Can we live with this or shall we
pick up some more weight with DPD and trying to screw around
with the 2xx multiuser until we go down in flames for the
second time?

(This is essentially what the strategy that has been proposed is
except that it removes DPD... I would still reference sell them
and I would even commit to our customers to be compatible with
their systems for the key features they have that we don't.)
Can I get a reaction?

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MAY 22 1980

d i g i t a l

INTEROFFICE MEMORANDUM

TO: Jim Beckwith
Gordon Bell
Buzz Brooks
Gerry Moore
Ken Olsen
Stan Olsen
Herb Shanzer

DATE: 20-MAY-80
FROM: Gary Cole
DEPT: VT278 Product Mgt
EXT: 264-7478
LOC/MAIL STOP: MK1/1A6

SUBJ: 278 PRODUCT STRATEGY

I propose that we:

1. Complete the DATASYSTEM 278 as planned.
2. Add a new project to develop a single, special configuration called the 278 office processor. This would be an end user only product, based on the LQP02, RX04 and DF03. Using a integrated processor/printer/storage/modem/cabinet with integrated acoustic shroud and a remote terminal. It would be U.S. only. All the 278 modules would be used. We could conceivably have this announcable by NCC'81.

I believe that this strategy would meet your expressed needs in the professional office products area and maximize the return on our 278 investment.

ds

MAY 20 1980

digital

INTEROFFICE MEMORANDUM

To: Gordon Bell

From: John Kirk
Dept: PDP 8 Engineering
Loc: ML 1-2/E60
Ext: 223- 3595
Date: 19th. May 1980

Subject: VT278

I was just given a copy of your recent memo titled "Our Meeting on the Office Packaging". I don't often get annoyed at things these days, but your comments on the VT278 verge on the irrational. I don't want to cloud your thinking with too many facts, but here are a few :

SPEED: the VT278 is not 'a little faster' than the VT78, it is 3 to 4 **TIMES** faster in raw instruction execution time.

e.g. Running WPS-8 the following were measured

Paste a 10 line insert into a document 5 times - 66 chars per line (lots of screen I/O)

VT78	VT278	DS310 (with VT52)
26.9s	10.9s	11.2s

Initialize a document diskette (no I/O)

3m17s	1m42s	1m40s
-------	-------	-------

c.f. To initialize an RL01 segment on a WS 200 system takes 21.7s

The thing that may be concluded from the above is that the CPU speed is no longer a limiting factor in the performance of these tasks but that the mass storage device **DOMINATES** the system performance.

Terminal I/O - the 278 can write to its screen at 19.2K baud, the VT52 - 9600 and the VT100 only 4800.

Cost

COST: even with today's inflated rates, comparing the 'new to Production' 278 to the 'established' 78, the 278 cost is 60% of that of the 78.

Your 'total turnaround' towards getting an 11 based product ASAP will not solve any of the issues you are complaining about, software and mass storage. A T-11 or even an F-11 will show no increase in performance over the 278 given the same level of software and using floppy disks as mass storage.

What is also certain is that the 11 based machine will cost no less than the 278 unless we dramatically change the way we design and manufacture low end products.

I object most strongly to your description of the VT278 as 'slow, expensive and dirty'. It is none of these.

p.s. The VT278 does not 'have' a VT100, it emulates a VT100 using Panel Memory.

MAY 21 1980

d i g i t a l

INTEROFFICE MEMORANDUM

DATE:19 May 1980
FROM:Gary Cole
DEPT:VT278 Product Mgt.
EXT:264-7478
LOC/MAIL STOP:MK1/1A6

TO: STAN OLSEN
GERRY MOORE
BUZZ BROOKS
IRWIN JACOBS
KEN OLSEN
JIM BECKWITH



CC: OLLIE STONE
GORDON BELL
PAUL GARDNER
JIM WILLIS
DICK CLAYTON

SUBJECT:THE VT278 - THE PRODUCT MANAGER'S VIEW

Permit me, if you will, to share with you my view of the VT278, both as a product and as a development program.

In my experience at Digital, I have observed that major projects seem to evolve through several fairly distinct phases. Phase one is "excitment", phase two is "disinterest", phase three is "disillusionment", and phase four is "enthusiam." Today the VT278 product is clearly in phase three! but I am convinced that you will, in a short time, begin to share the enthusiasm of those of us who have worked on this program since it's inception.

Ultimately the VT278 will be preceived as an excellent product because it IS an excellent product! Now, that's not to say that it does not have any faults, but rather that it encompasses a great number of good characteristics which will make it successful in the marketplace.

The VT278 is a very powerful computer/display. It possesses as much computing power as an eight user WD200 system and is on a par with an 11/34 for small business and office computing applications. The VT278 will typically be fully configured with 32 kilowords of main memory giving it nearly three times the useful storage found on VT78 systems.

The VT278 has a number of advanced facilities for the display of data and to improve interaction with the unsophisticated user. Not only is there Bold, Blink, Underline, and Reverse Video, but there is a standard 256 character display set which includes typographics for all of the northern European nations and a new Chartprocessing character set.

The VT278 was also designed to put images onto the screen in the shortest possible time. This is becoming very important as we build menu driven applications where the basic unit of information is the "frame." The integrated physical design of the VT278 does this job very well. There are two output speeds, 19.2 kbaud and 100k baud. This is considerably in excess of the 4.8 kbaud rate of the VT100.

DEC computers have historically been strong in data communications interfaces, but we have typically needed to make several options for each machine in order to meet the customers' differing needs. On the VT278, The communication option meets a very wide range of needs. It does asynchronous transmission to time sharing systems, it does byte synchronous transmission for IBM 2780/3780 protocols and DDCMP operation, and it does bit synchronous transmission for the X.25 and SNA protocols. This is done, on two modem controlling channels, following the brand new DEC Standard 052 to meet all domestic and European PTT interconnect requirements.

I am the first to agree that it would be even better to incorporate an integral 1200 baud, automatic calling modem into the machine, but it is certainly possible to use such a device external to the terminal and achieve very much the same effect at the same cost. Moreover, the european nations generally do not allow direct connect to their phone system.

No
SW

Speaking of europe, please note that the VT278 will be the first multilingual computer developed by DEC. Inherent in its firmware is support for as many as 7 different keyboard layouts and 7 mapped ascii character sets. Moreover, we will also have foreign language word processing software to use this functionality!

From a regulatory standpoint the VT278 has been built to comply with more regulations than any previous DEC product, and we've had to learn a lot in the process. UL and CSA are easy to live with compared to the VDE and SEV. In addition the VT278 will be certified to FCC category B so that it can be freely used in residential areas and sold by Retail Stores.

The weakest area of the system is the mass storage. We are using the RX02 as the standard storage option. This product is physically huge, noisy, and requires a lot of wires to interface to it. The other storage option for the VT278 will be the RL02. Now I realize that, in the best of all possible worlds, a single thin coax would couple the disk to the terminal, and that the large footprint of the RL02 cabinetry will make the system look more like a small datacenter than an office appliance, but the fact remains that the system will be very well liked by our customers because it is reliable, has very good performance (about 10 times that of the floppy version) and is very cost effective. It is unfortunate that Digital is not yet in a position to market a small floppy or small winchester style disk, but given what we are actually able to do, I believe that the VT278 storage plan is the best one possible. Certainly, if we were to try to cram our existing floppy drives into the terminal shell we would have a very bad product.

There has been a lot of criticism, most of it justified, concerning the sloppy cabling structure of the VT78. Despite rumors to the contrary, the VT278 is a considerable improvement although it is by no means a perfect solution. By way of example: 1) printers on the VT78 are connected via a 50 wire cable, on the 278 via a 9 wire serial line; 2) Cables on the VT78 spread out over the back of the H978 stand, on the 278 these cables are distributed within the channeling of the stand itself, its not perfect, but it will be neat and professional looking; 3) On the 78, big, black coiled cords are used to provide power to the devices, the 278 uses properly sized cords and a hidden distribution area; 4) The use of newly designed right angled connectors, and properly colored cables, will also improve the systems appearance.

Software for the 278 is best understood in a bit of perspective. In 1976, when the VT78 was started, we had one good wordprocessing package, a very poor OS/8 product, and a old COS/310 product. In 1981, when we introduce the VT278, we will have a better WPS package (although not as good as it should be), a very much improved COS/310 system which is fully pdp11 DIBOL-11 compatible (really significant), several vertical applications (DIBS, Dental, Legal, Tenant Mgt, Construction Accounting), and an OS/78 product which is an order of magnitude better than it was in 1976. All in all, when we deliver the first VT278, we will have approximately 500,000 source lines of DEC engineered software for our customers to use, virtually all of which is available on the minimum configuration.

Diagnostics have also been greatly improved with a very thorough selftest, a easy to run user confidence test, and good field service tools including TECHMATE support. Equally important is the high intrinsic reliability of the minimum-parts design which we estimate at 6000 operating hours between failure.

The cost of the VT278 is naturally a subject of much interest and no small amount of concern. The machine is not as inexpensive as it was originally planned to be. Some of this cost increase can be properly ascribed to increases in functionality, some to poor planning, but a great amount comes directly from rapidly rising parts prices and overhead accounting. In the last six months, the manufacturing cost estimate has risen by 12% without any parts changes in the design, and with equally through levels of analysis. Frightening ! One of the skills which Dec will need to develop is a much stronger manufacturing engineering capability and a willingness to redesign a product within it's manufacturing life in order to control cost. A certain amount of this has been planned in the VT278 engineering budget for 1981.

Even with the latest increases however, the VT278 is still substantially less expensive than the VT78 system it replaces and is very much less expensive in RL02 configurations than any 8/a or pdp11 system.

Now I would like to address the marketing of the VT278, an area in which we can learn a great deal from the experience of the VT78. It is my goal to see that we do not repeat our mistakes.

The VT78 was marketed by each product line as if it were a unique product line system. This led to the current situation where we have over 100 "systems" built out of the VT78, and, much worse, where we market the product under no fewer than seven marketing identities (Wordstation 78, Decstation 78, Decdatasystem 308, Decdatasystem 208, Worddatasystem 78, DDS 408, and Wordterminal 78 !!). Naturally there were good and cogent reasons for each of these products, but the result is that we have no image in the market despite having sold a large number of systems. The VT278 will be brought to market under one designation, minimum model variations, and one set of service, licensing and support policies.

The VT78 was a product whose primary appeal was to endusers and low investment OEM's. Thus although our introductory advertising generated thousands of leads, virtually none of them every became an order. In the enduser area we had nothing to sell that was really ready to use and no sales force to sell it. In the OEM area we had the right hardware, the right price, but insufficient software and inappropriate product line charters to capitalize on the opportunity. OEM's wanted tailorable applications packages and good highlevel languages. Today we have those facilities, and a much clearer view of our customer. And, today, we have a retail sales and support system. The VT278 has been planned to take full advantage of this.

The third VT78 marketing problem is one which I'm not sure that any product was destroyed from within. Some of you may recall that, only two months after the first delivery of the VT78, the company announced the PDT11/150 to its salesforce. The fact that the PDT was still a year from the market, the fact that it failed to solve any of the fundamental software problems that the VT78 was suffering from, the fact that it wasn't even a very well done product, did not mollify the effect on the VT78. Within weeks, virtually all prospecting had stopped and the product lines directed their full efforts internally to fight the ephemeral competitor. I was there. It was partly 8 vs 11, but it was mostly a reflection of the immaturity of DEC as a marketing organization that allows the future product (which is without faults or constraints) to divert attention from the current product (which is full of reality.)

I see this happening again today and it worries me.

The 278 program has been a difficult one to manage, in spite of the excellent cooperation which we have had with manufacturing. The difficulties which we have had in getting a correct processor chip from Harris are well known and have induced at least a 6 month delay in FCS. The lack of gatearrays, which were consumed by COMET, forced a much higher density layout than anticipated, the late introduction of the requirement for foreign language support interfered with the microcode completion, and the FCC proclamation has significantly complicated life. But the project is in a very advanced stage, and, with a little good luck, will begin high volume manufacturing during the summer. Normally, we would be announcing the product in November, contemporaneous with volume ship, but the 278 has been planned to be announced only after a satisfactory inventory level and manufacturing rate has been achieved, thus deferring announcement until March.

I hope that the preceding information has given you a better feeling for the status and correctness of the 278 program. Having now acted as product manager for the 78 and 278 since their inception, I am very interested in making this effort the success which it has the potential of being, and would like to better understand your concerns and ideas.

.... one final note, this document was typed and edited on a VT278 using WPS/8.

* d i s t a l *

8

TO: see "TO" DISTRIBUTION
cc: see "CC" DISTRIBUTION

DATE: MON 14 APR 1980 1:58 AM EST
FROM: BOB TRAVIS
DEPT: WORD PROCESSING
EXT: 264-5894
LOC/MAIL STOP: NK1-1 J14

SUBJECT: RE: DRAFT WPS/EMS/OA/OOF STRATEGY >4

I think this is a good start on an OA/OOF framework. The functional segmentation is very productive, and helps clarify relationships between related technologies.

I'd like to see more emphasis on "growing by addition" hardware/software architectures. Although the software evolution is likely to be from central multi-user to specialized single-user, the system evolution at a particular customer is likely to go the other way around. The software implications of "grow by addition" are that (1) the large multi-user environments must make effective use of single-user and small cluster configurations as terminal groups, and (2) the addition of new elements to an existing configuration cannot be allowed to disrupt the existing work structures. It's useful to remember that this class of user will view the system AS CONSISTING OF the set of transducers, and any required concern for the "overhead" portions of the system (such as CPU/memory, comm devices, etc.) will result in additional perceived complexity.

PRODUCT STRATEGY ORIENTATION

I believe that WE (not our users) should build the OA systems; user specificity comes from (1) profession tuning of the programs themselves, a la EMACS, and (2) powerful process-description tools (languages) to couple the programs into a work-flow with installation-specific parameters. WE must demonstrate the cohesiveness and applicability of our systems, and deliver them WITH documentation and support suitable for the computer-unsophisticate. I'm a little uncomfortable with the "build for the central model, migrate to the standalone" development scenario, since it may build in unnecessary complexity in the connection between user and function; let's at least keep the human engineering focus on the standalone model to keep the functional relationships clear.

IMPLEMENTATION/SUPPORT

The strategy is well-taken, except for the stress on high-level language for the 8. Although implementor productivity would certainly improve, there are NO implementation languages on the 8 to support the strategy. Even if this were not true, the tremendous difference in environment between the 8 systems and those on the 11 and VAX would make program migration extremely difficult. A repositioning of the strategy on 8's would be to (1) MINIMIZE enhancements which would require machine language,

and use DIBOL or BASIC where at all possible to do so, and (2) supplant the current development with an 11/VAX based product set as soon as possible. To do (1) requires an integrated COS/OS78/WPS operating environment at least for the WS278 and 200, but what about the 78's, 80's?

COMPATIBILITY

Use of compatible file structures is a must, because the "electronic filing cabinet" is the common underpinning of the rest of the OA functions. I believe the implementation of this will be aided by heavy use of FLEXIBLE indexed file structures, like UES, together with data dictionaries. A missing element needing advanced development is a unifying high level data concept to connect text/data/forms. I suspect it may be hiding as a generalization of the form/table formalism, a la QBE/OBE/QBF.

POSITIONING

Capability measurement in the OA area is not uni-dimensional; there will have to be a classification of function by sub-area, then gradation by depth or level. While much of the area is related, mixes of capability optimized along different dimensions will allow more cost-effective systems for particular application areas. To keep complexity down, decisions should be made as to which base systems will/should set how much capability along what dimensions; the chart will assure coverage of the requirements without unnecessary duplication.

TIME TO MARKET

A supportive sub-strategy here is to view the WPS 78 and 200 systems as simply high-performance terminal clusters in the 11-based OFIS context. This allows continued sale of the current product for high-performance, dedicated WPS application, and at the same time so for the large installed DEC base with layered products. A key requirement would be to place high priority on software support for WPS-8 systems as intelligent terminal clusters in the /11 products.

CAPABILITY SEGMENTATION

We must unify the concepts of program editors and word processing editors. Programming is just one example of a profession; programming languages and application areas are sub-disciplines. "Intelligence" in PBS's stems from exploiting the natural structure and environmental assumptions of the application area, e.g., PL/1 syntax in a program editor.

There's a similarly strong binding between conventional and text-processing-based typesetting. The differences are mainly in the mode of presentation of the command structure. This example emphasizes the need to separate function from form in the definition of OA/OOF capabilities, both to avoid unnecessary duplication and to enhance common structure.

Voice message management, like FAX, needs compatible transducers and storage formats. Then they're managed like images ("audio image"). As in the application of OCR to FAX, speech recognition can add power, ease of use and storage compaction.

SYSTEM COMPONENT DIMENSIONS

From an functional architecture standpoint, the system components fall into four classes: Manipulate, Store, Process, Communicate. The industry WPS emphasis has been primarily in the manipulation area. EMS strengths have been in the storage and communication areas. Text processing and typesetting are the traditional areas where processing and reformatting have been stressed.

Successful OA/OOF adds the idea of office process and combines these four areas into a coherent whole. Each of the functional areas has a capability dimension which varies with system level, such that manipulation/communication capabilities are stressed at the earliest level, while storage/processing capabilities see a more steady growth with system size.

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FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1 A51

SUBJECT: DRAFT WPS/EMS/OA/OOF STRATEGY >4

WPS...OOF DEFINITIONS, GOALS, CONSTRAINTS AND EVALUATION CRITERIA

We must get a framework immediately for these products. A start?

DOMAIN

Base systems: WP78, 278, 248, RT, RSTS/SCS, RSX-11/M, VMS, Tops 10, Tops 20

Office capability on stand-alone and base systems: text processing (programs, word processing, word processing with typesetting, professional typesetting); EMS and Computer conferencing; File cabinet; office procedures; data entry; data processing. Specifically, this includes: WPS, KED, EDT, EMS, DECmail, system specific mail systems (on RSTS, VAX, 10/20),

Terminals to all base systems. Does not include special typesetting and terminals not sold on DEC systems (I trust the 131 and friends will NEVER be used on DEC systems...let me know if this is not the case!)

Profession Based System: This set of products form the generic tools for the PBS, hence the A/D is directly applicable and necessary for this program.

GOALS AND CONSTRAINTS

PRODUCT STRATEGY ORIENTATION

Build a set of programs such that our users can build an OA system, evolving to an OOF, according to any hierarchial model from a federation of stand-alone systems that communicate through some centralized switching, to group level systems like we currently market on WPS200, to highly central systems with multiple terminals.

Full capability would only exist on VMS. Other implementations would be minimized to control support. Most likely, the next

for
Comant
+
net

most complete implementation would be on RSTS/SCS. Smaller systems would become 11 based.

Understand capability sufficiently well such that various functions can be migrated from the more central location connected via dumb terminals to the small stand-alone system. Take the approach of cost-reduction of a well-defined, shared system to form stand-alone systems.

IMPLEMENTATION/SUPPORT

Based on past and future systems as a layered system in order to get as big a user base as rapidly as possible. Also, allows user to try before buying and evolve.

Maximize migration of software by use of high level language, including the movement of 8-based software (eg. using DIBOL, Business BASIC on the 8, FORTRAN) such that we increase productivity to match competitive features, maintainability, and migratability to 11 and VAX products.

Stop all machine language programming!

Have only one program for a given capability that may be used across several systems to insure compatibility and minimize implementation costs.

COMPATIBILITY

All terminals and programs in the above domain should be made compatible with one another. This includes:

- Common keyboard

- Common syntax/semantics for same set of functions

- Use of system file structure enabling DP programs to communicate with OA programs

- Use of standard communications protocols to *DECnet, IBM including SNA, and X25*

Build a conflict resolution process for deciding among OA-compatible (eg. WPS editing conventions) functions and Base System compatible functions (eg. RSTS editing conventions).

POSITION PRODUCTS BASED ON COMPETITION AND USER PERCEPTION

Immediately get a benchmark that can be used on single and multi-user systems that can be appropriately parameterized to characterize various work loads. We must be able to measure performance!

Get an RTE system that can be used to accurately measure throughput in each system. Also, it can be used as a testor to get more deterministic results before shipping. It can also be used for stimulating a system for the analysis of reproducible

SPR's.

Construct a chart immediately for all base systems in the domain showing OA/OOF capabilities for each system. Make clear statements to include/exclude what will be considered! This chart will be the basic OA/OOF brochure.

Build a performance and cost/performance model that we can use to evaluate our products for our users and show how we compare with our competitions.

TIME TO MARKET

Mimimize time to get a corporate product based on 11 so as avoid having to support 8's and the expectation that it will be evolved forever. Consider a strategy that de-emphasises 200 products in favor of reference sales on the Word 11.

Maximize products based on currently in use systems to get an installed base.

use other def.

GENERAL DEFINITIONS

~~Office Automation/OA -~~

~~OA products aimed at increasing productivity without a drastic change in work patterns or use of equipment through automation of current devices (typewriters, snowpake, and copiers) are replaced by word processors. Also, EMS replaces TWX and internal message switching systems that were torn-tape oriented like RCS.~~

Some Data Processing

can be done with list processing such as mailing letters lists

~~Office Of Future (OOF) - use of equipment~~

composite

~~OOF collection of products which allow a drastic restructuring of office work, imply a drastic restructuring of work among a different work force. April 80 Coopers and Lybrand Newsletter; discusses the difference, which I'll paraphrase: "If your a secretary uses the equipment, it's OA; if you use it, its OOF; and, if you both use it then..."~~

Paraphrasing the

(5)

SYSTEM AND/OR ACTIVITY CAPABILITY TYPE DEFINITIONS

Systems will evolve over a collection of current and future computer-based systems to include the following, segmented or clustered set of capabilities. The clusters allow us to segment our thinking. There are no assumptions about how these capabilities will exist or evolve. Two opposite extremes: completely personal, stand-alone systems communicating with one another via common carriers (eg. Telenet); and multi-terminal, centralized processing and memory with intercommunication among the centers via common carriers using computer networking.

Program Editors- display, manipulation (processing), and memory of program text. Evolution is from what is fundamentally lines of programs to program text where the editor understands the specific language syntax being edited. Memory evolution is storage of program segments, associated text, versions and to

control of a complete, large system library (eg. SEER).

Text processing=Word processing - display, manipulation, and memory of natural language text. Evolution is to specific profession disciplines with the need to display and manipulate text accordingly (for scientist: tables, graphs, simple figures; for engineers: add figure types for each sub-discipline; purchasing-agent: boiler plate, conditional assembly of documents, etc.) Memory evolution is from storage of a single document to a complete filing system for parts of documents and all documents generated (archive).

Text processing based typesetting - typeset quality output of text emanating from standard WPS. Evolution to special documents including slides, brochures, natural language and profession based manuals and books. Knowledge of document structure (table of contents, bibliography, footnotes, index) is required.

Typesetting (conventional) - display, manipulation, and memory of natural language and profession-based brochures, manuals and books by trained data intermediary translators (i.e. typesetters). Also includes conventional publishing: pamphlets, books and newspapers, etc.

File cabinets - memory of documents (text). Evolution to include ability to search all documents for content. Evolution to include all files found in normal office (eg. 3 x 5 card) and future OOF.

Electronic Mail - text processing of messages (see above) accompanied by ability to directly transmit and file messages (as in file cabinet). Includes communications ability to conventional TWX, and other electronic message switching systems.

Computer conferencing - extension of electronic mail to include lock step communications of a set of users in a single conference following a well defined set of rules, with voting, etc. Evolution to voice and graphics...approaching general video teleconferencing.

Voice message management - EMS with voice *and teleconferencing answer each at each person on basis of each person's location (text) and/or*

Office procedures processing - collection of processes (ie. programs) used outside each of the previous domains; includes reminding, meeting scheduling, transportation reservations scheduling, report writing, etc.

Data Entry - into standard format forms. Evolution to include direct transmission of this information coupled with machine readable control documents (eg. invoices). *purchase orders, RFQ's, proposals,*

SYSTEM COMPONENT DIMENSIONS

It is necessary to build the above capabilities on physical

components (eg. communications lines) and systems (eg. RSTS) each of which has attributes that determine the overall capability (eg. number of terminals, document size, what other systems that can be communicated with) that can be provided.

Base system - conventional, single or multi-terminal computer system with conventional languages providing the base on which to build a given set of capabilities.

Data Processing - collection of programs most often run for financial and control purposes. Assumptions of inflexibility, non-negotiable protocols which must be interfaced to.

Transduction (display) - terminal which human interfaces, evolving to page or full two page including color. Ability to point to objects rapidly.

Transduction (hard copy) - single dimension of quality approaching typesetting. Also includes capability to interface FAX and OCR.

Transduction (voice)

Memory (for message, document and file storage in temporary and including archival storage modes)

Switching and links (networks and communications)

Processing=Computer=Processor+Primary memory with program
Processing (determinant of data-types)

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INTEROFFICE MEMORANDUM

✓
APR 16 1980

TO: Stan Olsen
CC: Distribution

DATE: 7 April 1980
FROM: Bruce Stewart
DEPT: CCEG
EXT: 264-7510
LOCATION: MK1/2E6

SUBJ: WPS-8 Engineering Plan

=====
Enclosed is the proposed engineering plan for FY81 WPS-8 development and support, based on data regarding market requirements and outstanding customer commitments collected over the past two months by PL40, COEM, and RPG. The plans reflect our best attempt at meeting those commitments within the bounds of doability; in particular, in order to provide adequate time for QA, field test, and SDC, software development for the January WS278 FCS must be done by August 15, leaving very little time for enhancements. As will be seen, not all the outstanding commitments and requirements can be satisfied in FY81; a continued or slightly expanded level of effort in FY82/83 will also be required.

The proposed order of implementation is meant to satisfy the most commitments as early as possible, and provide the necessary impetus to regain a preeminent position in the marketplace for low- to mid-range word processing systems. The primary emphasis is on feature-enhancing the WS278 ASAP, with feature-migration to the WS200 where it is efficient to do so without distraction from the main effort.

To facilitate a coherent funding focus, the total proposed PDP-8 engineering spending for FY81 has been rolled into a single chart by program and organization. No funding has been included for any PDP-11/VAX product development, except for a minimum amount of WPS-11M software maintenance activity.

As the agreed primary product line sponsor, will you please arbitrate any proposed changes to this plan together with the necessary funding allocations, and confirm the funding level by April 18 so that implementation of the plans can continue. Thanks.

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Estimated FY81
PDP-8 related SPENDING
BY PROGRAM, WPS AND NON-WPS
(K\$)

PROGRAM	Gardner	Milton	Ross	Gray	Stewart
TOTAL (7184)	2200	353	385	1577	2669
VT278 FCS	1100	0	175	0	180
VT78 support	0	0	70	0	25
Omni-8 development/support	0	353	140	780	720
LGP support	0	0	0	75	0
" development	0	0	0	542	100
RL278 FCS	400	0	0	0	0
VT378 Adv Dev (tentative)	700	0	0	0	0
Foreign language systems	0	0	0	180	684
Maintenance	0	0	0	0	320
Documentation support	0	0	0	0	256
Program management	0	0	0	0	128
Product management	0	0	0	0	256

WPS-8 SOFTWARE PROJECT STAFFING

Work loading if the only PDP-8 project is the WS278.

4/11/80

MANPOWER REQUIREMENTS:	1980						1981								
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Resources	16	16	16	19	22	25	25	28	28	28	30	30	30	30	30
Attrition		(1)	(1)	(1)		(1)									
Hire		1	4	4	3	2	2			2					
Full Time Employees	16	16	19	22	25	26	28	28	28	30	30	30	30	30	30
Contractors	4	4	4	1	1										
Total Available	<u>20</u>	<u>20</u>	<u>23</u>	<u>23</u>	<u>26</u>	<u>26</u>	<u>28</u>	<u>28</u>	<u>228</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>

USES:

Foreign Language	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
OJT (3 months)		1	5	9	11	9	7	4	2	2	2				
WS278 V1.0 (Details enc.)	6	10	10	9	9	2	1	1	1						
Go to page V2.0	1	1	1	1	3	3	3	10	10	11	11	14	17	9	7 ...
Editor math V2.0						1	1	1	1	4	4	4	4	2	1 ...
Background Comm V2.0		1	1	1	1	5	5	5	5	5	5	2	1	1	1
Master document V2.0				1	1	1	7	7	7	7	7	7	2	1	1 ...
SPR responses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Maintenance	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
WS200 V4.3	6														
Better tools project	2	2	1												
Other activities (OFIS)	4	4	4	4	4	4	8	12	16	20	20	20	20	20	20
Total requirements	<u>25</u>	<u>25</u>	<u>28</u>	<u>31</u>	<u>35</u>	<u>31</u>	<u>39</u>	<u>45</u>	<u>48</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>50</u>	<u>39</u>	<u>36</u>
Surplus or (shortage)	(5)	(5)	(5)	(8)	(9)	(5)	(10)	(18)	(20)	(25)	(25)	(25)	(20)	(9)	(6)

NOTES:

- THIS IS NOT A SCHEDULE. THIS IS NOT A COMMITMENT TO SHIP DATES. THIS REPRESENTS OUR BEST ESTIMATE, AT THE PRESENT TIME, OF THE WORK INVOLVED IN THE PROJECTS LISTED. TIMES ARE SUBJECT TO CHANGE WHEN FUNCTIONAL SPECIFICATIONS AND PROJECT PLANS ARE WRITTEN.
- Go to page will extend into FY82 before completion and ship
- The five (5) hires in July and the two (2) hires in January are against requisitions that have not been approved or signed as of 4/9/80.
- Requisitions for the personnel shortages shown above will need to be approved and signed.
- The "Other activities (OFIS)" line is shown to reflect the overall manpower needs of the department. Funding for this activity is NOT being sought in this proposal.

NEW FEATURES:

- Serial LQP and Sheet feeder
- List Processing Sort (Single key)
- IBM Communications
- Video Cosmetics
- 3.1 Bug fixes

MANPOWER REQUIREMENTS: Apr May Jun Jul Aug Sep Oct Nov Dec Jan

Tech Lead		1	1	1	1	1	1	1	1	1	1	FCS
Serial LQP												
Functional Spec		1										
Error Handling			1	1	1	1						
Super/Subscript			1	1	1	1						
Sheet Feeder			1	1	1	1						
LP Sort												
Functional Spec		1										
Implementation			2	2	2	2						
IBM Communications												
Functional Spec		1										
Coding			1	1	1	1						
Bugs												
Definition		1										
Fixing			2	2	2	2						
Video Cosmetics												
Functional Spec		1										
Implementation			1	1								
QA testing							1/2	1	1	1		
		6	10	10	9	9	2	1	1	1		

ASSUMPTIONS:

- Maximum number of people will be assigned to the project so as to get shortest elapsed time.
- All engineering must be completed by mid August 1980 in order to meet 1 January 1981 FCS from SDC.

COSTS:

Technical Leader	33.75K
Programmers	146.25K
Q/A	3.75K
Total	<u>183.75K</u>

Equipment: 4 machines for debugging/testing, prototypes are OK. At least one must have two RX02s (4 drives).
 1 machine for Q/A, must be manufactured (not prototype), and have 2 RX02s. If WS278s have EPIS, then must have all types of EPIS for 278. Must have a serial LQP (also manufactured).
 Machines for editing, assembling, and linking.

RISKS:

- No one still in the group has worked with the existing List Processing sort code. The original programmer (Hal Chou) is available for limited consulting.
- Estimates are very rough.
- We currently have only 6 programmers who could be assigned to this project.
- Any problems discovered with WS200 V4.3 will produce contention for engineering resources.

ISSUES:

- WS78 will be nearly "free", requiring only QA, to verify compatibility, and field test.
- There is one additional programmer who could program the 278, but he will be needed for PDP-11/BLISS work and not available to this project.
- We have one "programmer-in-training" who might be able to help with this project.
- We expect to get several more "programmers-in-training" before the end of this project. They won't be able to help on this project and their training might actually detract from efforts on this project.

TOTAL ELAPSED TIME FROM START TO FCS FROM SDC:

4 months for SW Engineering
 4.5 months for Q/A, FT, and SDC
8.5 months

FUTURE RELEASE FEATURES:

	Time	\$ K	SW Engs
V2.0 - Editor Math	8	180	6
V3.0 - Go to page	6.7	150	6
V3.0 - Master Document	6.7	150	6
- List Processing Math	5.3	50	3
- List Processing Sort extensions	6	90	4
- Wide Document Support	4.8	180	10
- Text Handling Package	5.2	550	28

Subsequent releases will follow at about six (6) month intervals.

PROJECT: Background Communications

4/10/80

	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Tech Lead					1	1	1	1	1	1	1	1	1	1	0	FCS
Func Spec & Proj Plan	1	1														
Design Spec			1	1												
Code and test					4	4	4	4	4	4						
QA											1/2					
<u>Total</u>	1	1	1	1	5	5	5	5	5	5	2	1	1	1	0	

COSTS:

Tech Lead	52.50K
Programmers	90.00K
QA	3.75K
<u>Total</u>	146.25K

ELAPSED TIME: 15 months

DEPENDANCIES:

- This project is virtually independant of other work that is going on in parallel

RISKS:

- This document is a forecast and is to be used only for planning purposes.
NO SCHEDULE COMMITMENTS ARE IMPLIED OR SHOULD BE INFERRED!

ASSUMPTIONS:

- Background communications will run in a decicated partition in the top 16K of the 278 hardware. Background communications WILL NOT be available on any 16K 278 system.

PROJECT: Go To Page

4/9/80

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Tech Lead								1	1	1	1	1	1	1	1	1	...
Func Spec & Proj Plan	1	1	1	1													
Design Spec (File sys)					1	1	1										
Editor Design Spec					1	1	1										
Printer Design Spec					1	1	1										
Editor Rewrite								4	4	4	4	4	4				
Printer Rewrite								4	4	4	4	4	4				
File Sys Rewrite								1	1	1	1	3	3	2			
Go To Page										1	1	2	5	6	6		...
	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>10</u>	<u>10</u>	<u>11</u>	<u>11</u>	<u>14</u>	<u>17</u>	<u>9</u>	<u>7</u>		...

ASSUMPTIONS:

- QA starts in July 1981
- Field Test follows QA
- First product for implementation is the WS278
- Forecast staffing levels actually occur
- Printer rewrite will include LQP82 support but does not include error reporting

COSTS:

QA	7.50K
Tech Lead	56.75K
Technical Staff	328.50K
Total	<u>445.25K</u>

PROJECT: Editor Math

4/11/80

	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Tech Lead					1	1	1	1	1	1	1	1		FCS
Func Spec & Proj Plan	1	1												
Design Spec			1	1										
Code and test					3	3	3	3						
QA									1					
Total	1	1	1	1	4	4	4	4	2	1	1	1		

COSTS:

Tech Lead	45.00K
Programming	45.00K
QA	3.75K
<u>Total</u>	<u>93.75K</u>

ELAPSED TIME: 13 Months

DEPENDENCIES:

- Work on design spec can not start until Editor rewrite design spec has been completed.

RISKS:

- If work on this starts as soon as possible (see dependencies), then it will complete at the same time the editor rewrite/go to page logic completes.

SUMMARY OF WPS-8 HARDWARE SUPPORT AND DEVELOPMENT

	FY81				TOTAL
	Q1	Q2	Q3	Q4	
HARDWARE					
Base Level 8 Family	180	195	195	220	780
Base Support Printers	15	15	15	30	75
Printers Devlp.	179	154	113	96	542
SUB-TOTAL	\$374.k	409	323	336	\$1397.k
For. Lans. Sup/Dev.	45	45	45	45	180
TOTAL	419	409	358	381	1577
STAFFING					
Project/Support	16	17	17	18	
Admin/Super	3	3	3	3	

This requires adding 4 people in Q1, 1 in Q2 and 1 in Q4.

- Gray 4/4/80

FY81 PDP-8 Engineering Summary

Estimated \$150M NOR in FY81 from PDP-8 systems, of which about half is tied to Word Processing sales.

Engineering requirements:

B-ENG., Maynard (Paul Gardner)		\$2200K
VT278	1100K	
RL278	400K	
VT378	700K	
- (depends on Avram Miller plan)		
B-ENG., Merrimack (Jim Milton)		\$353K
OMNIBUS-8 SUPPORT	353K	
PDP8 software support (Don Ross)		\$385K
OS/8	70K	
MACREL/LINKER	70K	
OS/78 support	70K	
OS/78 V3.1 (VT278 release)	140K	
documentation	35K	

TOTAL = \$2938K, of which a little over half is VT278

FEATURE FCS SUMMARY

WS278 FRS, JANUARY 1981

LQPBF, cut sheet feeder
list processing sort
Airland 2780/3780 support
VT100 advanced video

same features on WS78, FEBRUARY 1981

+81/211

Editor math, plus 278 features, on WS200 May 1981

Master document, plus above, on WS80/278 August 1981

Go To Page, early calendar 1982

WPS-8 PROGRAM STRATEGY, DEVELOPMENT STRATEGY

SUMMARY

The WPS-8 Program Development strategy must be viewed, for completeness, in conjunction the OFIS Program Development Strategy, which it complements. In this light, the WPS-8 program will focus primarily on lowend systems, with the multi-user WS200 system at the upper end of the range.

WPS-8 communications power and flexibility is seen to be a clear competitive advantage in many situations currently. A key element of the WPS-8 development strategy will be to consolidate this competitive advantage by acting to unify the current comm features set while augmenting it with 2780/3780/3270 capability, "background" processing (constant listener, q-driven sender), and EMS-like aids for send/receive in both the AX/DX and IBM contexts.

True WP/DP integration will be deemphasized in deference to the OFIS program, but COS310 compatibility will be maintained and enhanced through careful trackings of the subsequent releases.

Implementation of the critical competitive disadvantage features (editor math, list processing sort, direct page and record access) must be moved to very high priority status; other desirable features can be grouped by market area (wide document support, large text handling, system management, information management, communications) and implemented as coherent groups to provide focused market penetration capability. Today's clear marketing message ought to be "Sell good standard word processing where flexible communications is a top requirement." As implementation of other coherent functional groups is completed, other sales focusses can be formalized.

As consistent feature support across system types and across multiple languages is a requirement, development from a common set of sources is a must. Operating-system dependent and user-language dependent code must be modularized to reduce complexity; system build procedures must be streamlined to facilitate simultaneous development of separate systems without complex retrofitting.

The languages supported will be limited to those already committed -- Canadian French, French, German, Dutch, Norwegian, Swedish, Danish, Swiss German. Technical system capability as well as any more extensive language support should be deferred to OFIS.

OUTSTANDING COMMITMENTS SUMMARY

WP Product line (top ten)

- math
- sort
- concurrent word and data processing
- serial LQP
- dual tray sheet feeder
- single sheet feeder
- dual head printer
- background communications
- go to page
- 3270 CX

COEM (full list)

- sort/math/go to page
- serial LQP
- sheet feeder
- master document
- French, Canadian, German
- background comm
- background list processing
- automatic footnoting and paragraph numbering
- numbered records in list processing
- WD200 DP utilize full RL size
- column move
- 8 comm lines on 200
- 2780/3780 comm under WP
- 3270 comm under WP
- twin track printer
- advanced video features (bold/blink/underline)
- RL02 support

PRODUCT LINE REQUIREMENTS SUMMARY

RPG stated requirements: (Gary Cole)

January WS278 FRS
math in editor
list Processing sort
direct Page access
16Kw and 32Kw configuration support
"June"
LA24 support
LQP02
RL02
RX04
mini-sort in editor

COEM stated requirements: (Jim Willis, Jim Beckwith, Mike Gallup)

January WS278 FRS
2-user WS and WDB2 functionality
serial LQP
list Processing sort
editor math, column arithmetic
goto Page
additional high priority, as soon as possible
background list Processing
80/132 col display
other desirable features
global search and replace
background communications
VT100 bold/blink/underline
display ps#/ln# in edit
auto record #'ns in list Processing
goto record
nice to have
column move
tab centering
auto footnoting
(+ Project costs, completion dates, technical feasibility)

WP requirements: (Les Dole)

top
LQP8F, cut sheet feeder
global s/r, 132 col edit in all systems
editor math (column arithmetic)
list Processing sort (simple will do)
goto Page
vt100 video enhancements (bold, underline, select)
2780/3780
next
background communications and list Processing
3270
improved CX/DX interplay
better horizontal scroll
forms data entry

* t i t a l *

*For Daley, Stuart, Vlach, Travis, Gilmour, Lytle,
Strickman + [unclear]*

TO: GORDON BELL*

DATE: MON 7 APR 1980 1:22 PM EST
FROM: BOB ERICKSON
DEPT: OIS
EXT: 223-3514
LOC/MAIL STOP: PK1 F60

cc: MURRAY COPP
AL CRAWFORD
PAUL CHUNG @CLEM

*Fyi
BJ*

SUBJECT: OFFICE SYSTEM DEVELOPMENT

I was really pleased to see you drive two very important issues during the Friday meetings.

1. Absolute requirement to use higher level languages for office software development or DEC will not be able to close its present two year lag in the office market.

*Bob's Comms
N*

2. DEC must limit the number of office products (i.e. kill WPS-11 and maybe the WS-200) in order to have sufficient resources to enhance its products to a competitive level.

*HLL + Future
OFIS'S*

Assign our internal experience has convinced us of the benefits of higher level languages. Paul was able to write 50,000 lines of code for RCS in a two year time period with only three programmers working for him. Paul is presently enhancing and maintaining RCS and EMS which are written in TPL and DSM plus developing a new file transfer switch (an RCS like system for files.) with only four programmers.

Subj: Bob's Comms

On the second point the concept of doing versions 5 and 6 for the 8 based WP plus OFIS I, OFIS II and OFIS III sounds great but after five years in DEC I have discovered one given and that is in no way is Bruce Stewart going to be able to obtain sufficient budget or be able to hire adequate staff. I also realize what may be a second DEC given and that is that old DEC products never die they just continue to eat budgets.

I agree!

The office products need a good architecture written in a higher level language that can be changed and enhanced over the next ten years. I believe we must start to build a good software architecture and then evolve the software and not continue to build new systems. This is why I support the OFIS III product and that it should be funded and a separate design team formed as soon as possible to build a software base that DEC can have to be in a competitive position in the mid 80's.

No more Macw-8 programming.

Until OFIS III is available I believe DEC should fill the gap with an 11 and vax based WP/ems (OFIS II) system that can be sold to DEC customers which will allow DEC to maintain a market share with the least impact on the development resources. I believe that Word 11 and Decmail plus an EMS user interface can satisfy those requirements and maybe DPD could do most of the work. My concern is that we will take Word 11 in house, put a big team on doing OFIS II, do very little on OFIS III and then in

We can get trapped again if not careful

three years have another Friday meeting and wonder why
DEC is still has a two year lag in the office market.

* d i g i t a l *

TO: OPERATIONS COMMITTEE:
OPERATIONS COMMITTEE: @CLEM

DATE: WED 5 MAR 1980 9:20 AM EST
FROM: JULIUS MARCUS
DEPT: COMMERCIAL GRP/ADMIN
EXT: 264-5363
LOC/MAIL STOP: MK1-2 C37

SUBJECT: WORD PROCESSING

At the last Operations Committee meetings on Word Processings,
I heard the followings:

Operations Committee endorses the free-standing Word Processings
function as a business in large companies.

Stan is to run this free-standing business. The hybrid and
more complex WP/DP and WP/EMS system will be moved to relevant
PG's when possible.

Stan and Marcus are to figure out how to:

1. Divide free-standing from hybrid in such a way that we can:

- o Strategically plan the entire array of products
- o Implement products in a complimentary way
- o Develop market messages
- o Train sales
- o Determine Price and T's & C's
- o Sell

easily, without conflict, and in support of each other's
businesses.

2. We are to address the very closely related issue of office
automation which clearly must embrace free-standing WP as a
major portion of any offerings (if we choose to serve this
market.)

This is a big order. I believe I can see how to accomplish this,
and I will try to get agreement and set up a process with Stan to
manage our respective businesses in an intersecting applications
and customer base. If I see difficulties which will compromise
DEC's future in these businesses, I feel free to bring them to
Operations Committee attention.

JM:DW

* d i g i t a l *

TO: see "TO" DISTRIBUTION

DATE: TUE 19 FEB 1980 1:21 PM EST
FROM: JACK GILMORE
DEPT: CORP OFIS PROGRAM
EXT: 264-5898
LOC/MAIL STOP: MK1-1 C12

SUBJECT: MINUTES OF WP MEETING 1/29/80

ATTENDEES: Stan Olsen., Si Lyle., Jack Gilmore., Bob Daley., Chuck Rozwat., Gordon BellB., Bruce Stewart., Brian Fitzserald., Les Dole., Larry Fortner., Bob Freedman., and Curt Rawley.

Stan - Compared current PL40 problems to Typesettings's old problem with the 8's vs 11's and how it caused them to be 2 years late.

Si expressed the desire to wind down 8's as soon as practical.

Les commented that 80% of the sales time and effort was currently being directed toward RL based systems to large customers - some of whom are Digital's largest customers

Jack mentioned

1. Nationwide Insurance (a large IBM account which is being penetrated because of Digital's WP ability), as one major customer who was impressed with the WS200 systems and was leaning toward buying over two million dollars worth of WS200's in calendar year 1980.

and

2. RCA who is very interested in the WS200 for use throughout their company

Larry asked Stan what his Marketing Plan was.

Stan indicated a big market for RX based 8's especially for RPG and that the RL based systems had to be fixed especially for PL40. His strategy is definitely to move toward low support oriented products. His concern is whether RL based systems could be eventually be considered part of the low support products.

Gordon reviewed the current offerings of 78,s WS200 RX and RL based, the IX software on the major operating systems, and WPS11M.

Jack indicated that the WS200 was necessary to hold on to the Marketing Segment of large companies until the 11 and the Vax's were ready.

Larry said that there were three things to consider:

1. A long term product strategy.

2. A shorter term marketing strategy i.e. where do we go as Digital.

3. Today's problems, i.e. how do we get through the next two years.

Larry stated the long term task should be Jack's and the short term problems were Bruce Stewart's and the immediate business strategy; the job of establishing priorities and managing the field and customer problems should be Stan's and Les'.

Si emphasized that there was an engineering price tag to be dealt with.

The consensus was to cancel the concurrent WP and DP (COS310) version of the 200, namely, the WD200. It was pointed out by Jack that the customer could buy the COS310 V8 dedicated system which supports RL's and that the customer would either run the system as a dedicated multi terminal WP system or as a single terminal RL based COS310 system.

WPS11M was discussed and Stan said he was urging the Govt Product Group to acquire that product. (If they did they would have to be able to sell the 78's as well as the 278's later to connect to WPS11M.)

The WS80 system, it was felt, should be retired and that the RX based 200's be sold instead. The assumption was that the price would be the same. Jack pointed out that the upgrade potential was there for an RL multi terminal expansion.

The immediate issue - today's problem - was then discussed. Until a clean version 4.3 was a reality there would be no delivery commitments and no discussion about what versions 5 and 6 were to contain until engineering had the time to evaluate what was possible and what resources were required.

The foreign language version were discussed and Bruce Stewart was to work that problem as well.

"TO" DISTRIBUTION:

STAN OLSEN
LES DOLE
BOB DALEY
BRUCE STEWART

GORDON BELL*
SI LYLE
CHUCK ROZWAT
BRIAN FITZGERALD @MK12

LARRY PORTNER
BOB FREEDMAN
CURT RAWLEY

* d i g i t a l *

TO: see "TO" DISTRIBUTION

DATE: MON 4 FEB 1980 12:21 AM EST
FROM: BOB TRAVIS
DEPT: WORD PROCESSING
EXT: 264-5894
LOC/MAIL STOP: MK1-1 J14

SUBJECT: RE: OLEH SPEAK SOME GOOD WORDS HERE

The WS200 is targeted as a work-group machine; it is specifically aimed at sharing file storage and printer facilities in a cooperative environment; shared access to common file areas is an important characteristic of the system, and one that will be a challenge for our (coming) distributed system software to retain.

We have all felt for some time that the best way to deliver systems like this, both for the user and for manufacturing, is to settle on the smallest sized standard unit that will support the software base and interconnect as many of them as required to handle the size of the work group; our interconnect techniques just aren't as ready as the strategy to use them, so more traditional multiuser techniques have to be used. It's certainly true that we need to do a much better job with the human engineering of device sharing; but this will also be true in distributed group systems. It may just be that "owning" a shared device temporarily can never be human engineered, in which case we'll just revert to only doing spooling (which users can do now, of course, except for the comm lines themselves).

Aside from the lockup problems, which are software-error caused, it seems the most troublesome aspect of OOD's system has been the constant need to walk to the machine to dial EMS. We now know that existing autodial equipment works very well with the 200, and Mary Jane now has the ordering information to get it on her machine as soon as possible.

The real point is that we have to be able to supply systems which are very independent (for increased reliability and decreased hassle) but which also can handle the distributed activities of office, manufacturing, and other environments naturally and transparently; this will require solving well the sharing problems of a multiple user system. And it's not just "word processing" resources which will be shared -- the emphasis across much of DEC's customer base is on the multiple-use terminal which has easy access to all the DP and WP needed in the office/lab/plant. We need to start now to pilot systems on structures like ADAPT/WEB so that the individual text stations that Oleh sees are needed can work well in a larger context, just like their owners/users do.

I think the ultimate scenario will consist of a (small?) variety of single-user terminal systems, interworked (as a system) with group-level larger storage and printing devices, able to access each other as well as corporate DP networks and public information nets via inter-system communications. The problems

are immense, especially when you consider the impossibility of ever synchronizing a software update across the "system", but it looks like the structure which maps reality most closely.

"TO" DISTRIBUTION:

STAN OLSEN
MARY JANE FORBES
JACK GILMORE
BOB GLORIOSO
BILL PICOTT @MR16

GORDON BELL*
KEN KING
TOM VLACH
AL CRAWFORD

DICK CLAYTON
DICK SNYDER
BOB DALEY
BRUCE STEWART

OO BURT DECGRAM ACCEPTED S 5415 0 07 02-FEB-80 10:10:24
FROM: GORDON BELL DATE: SAT 2 FEB 1980 10:03 AM EST
DEPT: OOD
EXT: 223-2236
TO: STAN OLSEN
DICK CLAYTON
MARY JANE FORBES
KEN KING
DICK SNYDER
JACK GILMORE
TOM VLACH
BOB DALEY
BOB GLORIOSO
AL CRAWFORD
BOB TRAVIS
BRUCE STEWART
BILL PICOTT @MR16

SUBJECT: OLEH SPEAK SOME GOOD WORDS HERE

As a user of a multiterminal system I can only say one good thing about it. It's has good response time. And I think that the file problem is better with lots of on line storage. Some day I suspect we'll have a problem when we run out of space and the set of independent secretaries that share it have to clean up the files and garbage...or when we have a head crash and lose files. Somehow, the 8 user wps system we are marketins looks like a early first generation timesharing system (I recall the PDF-6) which has the ability to lock up devices and which seems to create chaos in the office environment. Someone has to be the system manager (here Mary Jane is) and this will ultimately be a full time job...especially since the WPS200 needs more debussing (but I assume this gets solved). Also, the system has to have

have dial out capability without going to the central system. So far, I'm sceptical that the system will work like we would like to use it.

Maybe it is great for a typing pool? If so, we had better really partition where it gets sold. Having seen the WD brochure that talks about data processing too, I am even more sceptical that this kind of system can really be used.

Jack, you have a responsibility to sort this question out. I fear you have been listening to the office manager/ data processing manager buyers who say they want shared systems for some reason, or say they want DP in there too (as opposed to access to DP) via the wps terminals. The cost per terminal may be why they are saying it? However, given my few weeks with the 200 (and ignoring the bugs), I say get me back to an elegantly packaged wps 78 or 278 (not the knee buster we're eventually going to come out with).

Note the personal Nebula that I'm going to get only has me, MJ, and Sue on it, plus dial in/out (Automatic type!). I don't want to have any of us be computer system managers. I would like Al Crawford to link to me so I can send him files for archiving and also get larger files from him and others.

I am now ready to do some rethinking of our direction.

TO: GORDON BELL*

DATE: FRI 1 FEB 1980 8:54 AM EST
FROM: OLEH KOSTETSKY
DEPT: SOFTWARE ENG'G OPR
EXT: 223-3704
LOC/MAIL STOP: ML12-3 A62

SUBJECT: WPS/EMS AS A PRODUCT

I am concerned about our current emphasis with this product. I believe the market for this product will belong to whoever has the smarts to create a single user product (one for each secretary) at a price somewhere in the \$2K range. Shared logic offerings usually imply sharing the printer and possibly sharing the floppy disk or TU58 with other secretaries. This pulls the secretary away from her work station and is highly undesirable. The manufacturer that solves this problem will set the spoils.

Why are we working so hard to create WPS that can run as tasks in other systems? The CPU and MEMORY are the cheapest parts of a WPS system and are getting cheaper faster than any other part. We seem to be moving in the opposite direction of the distributed computing trends here.

EMS will work when we design the system in a way that makes it easy to implement in an evolutionary manner (i.e., some EMS nodes in mailrooms with machines with spoolers and fast printers).

Command > QHJ

digital

INTEROFFICE MEMORANDUM

file

Gordon Bell

JAN 23 1980

TO: WPS Development Group

DATE: 21 January 1980

FROM: Bob Travis

DEPT: Word Processing

EXT: 264-5894

LOCATION: MK1/1J14

SUBJ: Reorganization for the '80s

=====
Attached are two statements, one from Gordon Bell and one from Stan Olsen, announcing two aspects of a move of which the general characteristics have been known for some time. As is probably quite clear, the intent is to provide a more central focus for bringing word processing into the mainstream of Digital's product offerings.

The subject of today's WPS Development meeting is to present the specific characteristics of this move as it affects us, and to discuss the ramifications for our project planning process.

WHAT'S CHANGED:

- o The WP Product Line engineering group is becoming part of Central Commercial Engineering, under Bob Daley. In a larger context, Bob Daley reports to Bill Johnson, who reports to Gordon Bell and Larry Portner and has overall software engineering responsibility for Digital.
- o Bob Gray and the rest of WPS Hardware Development will now report to Brian Fitzgerald as an element of Central Commercial Hardware Engineering.
- o Bill Mortimer, Ed Steinberger, Bob Geisenhainer and the rest of WPS Software Development will now report to Bruce Stewart as part of Central Commercial Software Engineering.
- o Fran Ladd and the rest of the WPS Documentation Development staff will now also report to Bruce Stewart.
- o I now report to Bruce as well, in an architecture/technology management capacity, and for the time being will continue to manage our hardware/software/documentation coordination as we ramp up the mechanics of program management.

WHAT HASN'T CHANGED:

- o The concept of the end-user word processing system as an

integrated hardware/software product, complete with full documentation.

- o The need for a coordinated engineering group, comprised of hardware, software, and documentation skill centers, to work closely with product management and manufacturing to define, create, and deliver these products.
- o The opportunity to exercise professional skills to their utmost in producing system products which are powerful, reliable, cost-effective, and easy to use.

WHAT DOES IT MEAN:

- o As part of the Central Engineering organization, it will be easier for us to respond to a broadening set of needs and sponsors, as represented by all the Computer Products, Commercial Products, and Technical Products product lines, in the process of incorporating WPS functionality across Digital's product offerings.
- o It will also be easier to blend our special experience and talents with those of other engineering groups to produce truly integrated WP/DP systems in the '80s.
- o Our job remains the same — with the continued joint sponsorship of the Word Processing Product Line, Retail Products, and Commercial OEM, to produce the corporation's word processing products.

* d i g i t a l *

TO: see "TO" DISTRIBUTION
cc: see "CC" DISTRIBUTION

DATE: FRI 18 JAN 1980 12:47 PM EST
FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1 A51

SUBJECT: WPS ORGANIZATION FOR ENGINEERING AND PROGRAM MANAGEMENT

As part of the evolution and expansion of Word Processing within Digital, we are planning on making the following organizational moves within the engineering and product management function. It is not anticipated that there be any structural changes within the various organizations, except expansion to meet the product development needs. The groups will remain located in Merrimack.

1. Jack Gilmore and the Program Management function for Word Processing will report to Si Lyle as Program Manager for Office Information Systems, OFIS. This will include the current and future Word Processing products, various editors with word processing capabilities and the Electronic Mail System under development and future office applications.
2. Bob Travis's Word Processing Software Engineering organization would become part of the Software Engineering organization in Merrimack and report to Bruce Stewart.
3. Bob Gray's Word Processing Hardware Engineering organization would become part of the Engineering Organization in Merrimack and report to Brian Fitzgerald.

This move is designed to give greater emphasis on OFIS products within our basic central products, especially their availability on the 11 and VAX products. This follows direction from last year's Product Strategy. Also, there will be greater emphasis on converging current, standard editors to be part of the OFIS system in a compatible fashion to build off the strong field sales support and customer base and the WP Product Line.

The current and planned hardware and software developments will continue on the 8 based systems aggressively, since the 8 will be the mainstay WPS product for the foreseeable future!

GB:swh
GB1.S1.27

"TO" DISTRIBUTION:

STAN OLSEN
SI LYLE
BOB TRAVIS*

BOB GRAY
JACK GILMORE

BILL JOHNSON
BOB DALEY

"CC" DISTRIBUTION:

BRUCE DELAGI
GEORGE PLOWMAN
OOD:
OPERATIONS COMMITTEE: @CLEM
PMC:PMC: @CLEM

DON ALUSIC
STAN PEARSON
OOD: @CLEM
OPERATIONS COMMITTEE: @MR16
PMC: @MR16

ROGER CADY
BILL PICOTT @MR16
OPERATIONS COMMITTEE:

* DIGITAL *

INTEROFFICE MEMORANDUM

TO: Word Processing Product Group
Operations Committee
Sales Organization
Product Group Managers

DATE: 1/18/80 Fri 15:32
FROM: Stan Olsen
DEPT: Computer Products Group
EXT: 264-5000
LOC/MAIL STOP: MK1-2/C36

SUBJECT: WORD PROCESSING

Over the last four years we have successfully started a Word Processing business for DEC. I believe it is time now to implement a new direction for the Word Processing effort. To this end, I have been working with members of the Operations Committee to set the new direction. I expect to complete this task prior to the end of FY'80.

I want to announce now the following changes:

1. The transfer of responsibility for product management and engineering to Central Engineering from the Product Group.

Jack Gilmore, who has been the Corporate Product Manager for our Word Processing effort, along with being the profit center manager for our Word Processing business will now be asked to focus his energies on the Product Management aspects of Word Processing, Electronic Mail, and the Office of the Future. Jack was the major force behind our product development and engineering which allowed us to become a significant factor in the Word Processing marketplace. He also successfully started our business push in the Word Processing arena. Jack will move into his new role immediately and will become part of the Central Engineering organization. I would like to take this opportunity to thank Jack for his past efforts and wish him continued success in the future.

2. I will be taking responsibility for ensuring our FY'80 plans and programs are met. In addition, I will continue to review the role that this group will play in the total Corporate efforts with the Operations Committee.

Let me end this announcement with a statement Ken made recently relative to Word Processing. "We have made major investments in the last five years. We have grown at an enormous rate and we have consistently, publicly, emphasized the importance of Word Processing."

My goal will be to optimize and increase our resource commitments to office automation. We expect to get a significant share of the office automation market and are committed to do so.

* d i g i t a l *

TO: GORDON BELL*

DATE: SUN 20 JAN 1980 8:25 PM EST

cc: see "CC" DISTRIBUTION

FROM: BOB GRAY

DEPT: WORD PROCESSING

EXT: 264-5874

LOC/MAIL STOP: MK1-1 J14

SUBJECT: RE: SOLID WIRE, ETC.

SUBJECT: WS200 HARDWARE ISSUES

Below is a response to your January 13th questions about the WS200 system hardware. Beneith the specifics I sense a loud and clear frustration with your experience with this installation versus what we should be capable of.

The changes described below, coupled with QC'ed software, I believe will result in an acceptable product. However, this is an appropriate time to look deeper and address the broader issues that will result in producing superior products for the future!

Re: 13 Jan - Solid Wire, etc.

1. 20ma connection - this is not recommended, as you found out. The Field Maintenance Print Set is the reference document for configuration and installation information. It calls for EIA cables. It is used by Sales Support and by the Sales Force in configuring WS200 systems. Normally the proper cables are put on an order by the Sales Rep. On in-house orders, there is a word processing specialist in PL81 who should be used as consultant and who normally "tech-edit" orders. This procedure was apparently not followed with your system.

Re: modular jacks - I think they are great - will arrange meetings to see who and how we should deal with wiring the office!

2. Serial LQP - the LQP8-FA and LQP02 are both listed in the Engineering Yellow Book. The LQP8-FA will likely ship in Q1 FY81. Hardware is has completed pilot production and software for the WS78 is included in V3.3. WS200 support is being delayed by the quality assurance difficulties with the WS200 software.

3. Simplification - the WS200 is currently a bounded system with comparatively few options. The present modularity was created to be competitively priced (at adequate margins) at each number of terminals. The "Dick Best Option List" is currently inflated with listings of the old RX01 based systems, and obsolete WS202 systems. Despite the appearances, there are only three basic levels of the product - at the 3, 6 and 8 terminal levels! We have analyzed the early shipments and have found a clustering of configurations at the 2 printer and 4 terminal level. In addition

We have funded the development of a 128k word memory board for availability in Q1. During the remainder of FY80, we have instituted a "level build program" in Salem so we can reduce the peakings that normally occurs at the end of quarters. We are including only 4 options in this program and are giving the sales force incentives to fit their customers into these variations. We are also in the Phase 0 of the MS8D(128k word memory)/RL02 upgrades and our target release is late Q1/early Q2. It is proposed to limit configurations to the 4 and 8 terminal levels. We are open to recommendations for simplification beyond this, that is also consistent with market needs - could you be specific on your thoughts?

*No offering
of parallel
Don't
offer*

4. Field Service - a detailed self-paced training program is now being developed for the "terminals techs" on the WS200. Expected completion is currently late Q4. In addition we are driving a "PDP8 system diagnostics upgrade" project. Its present status is that we have a problem definition and some suggested solutions. We intend to work with Sam Carpenter in Herb Shanzer's department in achieving implementation.

Additional Followup

There are some more general issues to address:

* OFFICE ENVIRONMENT STANDARDS - these are very badly needed. Each environmental DECSTU needs a well thought out "office environment" section. Especially critical are: acoustic noise, static susceptibility and powerline noise/brown out susceptibility. We stand no chance of having appropriate components to work with in the future without this. As we have a great deal of experience in this area, it would seem appropriate that we drive the changes. I will be proposing a project on this during the next few weeks.

* BUSINESS MACHINE LEVEL FIELD SUPPORT - the traditional option level repair with "expert techs" does not work. The "man in the van" is a solid step in the right direction. "Tech-Mate" is another step - the field support must be closely integrated with the design effort.

* MANAGED PRODUCT ASSURANCE - non-existent at the level of product the customer is buying! Official procedures are not being adhered to, there are gaps between engineering and the factory and between the factory and field service. We do product assurance in a "response to crisis fire drill" mode - we need to manage total product assurance. I have an offer and acceptance by Bob Kirk to return from Colorado Springs to head such a system level product assurance function for our office products. I am in the process of trying to accelerate his transfer date.

* USE OF PDP8 - while never explicit written policy, the objective evidence is that the PDP8 has been treated as if it is a "Cash Cow". I find it inconsistent to try to build a "Winner" business based on a hardware product that is so treated. In

addition, the PDP8ISP is not well suited for multitasking time share systems - which is what the WS200 is! (the single user products are also multi-tasking systems - only slightly more appropriate!). I recommend that this issue be looked at carefully! Could WORD11 be used to switch to an ii base quickly? What would the cost be if we so switched? Do we have other better alternatives?

* ENGINEERING/MARKETING TENSION - while a key organizational requirement, we have had an environment where folk-lore has replaced fact and there is little shared reality on what and why major developments take so much resources. More open communications is appropriate. The burden, I believe, is on Central Engineering to find ways to educate the marketing groups and to provide a better understanding of "where the money and time goes!" I think its a "public relations" issue!

"CC" DISTRIBUTION:

JACK SHIELDS
GEORGE FLOWMAN
BOB TRAVIS

DON BUSIEK
JACK GILMORE
BOB MCGEARY

DICK CLAYTON
BOB DALEY
BILL PICOTT @MR16

* d i s i t a l *

TO: GORDON BELL*
BRUCE DELAGI
BOB DALEY
BRUCE STEWART

DATE: SUN 20 JAN 1980 6:35 PM EST
FROM: BOB TRAVIS
DEPT: WORD PROCESSING
EXT: 264-5094
LOC/MAIL STOP: MK1-1 J14

SUBJECT: MAKING THE TRANSITION

With your concurrence and support, here's how I'd like to structure my activities in the short term:

1. transfer managerial responsibility for WPS Development to Bruce Stewart and Brian Fitzgerald as rapidly as possible over the next month.
2. take on an active architectural role in the development of integrated text and data processing (OFIS).
3. assume responsibility for bringing together (under Gordon's sponsorship) the efforts of Corporate Research, Medium Systems, Terminals and Small Systems, Distributed Systems, Commercial Systems, Computer Products in order to provide a corporate focus for OFIS hardware and software development.
4. work toward the development/modification of DEC and industry standards in the data base, communications, and text encoding areas to encompass the needs of integrated text and data processing.
5. continue to provide technical consulting to the WPS development group on the design and implementation of current and planned enhancements to the WPS products.

Planned allocation of time:

1. 100% to 0% from now to Feb 15.
2. 40%
3. 20%
4. 20%
5. 20%

* d i s i t a l *

TO: see "TO" DISTRIBUTION

DATE: SUN 20 JAN 1980 6:26 PM EST

cc: LARRY PORTNER
SI LYLE
BOB DALEY

FROM: BOB TRAVIS
DEPT: WORD PROCESSING
EXT: 264-5894
LOC/MAIL STOP: MK1-1 J14

SUBJECT: RE: PRIORITIES IN WPS AND OUR FUTURE PLANS

Next Friday (25 Jan) should produce a revised "set well" calendar for the WS200 software, and a plan for fixing the WD200 performance problems.

WPS-8 contractual commitments are of two types: written and verbal commitments to specific customers, and general commitments to the marketplace. Product line people will need to compile both lists, with Jack's help, over the next few days, to check against the WPS development project plans.

Conversion of current functionality to the 11/VAX et al. will begin in earnest this quarter; a start has been made. A Phase 0 review will be announced soon, as soon as the cursory project plan and functional spec are ready. With respect to a small single-user version, an allowance for 50% size growth in all modules of the WPS8 code says a 24-28 Kword goal is realizable, putting it in range of the PDTs; RX02-sized system disks might be a necessity, though, because of software residence requirements.

The people in Tom Vlach's EMS group have been working with the EDT developers to implement a true WPS subset for ASCII files, and they have achieved a close approximation already, using EDT V2 without changes. The WPS developers responsible for the 11/VAX/... editor will be looking to use the EDT modules as a base if at all possible.

"TO" DISTRIBUTION:

GORDON BELL*

JACK GILMORE

BRUCE STEWART

* d i g i t a l *

TO: see "TO" DISTRIBUTION

DATE: FRI 18 JAN 1980 4:07 PM EST
FROM: STAN OLSEN
DEPT: COMPUTER PRODUCTS
EXT: 264-5000
LOC/MAIL STOP: MK1-2 C36

SUBJECT: WORD PROCESSING

This memo will be forwarded to the Sales Organization by Ted Johnson.
***** INTEROFFICE MEMORANDUM

* DIGITAL *

TO: Word Processing Product Group
Operations Committee
Sales Organization
Product Group Managers

DATE: 1/18/80 Fri 15:32
FROM: Stan Olsen
DEPT: Computer Products Group
EXT: 264-5000
LOC/MAIL STOP: MK1-2/C36

SUBJECT: WORD PROCESSING

Over the last four years we have successfully started a Word Processing business for DEC. I believe it is time now to implement a new direction for the Word Processing effort. To this end, I have been working with members of the Operations Committee to set the new direction. I expect to complete this task prior to the end of FY'80.

I want to announce now the following changes:

1. The transfer of responsibility for product management and engineering to Central Engineering from the Product Group.

Jack Gilmore, who has been the Corporate Product Manager for our Word Processing effort, along with being the profit center manager for our Word Processing business will now be asked to focus his energies on the Product Management aspects of Word Processing, Electronic Mail, and the Office of the Future. Jack was the major force behind our product development and engineering which allowed us to become a significant factor in the Word Processing marketplace. He also successfully started our business push in the Word Processing arena. Jack will move into his new role immediately and will become part of the Central Engineering organization. I would like to take this opportunity to thank Jack for his past efforts and wish him continued success in the future.

2. I will be taking responsibility for ensuring our FY'80

plans and programs are met. In addition, I will continue to review the role that this group will play in the total Corporate efforts with the Operations Committee.

Let me end this announcement with a statement Ken made recently relative to Word Processing. "We have made major investments in the last five years. We have grown at an enormous rate and we have consistently, publicly, emphasized the importance of Word Processing."

My goal will be to optimize and increase our resource commitments to office automation. We expect to get a significant share of the office automation market and are committed to do so.

"TO" DISTRIBUTION:

OPERATIONS COMMITTEE: - OPERATIONS COMMITTEE: @CLEM
OPERATIONS COMMITTEE: @MR16PGM:PGM: @CLEM PGM: @MR16

* d i g i t a l *

TO: OOD: @CLEM
OPERATIONS COMMITTEE: @CLEM

DATE: FRI 18 JAN 1980 4:29 PM EST
FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1 A51

SUBJECT: WPS ORGANIZATION FOR ENGINEERING AND PROGRAM MANAGEMENT

GB1.S1.27

DO TO A PROBLEM WITH CLEM, YOU DID NOT RECEIVE THE FIRST ISSUE OF THE FOLLOWING MESSAGE:

FROM: GORDON BELL

DATE: FRI 18 JAN 1980 12:47 PM EST

DEPT: OOD

EXT: 223-2236

TO: STAN OLSEN

BOB GRAY

BILL JOHNSON

SI LYLE

JACK GILMORE

BOB DALEY

BOB TRAVIS

cc: BRUCE DELAGI

DON ALUSIC

ROGER CADY

GEORGE PLOWMAN

STAN PEARSON

BILL PICOTT @MR16

OOD:

OOD: @CLEM

OPERATIONS COMMITTEE:

OPERATIONS COMMITTEE: @CLEM

OPERATIONS COMMITTEE: @MR16

PMC:

PMC: @MR16

SUBJECT: WPS ORGANIZATION FOR ENGINEERING AND PROGRAM MANAGEMENT

As part of the evolution and expansion of Word Processing within Digital, we are planning on making the following organizational moves within the engineering and product management function. It is not anticipated that there be any structural changes within the various organizations, except expansion to meet the product development needs. The groups will remain located in Merrimack.

1. Jack Gilmore and the Program Management function for Word Processing will report to Si Lyle as Program Manager for Office Information Systems, OFIS. This will include the current and future Word Processing products, various editors with word processing capabilities and the Electronic Mail System under development and future office applications.

2. Bob Travis's Word Processing Software Engineering organization would become part of the Software Engineering organization in Merrimack and report to Bruce Stewart.
3. Bob Gray's Word Processing Hardware Engineering organization would become part of the Engineering Organization in Merrimack and report to Brian Fitzgerald.

This move is designed to give greater emphasis on OFIS products within our basic central products, especially their availability on the 11 and VAX products. This follows direction from last year's Product Strategy. Also, there will be greater emphasis on converging current, standard editors to be part of the OFIS system in a compatible fashion to build off the strong field sales support and customer base and the WP Product Line.

The current and planned hardware and software developments will continue on the 8 based systems aggressively, since the 8 will be the mainstay WPS product for the foreseeable future!

GB:swh

* d i s i t a l *

TO: JACK GILMORE
cc: STAN OLSEN
LARRY PORTNER

DATE: THU 10 JAN 1980 10:01 PM EST
FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1 A51

SUBJECT: INVITATION T

We would like to invite you to become a part of Engineering. This is along the lines of various discussions you have had with Larry and Stan. The way we believe the organization would work is:

1. You become a member of Si Lyle's staff as Program or Product Area manager for the OFIS Products.
2. Bob Travis would report to Bruce Stewart (who reports to Bob Daley in MK) as the chief architect for WPS and OFIS Products.
3. The programming group would report to Bruce.
4. The hardware group would report to Brian Fitzgerald.

Although the WPS work would be your main responsibility, especially setting orders for the WPS 78, 278 and 200 from the P/L's, for the short term, the efforts to get us to full OFIS capability would be your longer term work. This includes:

1. any R and D in this area, and setting the needs there
2. setting Mail and the Post Office
3. Compatibility with EDT and KED, and perhaps using EDT in the short term so that we have a WPS compatible editor ASAP across VAX, RSTS and RSX.
4. working on the compatibility of FMS (forms) and what you have promised in release 6
5. defining how we are going to set intelligence for editing moved into the immediate and successor terminals
6. stabilizing future 200's so that we meet our commitments and are able to set a high growth of products in the next 2 years, followed by use of 11's as main line, with ability of 200's to front end mainline VAX, 11 and 10/20 standard products in a clear way, transparent to user.
7. solving technical problem of ease of converting to arbitrary language
8. compatibility such that typesetting can be done from a WPS terminal
9. essential compatibility of files so that our programs on the various systems can read and write wps files with no extra programming

We are committed to become the dominant supplier of WPS systems in the next three years by:

1. building on and fixing the systems we have now
2. introducing the 278 in the near term
3. moving all the wps software to vax, rsts, and m (and possibly 10/20) so that we dominate this on the basis of the number of installed terminals

Please Join us and continue the fine work you have started as a Product Line.
Resards,
Gordon

CC: STAN OLSEN
LARRY PORTNER

SUBJECT: RE: INVITATION T

I am pleased and honored to be invited to join your organization. If it is possible I would like to meet with you, Larry and Si tomorrow afternoon. I will be returning from a customer meeting at the Boston office and could be available anytime after 2:PM.

Regards,

Jack

Command >

HANDOUT
OC 4 DEC 78
STAN OLSEN

A Low Cost Single User System

This is a proposal to develop a low cost computer where the cost reductions are made by integrating the functions of the video display controller and floppy disk controller with the main CPU of the system. Using some LSI devices, basically the DEC large scale gate arrays, the estimate is that the total chip count for the CPU, memory, video display controller and floppy interface would be in the region of 50 devices (vs 450-plus in the current VT-78).

Experience with a display system suggests that using the 6120 CPU for these functions will yield a machine that has the following performance relative to the existing DS-310 (PDP-8/A based) and the VT78 (6100 based).

DS-310	VT78	New Machine
100%	40%	70%

It is difficult to say what is an average instruction mix, but it is probably not too unreasonable to say that things average out to a machine that is indistinguishable from a DS-310.

Proposal

A Minimum System:

- CPU, closely coupled VT52-like Video, VT100 appearance
- 16K words memory
- Interface to a Floppy Disk System
- Serial Line Interface (ONE)
- VT100 packaging, including serial, detached keyboard.

Options:

- Additional 16K words memory (not possible with VT78)
- Additional video attributes (blink, bold, underline, reverse video)
- A second serial line controller

Product

A VT78 replacement with the following additions/deletions:

+	-
Faster (2:1)	No MR78 Port
Cheaper \$600 v \$1400	No Parallel Printer Port
VT100 appearance	One SLU

ESTIMATED TRANSFER COSTS

Minimum System:

CPU BOARD	=	\$300
POWER SUPPLY	=	30
TUBE & ENCLOSURE	=	200
ASSY & TEST	=	70
		<u>\$600</u>

Options:

16K WORDS MEMORY	=	\$100
VIDEO ATTRIBUTES	=	30
SECOND SLU	=	25

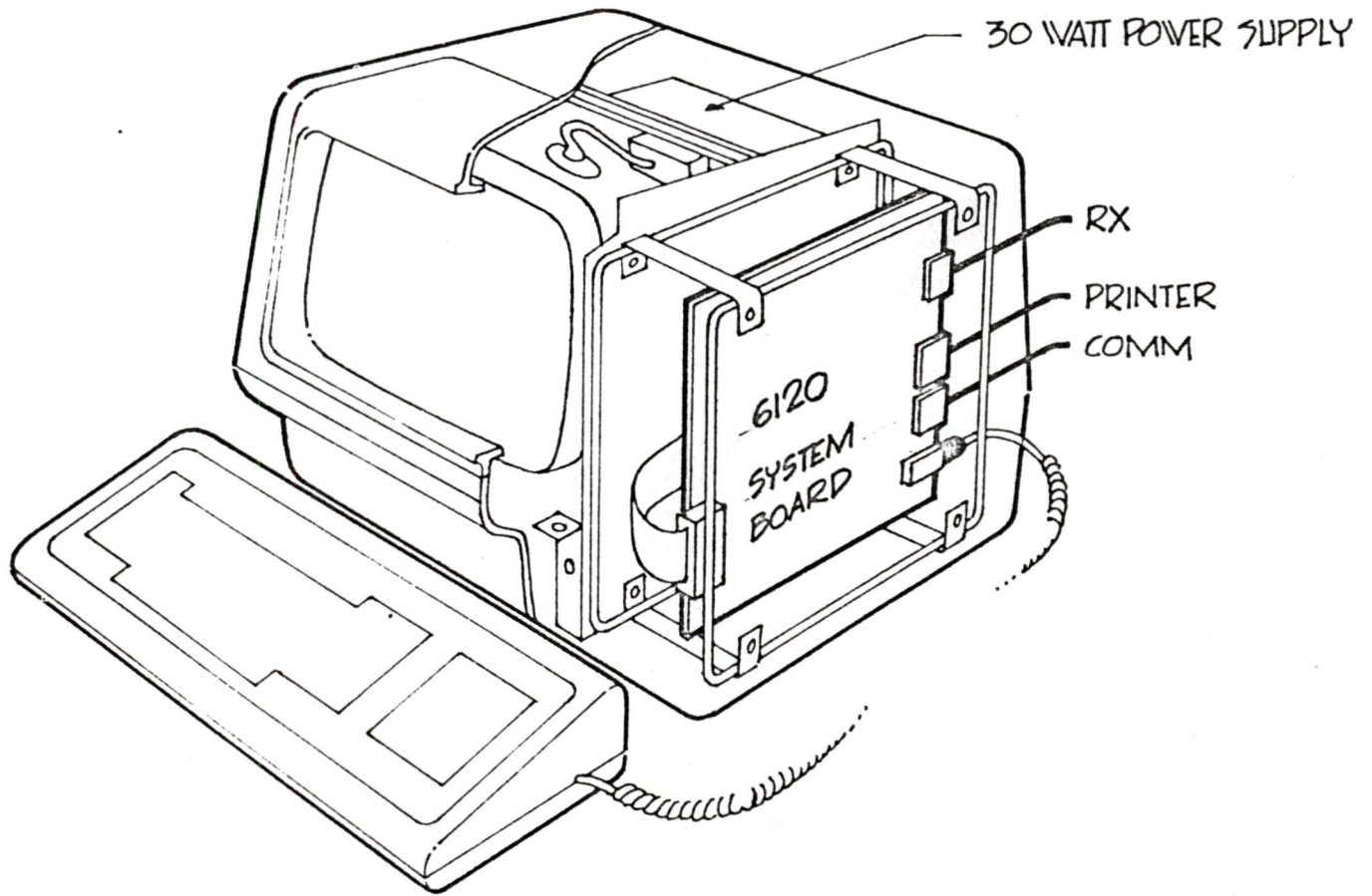
Table Top Floppy's = \$ 700 (Single Sided, Single Density, 1/2 MB)
 = \$1000 (Double Sided, Double Density, 2 MB)

ESTIMATED HARDWARE DEVELOPMENT COSTS

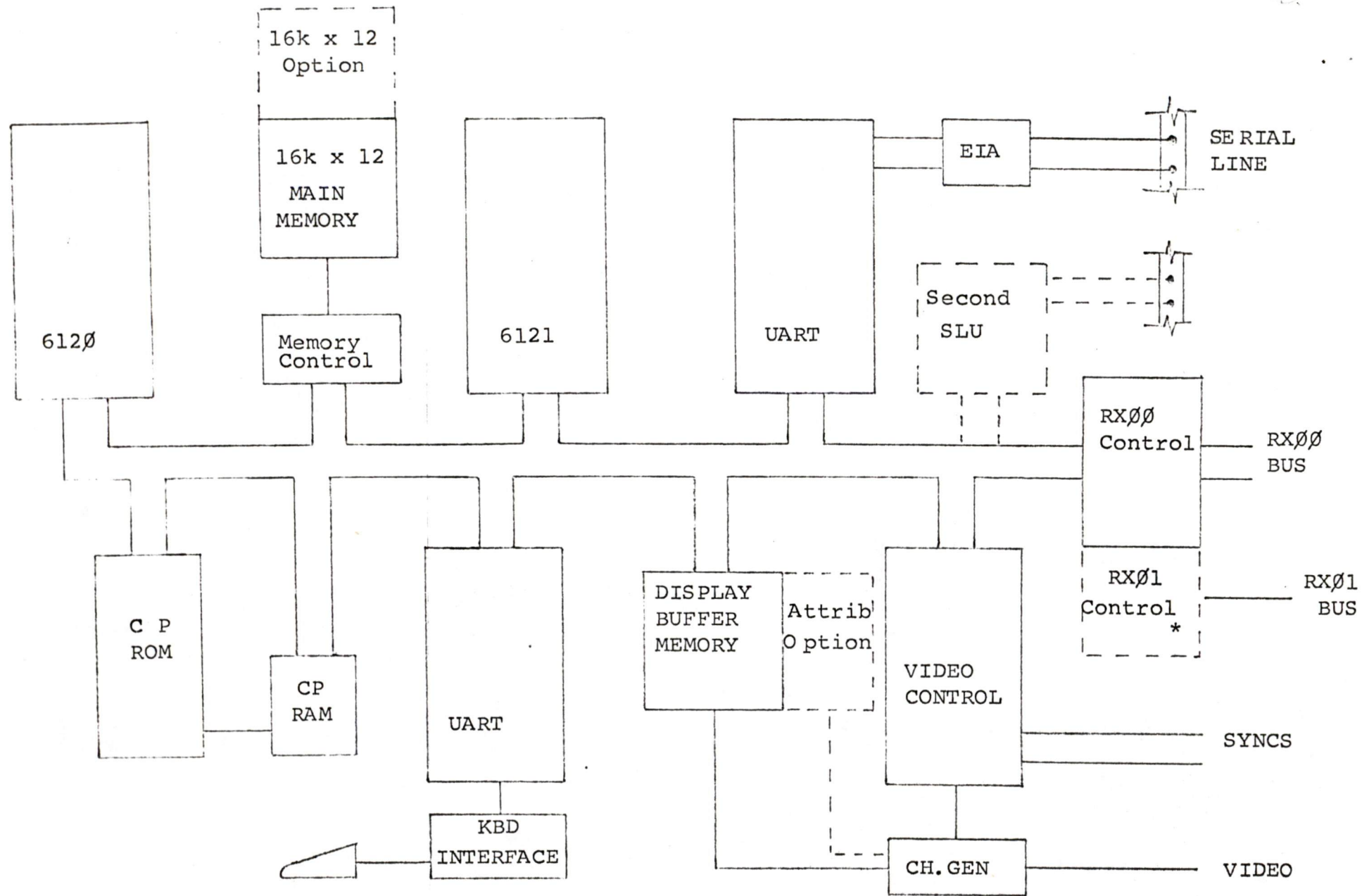
	<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>TOTAL</u>
FY-79	0.0	0.0	78.0	129.0	207.0
FY-80	170.0	131.0	73.0	53.0	427.0
					<u>634.0</u>

PROJECTED ENGINEERING SCHEDULE

5 DEC	Start Design
2 JAN	6120's Available
15 JAN	Start Breadboard Debug
16 FEB	Breadboard Running Start 1st Pass Layout
13 APR	1st Pass Etch Boards
14 MAY	1st Pass Protos Running Start 2nd Pass Layout
29 JUN	2nd Pass Etch Boards
16 JULY	2nd Pass Protos Running Start Etch Release Start Hardware Qualifications
30 JULY	Start Design Maturity Testing
14 SEPT	Hardware Qualifications Complete Start Manufacturing Pilot Run
1 OCT	Design Maturity Testing
12 NOV	Manufacturing Pilots Shipped
1 DEC	Start Volume Build
18 JAN	FCS



LOW COST SINGLE USER SYSTEM



* Only required if RX00 schedule later than this schedule.

LOW COST COMPUTER BLOCK DIAGRAM

22-Nov-78 JK.

29-Nov-78 Rev.A

SMALL SYSTEM COMPARISON

	DEC STATION	6120	FONZ-TOBY		TINY
	78	SYSTEM	RT-11	SCS-11	
STATUS	EXISTING	NOT PLANNED	NOT PLANNED	IN DEVELOPMENT	IN DESIGN
MINIMUM CONFIGURATION					
PROCESSOR	6100	6120	F-11	F-11	T-11
VIDEO	VT52	VT52+	VT100L	VT100L	?
MAIN MEMORY	16K	16K	16K	32K	16K
MASS STORAGE	RX01/02	RX01	RX01	RX03	?
TRANSFER COST	\$2,200	\$1,300	\$1,700	\$2,200	\$1,400
AVAILABILITY	NOW	Q3/FY-80	Q3/FY-80	Q3/FY-80	Q3/FY-81
EXPANSION CAPABILITY					
VIDEO	NONE	BOLD, BLINK, ETC.	VT100	VT100	?
MAIN MEMORY	NONE	32K	128K	128K	32K
MASS STORAGE	NONE	RX03	RX03	NONE	?
SOFTWARE OPERATING SYS.	OS-78 COS-310	OS-78 COS-310	RT-11 RSX-11S	RSX-11M SCS	RT-11 RSX-11S
SOFTWARE APPLICATIONS	WPS DIBS	WPS DIBS	--- ---	WPS DIBS	? ?
DEVELOPMENT COST FY-79/80	---	\$634K	←	\$2000K	?

POSSIBLE PRODUCT MIGRATION

	<u>ENTRY SYSTEM PRICE</u>	<u>AVERAGE SYSTEM PRICE</u>	<u>HARDWARE</u>	<u>SOFTWARE</u>
FY-79	\$10 K	\$13.5 K	VT-78	DIBS I
	6.5K	10.0 K	VT-78 PDT	DIBS II 5 VERTICAL APPLICATIONS
FY-80	5.0	7.5	6120 SYSTEM FONZ-SCS	DIBS III 15 VERTICAL APPLICATIONS
FY-81	3.0	6.0	6120+ FONZ-SCS	DIBS III-C 30+VERTICAL APPLICATIONS CARTRIDGES
FY-82				

POSSIBLE FY-82 PRODUCTS

BASE UNIT

SELLING PRICE

CPU, KEYBOARD, SCREEN, 1 MEGABYTE DATABASE

\$2,200

ADVANCED VIDEO OPTION

500

PRINTER

BASIC

800

ADVANCED

1,600

LETTER QUALITY

2,600

ADDITIONAL STORAGE OPTION

(1 MEGABYTE)

800

EXPANDED DATABASE OPTION

(ALLOWS 4-USER ACCESS)

10 MEGABYTE

2,500

20 MEGABYTE

4,000

APPLICATIONS SOFTWARE CARTRIDGES (ROM)

\$50-\$1,000

DEC 18 1975
12-56

PAGE 1

SUBJ: R AND D \$

DATE:

16-Dec-75

FROM: *B* →

GORDON BELL

EX:

2236

MS:

ML12-1/A51

from
 * * * * *
 TO: BOB PUFFER ML1-3/E38
 * * * * *

Subject: Request for R and D \$ for Word Processing

To: MC/OC/OOD/Jack Gilmore, Rich Kalin, Ed Fauvre, Jim Bell, Ed Corell, George Friend

The attached begins to get at some issues of Word Processing market. I assume we are planning to be a strong supplier. We have a really nice, relatively expensive, product to market - whose price can (must) be lowered through multiple terminals.

It's aimed at users who have our equipment already; or would buy it to do on a shared basis with other work. Yet - since it'll be so useful, it'll be tied up full time. Since people who buy this are of the "purchasing-agent mentality*" there may be a problem when it's found to be more costly.

The immediate future (next 5 years) scenario isn't terribly clear to me, although the longer term (>5 years) is.

For now the alternative units:

1. Relatively expensive standalone but rapidly decreasing in price too;
2. A very low cost, smart typewriter (couldn't IBM just evolve into this??). Remember that a complete CPU + typewriter + cassette should cost about 500-1000.
3. Small, shared systems decreasing in price too; (2-8 CRT terminals) with 1 or 2 hard copy out parts (here we might just be most cost effective).

In the future it's obvious: A large shared unit with very low cost CRT's everywhere (for entry and editing) which does input, electronic mail, output, and filing. This is the only economically viable method, since all the word processing productively will create a copying, mailing, and filing cost crisis. Also it can get rid of much paper.

Since we're going here, I want some extra R and D funds

FORM 8310 HO PRINTED IN U.S.A.

SUBJ: R AND D \$

DATE:
FROM:

PAGE 2
16-Dec-75
GORDON BELL

(i.e., 1 person) to be able to track key components necessary to its ultimate success:

1. Letter perfect printer and alternatively
2. Xerox quality direct I/O which bypasses any direct hard copy unit.

Marketing Committee/Stan, please send \$.

*phenomenon that on buying lowest priced unit, enables user to spend several times the price savings because it is a poor unit.

GB:lp

Attachment

Who do you want to be
the R & D
Cilmore?
Creech?
Portner / Favre?
Is this really a product
Mgr you want or a
technologist? Should I
Control my spending &
or should we leave it as is
in a dedicated product
line environment?
Bob Puller

FORM 8510
HO
PRINTED IN U.S.A.

* d i g i t a l *

TO: *GORDON BELL
STAN OLSEN

DATE: FRI 8 MAY 1981 4:53 PM EDT
FROM: TED JOHNSON
DEPT: CORPORATE MARKETING
EXT: 223-5942
LOC/MAIL STOP: ML10-2/A55

SUBJECT: KHO'S MAY 4 MEMO RE APRIL 18 OC MTG - 278 PROPOSAL

This is all yours.

* d i g i t a l *

TO: OPERATIONS COMMITTEE:

DATE: MON 4 MAY 1981 11:30 EST

FROM: KEN OLSEN

DEPT: ADMINISTRATION

EXT: 223-2301

LOC/MAIL STOP: ML10-2/A50

cc: STEVE COLEMAN

SUBJECT: APRIL 18, OC MEETING - 278 PROPOSAL

At the next Operations Committee Meeting, I would like to have a proposal on our plans for the 278.

The 8 group was abolished a year or so ago, and I do not think we have a team that believes in the 278. It is hard to imagine it ever being a success without a team, and a project, and a crew committed to making it work.

The proposal ought to convince us to have this team, that there is a market, and that it will be a success.

KO1:S4.7

04-MAY-81 11:39:28 S 1910 BURT

08-MAY-81 17:16:12 S 15292 EM01

* d i g i t a l *

TO: BUZZ BROOKS

DATE: TUE 19 MAY 1981 3:32 PM EDT

cc: GROUP VP COMMITTEE:
SI LYLE

FROM: TED JOHNSON

DEPT: CORPORATE MARKETING

EXT: 223-5942

LOC/MAIL STOP: ML10-2/A55

SUBJECT: QUESTIONS FOR THE BUSINESS PLAN

1. Given the cost of 278, what is the argument for different levels of growth?
2. What is the linkage between the 278 and future small systems?
3. Who are the projected users of the 278, 200 and CT?
4. Why will they buy from DEC rather than somebody else? Especially Wang and IBM?
5. What have we got to displace Wang, who has an established position, even in our accounts?
6. How do we get a competitive advantage in the WP industry? Is it volume? Is it accounts?
7. What should our goal be? Overall WP industry market position? If so, how do we get there? Today, we are only focused on a limited set of accounts.

An equivalent feature set and the goodness of DEC appear to be insufficient confidence boosters.

I assume that if we had Wang's perceived ease of use and our communications and data processing, we would be able to displace them with an aggressive selling investment.

I believe you must have a goal accepted before you can get a plan accepted and supported.

gg
1:5.31

19-MAY-81 15:39:23 S 35042 EM01

TO: Andy Knowles
cc: Marketing Committee
Ken Olsen

DATE: November 29, 1978
FROM: John Leng *jl*
DEPT: Technical Group
EXT: 231-6312
LOC/MAIL STOP: MR1-1/A65

SUBJ: PDP-8

I believe we are on a track whereby we will lose control of the PDP-8 market. In rapidly moving our development and marketing to the low-end 11 family, we leave a large PDP-8 follow-on market with a huge software investment, significantly unfulfilled. Some of these customers will move to the 11 and others will buy microprocessors and do their own thing. However, if someone offers a follow-on competitive PDP-8, then many will surely buy this. I believe that we have possibly set up Harris with the new 8-chip design to fill this void. Others, from within and outside DEC, may also set up companies to use this chip and go after the follow-on market. Unless we find a way of carefully winding down this business and controlling our software, then we could find ourselves with another \$50M-a-year, and growing, competitor.

This may be inevitable anyway in which case we may wish to cash in on it by licensing others to handle the business. Another approach could be to let TPL continue the business in an active way, without generating new accounts.

I believe the minimum we should do is to have the Marketing Committee look at alternative strategies, compare the investment and return on these, and then embark on one or more in a controlled way.

If you agree, how should we proceed?

digital

Must have plots of cost (t)

INTEROFFICE MEMORANDUM

TO: Gordon Bell
Jack Gilmore

CC: W.P. Task Force

Catalog -

DATE: 10 MAR 1977
FROM: Ted Johnson
DEPT: Sales
EXT: 5942
LOC/MAIL STOP: PK3-2/A55

attach to sell

in terminals P/L etc

Gordon Bell
MAR 11 1977

SUBJ: NOTES FROM CONVERSATION WITH GORDON

I stressed the need to separate the issue of what is the best initial and overall strategy in WP for DEC and the issue of our opportunity for DEC in selling a high volume of low cost stand-alone WP systems.

Gordon wants to see an answer to the marketing of small, low-priced WP systems (including hybrid applications).

He seems to feel that office-level stand-alone WP systems can be sold through some method other than direct (distributors, mail order). I feel we should look at this, but Gordon doesn't appreciate the difficulty of selling the individual prospect at this level.

Gordon is addressing the VT78. Jack is looking to the VT100. Gordon feels Jack is hung up on the 8/11 issue, and application is computer-independent at this level. Jack feels VT78 is short-lived offering.

Gordon is concerned that Jack's strategy of high-end down, versus starting to push small systems and work up, will push too much functionality into the software and system.

The general issue of learning to sell small systems in this price range is mixed into the issue.

Gordon feels we should sell VT78 the same way we sell Basic Terminals.

I wonder, after we use BP OEM outlets and push WP out through large companies, where the market is that we would miss and need other outlets (assuming we use what we have well).

I'd like to see a cost-per-terminal comparison projection for the distributed versus dedicated small systems approach. Large companies will buy on this basis, I would think, with other considerations weighed appropriately.

TJ/jgm

✓ Copy to Ken and Jack Gilmore

digital

INTEROFFICE MEMORANDUM

TO: OOD

gm

DATE: July 13, 1976
FROM: Larry Portner
DEPT:
EXT:
LOC/MAIL STOP:

JUL 14 1976

SUBJ:

Attached is an OOD recommendation to the Operations Committee on our activities in the Word Processing area, as requested at the OOD Jungle Meeting, for your review prior to being distributed.

gm
attachment

Ken

I'd like your reaction as part of our program to help the P/L's.

J

TO: Marketing Committee

DATE: July 12, 1976
FROM: Larry Portner
DEPT: Software Development
EXT:
LOC/MAIL STOP: 2471
ML12/A62

SUBJ: The OOD View on our Activities in the Word Processing Area

At our recent OOD Jungle Meeting, talking about products and structures, we chanced upon the topic of our activities in the Word Processing area, and we felt there was a message that we wanted very strongly to give to the Marketing Committee. We believe uniformly that this is an area of extremely high potential for DEC. We believe that now is the time to be optimizing our future posture in this marketplace by aggressively pursuing product development. We believe that the present product represents a major step forward in our capabilities in this area, but now is the time when we should be investing much more aggressively on refining the product and reducing both the initial entry cost and the cost per terminal. In short, we believe that this is the time to be engineering intensive in the Word Processing area.

It was uniformly felt among the OOD members that the subtle but very real pressures put upon Product Lines to become profitable (to make their business viable by having an acceptable volume and by very quickly being in the marketing and commercial phase) may be operating against us in the Word Processing area. We believe that the message that's appropriate to give to Jack Gilmore now is, "let's look realistically at the amount of engineering necessary to get competitive products for the longer term, and not dissipate our energies in beefing up the sales force, getting involved in promotion, marketing activities, and compromising our engineering efforts and budgets to make a viable financial showing".

In short, the pressures on Product Lines at DEC are very, very strong, particularly in a start-up situation to "show a profit and get the volume up". Even when these pressures are not clearly articulated they are very strongly felt by the Product Line Managers. We believe that the Word Processing area is subject and responding to these pressures and we believe that the official mandate from the Marketing Committee should be to focus on product refinement, more intensive engineering, get the cost per terminal down, and build the product for the long haul. We believe we as a company can do without the revenues from this product in the short term but cannot afford not to be in this market in the long term.

Cost / terminal matters
NOT Features
JP

Gomdbyd > Q

Exit

* d i g i t a l *

TO: see "TO" DISTRIBUTION

cc: see "CC" DISTRIBUTION

DATE: SUN 14 DEC 1980 10:31 AM EST
FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1/A51

SUBJECT: PROPOSAL FOR GETTING MORE PERFORMANCE OUT OF WPS

I sent back a proposal via Bruce to take a stab at trying to fix our WPS interface to see if we can address the performance question. I'm disturbed that we have gone off on a red herring that's aimed at proving that the benchmark is no good. Unless I hear different, I want this stopped immediately. Yes, the benchmark may have faults, but it does let us compare a number of systems and it let's us improve our own, based on a constant. The marketing folks can do anything they want, but stop our people and get them to work measuring!

It is totally understandable that our system can be outdone by a Wang. Can we see what we do with the 278 in this regard, given that it is substantially faster in terms of scrolling, etc. This is only a palliative, the problem is tthat it seems intuitively obvious that the cursor has to move, not the page... hence the name, Polish WPS. All I want to do is to do a quick fix so that we can explore this proposition. Can we just try it and then run the tests simply?

The proposition.

1. Don't move what's on the screen unless more is added.
2. Use the keys to move the cursor on the screen.
3. When the cursor calls for more or less, give it to the user and flush what's on the top or bottom.
4. On inserting, flush stuff above, not below so that the user has his future context, not the past ... this assumes that the user is editing forward, not backward through the document.

Let's see if we can try this. What's the possibility?

"TO" DISTRIBUTION:

OWEN FISK AND STEWART

BRUCE STEWART

BOB TRAVIS

"CC" DISTRIBUTION:

BILL ZIMMER AND STEWART
ROBERT MCKENZIE

JACK GILMORE

JIM ROGERS AND STEWART

00 BURT DECGRAM ACCEPTED S 23137 0 72 27-JAN-81 02:02:31

* d i g i t a l *

TO: BUZZ BROOKS
TED JOHNSON
cc: MARKETING COMM:

DATE: MON 26 JAN 1981 23:06 EST
FROM: GORDON BELL
DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1/A51

SUBJECT: GETTING CHARTERS AND ORGAINZED TO SELL WPS PRODUCTS

We are about to get our product acact really together here. Now I'm concerned that we may not be able to get the market. Please tell me it ain't so. But here's how I see it:

We have to win in the WPS and Office Marketplace. The only way I know how is to get the whole DEC sales force turned on in a co-operative fashion. I predict the new line of products will only get us less marketshare, given our present Gerrymandering of the products and customers among salesman and marketers.

We currently sell:

78(stand alone); and
the DATAPRO award winning WS200. The 200 is unsuccessful because it is an 8 and also because the large WPS market has evolved to be like computing whereby there are new releases and new features... hence it is limited.

We are shortly introducing and have:

278, and 278 RL as standalones;
WS200s in inventory;
WS200 replacements based on DPD ... call it WS200A;
this is bounded to only do WPS
WS200FC, the file cabinet;
WS200WP/DP, the layered DPD product; and
potentially a terminal only version of the 278; and
the Electronic Mail/Office Automation story.

We have no forecasts of the 278 to speak of, no forecasts of the WP200A, 200FC, or 200WP/DP, and little experience of the other groups to sell WPS. We have a competitor that has grown at 70% per year, and we have the capacity to build 278's. We will introduce the above. It will:

1. Get the WP salesman their bookings based on large systems. Now they can become an old boy.
2. Get some interest in the other P/L's so these sales persons can feel good. This gets us a large backlog in both the P/L's and in WPS P/L's.
3. Create inventory in old 200's and 278's. The sales and marketing groups will have conspired to reach Nervana ... big, unshippable, backlog in our standard mid-range systems.
4. Get continued, negligible market share.

I suggest a radical restructuring of the P/L charters along the lines Ken has been advocating BEFORE the WPS Sales meeting next

month. It would give these charters:

WPS- sell all WPS products, excluding layered WP/DP!
End user- sell any products they want. (I know they
can't afford to get involved in the 278 or the 200.)
TPG- Use the terminals resellers to sell the 278
electronic only version as a pre-programmed terminal,
as part of the VT100, Smart terminal series. It is
infinitely better than the kludge they will introduce
as the VT131!

Frankly, I would like to see Digital and our customers win for a
change by letting the customers buy the product they need,
independent of P/L. The above proposal would:

1. Get WPS P/L business automatically by drag-along
sales and by non-participating P/L's.
2. The key P/L's would learn about WPS and would sell
them directly, rather than having to have to call in
their WPS colleagues, giving us a cheaper cost to book.

My admittedly limited view in the field is to see a salesforce
groaping with how to sell low cost systems with no tools or
leadership from the folks back at the ranch (ie marketing, cause
they are spending all their time praying, wrenching their hands
and talking to the engineers).

If we persist in the Gerrymandering, then all we will get is a
backlog, unhappy customers, continued complaining salesfolks,
continued ignorance about WP systems by every salesperson,
continued needs for having two salesperson covering a customer,
continued inexperience on how to distribute low cost systems, and
continued diddly marketshare. Remember: the bulls make money and
the bears make money, but the pigs get slaughtered.

I think we have the products and I would like to win!
(The above proposal let's everyone win!)

What you say?

Gordon

PS
Independent of how the corporation measures this, I only intend
to measure us on total marketshare. It's irrelevant who
distributes the product!

Buzz, you could help here by forcing this radical proposal that
will get you more business.

Ted, please help.

* d i g i t a l *

TO: see "TO" DISTRIBUTION

DATE: TUE 27 JAN 1981 23:32 EST

cc: MARY JANE FORBES
KEN OLSEN
GRANT SAVIERS

FROM: GORDON BELL

DEPT: OOD

EXT: 223-2236

LOC/MAIL STOP: ML12-1/A51

SUBJECT: SHOWING THE ELECTRONIC WPS AT THE WPS SALES MEETING

Ken is all turned on at showing this to further heighten the sales interest at the show. Also, he's pushing to see what a T and E version would look like there too.

What's the chance that we can give demos then? Or show what it would look like mechanically? or be used?

As an add on, it seems like we should also emulate some of the other guys in terms of off line storage for these systems by using a standard tape cassette, via hopefully some form of a built in modem. Note with the new digital signal processing chips, we should be able to program any frequencies using the conventional fsk ala modems and use them to go to tape instead of to the phone line.

Your paper sized terminal/computer would have the built in modem that would function like this so that it would plug into a phone, or some storage device using basically the same circuits.

"TO" DISTRIBUTION:

PAUL BAUER
STAN OLSEN

GARY COLE AND STAN OLSEN JOHN KIRK

OO BURT DECGRAM ACCEPTED S 10796 0 56 14-FEB-81 14:53:37

* d i g i t a l *

TO: see "TO" DISTRIBUTION

DATE: SAT 14 FEB 1981 14:50 EST

cc: JOHN LAI
JACK SMITH

FROM: GORDON BELL
DEPT: ENG STAFF
EXT: 223-2236
LOC/MAIL STOP: ML12-1/A51

SUBJECT: GETTING THE WPS MARKET; COMMENTS BY REDPATH (AND GB)

Fundamentally we have a paradox now within DEC when we have a product line that's fundamentally a very high volume product because by definition:

Winning as a product line means losing the market!

In the 2 cases of channel/product, product lines we have to lose cause we can't get the necessary coverage to get market share. Product goodness is generally irrelevant because better products wouldn't get us much more total market share. We should clearly recognize this dilemma and set about to constructively solve it by beefing up the Product Lines that provide us the natural learning and feedback mechanisms and focus that we must have to make and tune the products. All I want is a way to "get the market share".

Plan I

On Thursday, I hope to get from Bruce a collection of packaged systems we can make out of parts in inventory (eg. 11/34's, RK's of various types, and VT100's) that we can deliver starting in FY82 in high volume so that potentially we can PUSH OUT SOMEWHERE BETWEEN 250 AND 500 MILLION \$ IN REVENUE TO THIS MARKET, SO AS TO BECOME A SIGNIFICANT SUPPLIER! This only means about 10% more NES and everyone selling! This would be organized as some sort of task force to get the right, fixed configurations so that we minimize the paperwork, order processing, etc. in a streamlined fashion for the field folks. If we can put together these systems from inventory, we have the potential to solve one big part of the inventory problem and at the same time, get the market. In such an explosive environment, Buzz, will by any means, end up as a heroic Product Line, and furthermore as a PL entity will be essential for expertise.

Before we go off in any direction to push this, the first 2 steps would seem to be: can we get the products (Buzz and Bruce); and then test within the folks we have whether we are convinced we have the products to do this. Here, I'd like to get a few key veterans to look at this, like Ray Redpath, and ask them for a gut reaction. Then, we go into the 3rd phase, looking at how we'd partition the business to maximize ALL EXISTING SALES AND PRODUCT LINE CHANNELS. This would be done under Buzz's leadership, with some arbiters.

If I'm wrong in any of this, then I say we should relook at the whole mess, and then, I submit we should probably look at going about the business this way. This is plan II.

I'm confident the OFFICE products approach is going to be very good and competitive, thus I want us to be ready for them too. Also, from an engineering perspective, we are spending about \$10M/year (and with engineering overhead this amounts to \$20M/year). Since this is representative of the 8% corporate engineering number, then we should be getting about \$240M/year in NOR. I believe with these products, we can easily get this amount, and I'd like to see us go for it.

Given, this feeling about the products, it seems essential that we ask for an independent assessment by the sales, marketing folks and perhaps an outsider. Clearly what I'm advocating is a radical change in our thinking, and that alone is probably a reason to reject it and go back to our old way of waiting to see if the customers beat our doors down to buy the product, then running around like crazy to see if we can deliver them. (Here, this approach is probably not going to work cause there's no way for them to find out that we have any products.)

As officers and members of the marketing committee, we ought to try to sort these issues out calmly. The time is right! Can we discuss it on Thursday?

"TO" DISTRIBUTION:

BUZZ BROOKS

MARKETING COMM:

BRUCE STEWART

* d i g i t a l *

TO: see "TO" DISTRIBUTION

DATE: SUN 12 APR 1981 13:42 EST
FROM: GORDON BELL
DEPT: ENG STAFF
EXT: 223-2236
LOC/MAIL STOP: ML12-1/A51

SUBJECT: WE HAVE TO HAVE A WORKING 278 BEFORE WE CAN SHIP IT!

I don't believe the 278 is anywhere near being ready to produce. It doesn't have the quality, nor does it appear to have been adequately tested prior to it being available to me as a test site. It seems to have all the old problems. The package is disappointing too. I trust these will be solved by the new Gonzales/Olsen package.

Something is wrong with the software/firmware:

.the auto-repeat when you hold down the keys is simply not acceptable and THE PRODUCT WILL NOT BE SHIPPED UNTIL THIS GETS FIXED! I'm tired of these kind of sloppy products, so get it fixed. The VT173 editor on VAX works right, ie. when you hold down the key, the cursor takes off and moves slowly at first, gets faster and in no case moves faster than it can execute. In the 278, holding down the key executes a bunch of commands and eventually they get executed, but it's too late. In the case of the editor, it would seem that you have to remove the function from the terminal macrocode, hand it to the editor to deal with. This auto-repeat can work very well, but it has to be designed, not a free for all between the hardware and software folks.

.The cursor seems to be the wrong shape, and I find it disruptive. This was mentioned before. We have some folks who can help immediately on this one, get help.

.This particular keyboard sticks. I thought we got all these out of the system. If a customer gets one, he'll simply by Wang next time. I hate to think of all the customers who ended up with these keyboards on VT100's and LA's who thought they were buying quality products.

.When you come up in terminal mode, it could simply report that it's a vT100, assuming it is. This one drives me crazy cause EMS thinks it's a printer, and I get backslashes instead of backspaces.

.Our WPS Polish Editor. It is increasingly clear to me that this editor is sure costly in terms of the way one deals with the page and cursor. Recall that a Polish editor is one that instead of positioning the cursor to find something, positions the page. Several months ago I requested that we try an experiment and build the changes so that it works decently. We know how! EDT, the VT173, the VT134 editor, etc. all work fine. Let's have a trial change fix for this within two weeks. If you don't have the proposed change, then let me

know.

.The machine I have occasionally produces flaky patterns on the screen. Under certain circumstances, there are random marks that go across the screen. This ain't quality. Is the machine electrically screwed up? Is it a timing bug where the machine can't keep up with the real time and hence paints garbage? (If there is a timing problem, then let's figure out how to put up something decent, or to blank the screen for a whole cycle. If the software knows when something is missed, then it would be best to simply turn off the display for the rest of the scan.) Again, do you know about this problem?

.Glare. I trust Ken is solving this one. iIt has to be solved.

.I like the printer, though am anxiously awaiting the LA24.

PACKAGING

.I hope Ken has a place for the modem, spare floppies, the manuals (we haven't given him this requirement), a place for often used information (phone numbers, instructions) and paper. It would seem that if we have the two floppy case, the extra two floppies could be dummies and be replaced by drawers. Is there enough room to store papers, floppies?

Frankly, I am extremely disappointed in the 278 I have, cause we spent an incredibly long time last summer in trying to work on all these details with the Industrial Design group. The 278 is only attended to superficially. MORE THAN EVER, I WANT THE INDUSTRIAL DESIGNERS OF THE PRODUCT TO CO-LOCATE WITH THE PRODUCT DESIGNERS, NOT WITH THEMSELVES. DICK SCHNEIDER AND JOHN HOLMAN, IS THIS CLEAR?

We can take several attitudes about the system (a rehash of what we discussed last summer when we swore we would stop designing crappy products:

1. build components, they are small, unobtrusive and it's up to the user to make it into a clean system and be something useful
2. build it as a system as good as we know how. Unfortunately, like the 278, this may take up a lot of space, solve many problems but doesn't go all the way. The user has to deal with the manuals, floppy storage, paper holder. If I use the 278 I have for very long, then'll try to get sound deadener (auto parts store), a good paper holder somehow, put a drawer in it for floppies, and put a book shelf under it where my legs go. The modem and telephone on top of the crt though kludgy looking is functional as hell. (Note, I have to solve Ma Bell's problem cause the modem carrier rings in my ear... I simply can't believe that Ma Bell has any notion of quality! We should all laugh when we hear that Ma Bell thinks it is going to, should or can compete with IBM.)
3. build a set of modules so that the user can build a good system without having to be a total designer (like case 1), nor a redesigner. Frankly, I would hope we could take approach 3 with the NEW 278. Ken

believes this is what we have in the new 278.

I hope we are designing for the Dreyfus average man. As one who is only about 4# heavy in regard to the average, I hope we get these problems solved before we deliver the product.

Am anxiously awaiting the next version.

It's clear we have the knowledge to build a great product, now let's get the details completed so we really have one.

"TO" DISTRIBUTION:

GARY COLE AND STEWART
JOHN KIRK
DICK SCHNEIDER

RICHARD GONZALES
KEN OLSEN
HERB SHANZER

JOHN HOLMAN
OWEN FISKE AND STEWART
BRUCE STEWART

* d i g i t a l *

TO: STAN OLSEN

cc: see "CC" DISTRIBUTION

DATE: FRI 1 MAY 1981 14:16 EDT
FROM: OLLIE STONE
DEPT: APPLICATIONS
EXT: 264-7480
LOC/MAIL STOP: MK1-1C6/1C6

SUBJECT: THE DECMATE PEDESTAL DISK SYSTEM

d i g i t a l

INTEROFFICE MEMORANDUM

TO: Stan Olsen

DATE: 01 MAY 81
FROM: Gary Cole
DEPT: DECmate Product
Mgr.
EXT: 264-7478
LOCATION: MK1/1C6

SUBJ: The DECmate Pedestal Disk System

Over the last two weeks I have become increasingly concerned about this product and whether it is a viable device for CPG to commit its 100m\$ plan to for 1982.

First Issue: Product Readiness

The product is not going to be ready for ship by the end of May. UL/CSA certification will be delayed until mid-July (nothing ships without it.) DEC 102 testing is not completed and the unit fails drop test, FCC and static testing as of today.

Second Issue: Product Design

The product design is good in concept, but not so good as implemented. It is virtually unserviceable by the average terminals group field service technician. Over an hour is required to replace a drive, twice as long as servicing the RX78. The pedestal is mechanically unstable - top heavy, and requires an extendable front foot assembly to be used when the keyboard shelf is attached. 3) It is noisier than our existing RX78 4) Although it is not at all hard to "install", you must have an elevator and fork truck to move it (>150/LBS) which seems to be the wrong requirements for a customer installable product. It cannot be carried in a car without 2 or 3 people to lift it in or out.

Third Issue: Product Cost

The pedestal disk was intended to reduce our system cost by 180 dollars. Recently it has been determined that its 1982 manufacturing cost will be \$435 more than a table top RX78 system and \$271 more than a H978 mounted system. These figures are the most recent available from new products group in Westfield and are 40% above the engineering estimate of last month. This reduces our gross margin by 3-4 million dollars in CPG in FY '82. I consider this totally unacceptable.

Fourth Issue: Product Risk

We are putting the entire future of WPG and RPG on the line when we start delivery DECmates, I believe that we have a substantial risk of catastrophe by proceeding with the crash project production and ship of the pedestal system. I have interviewed most of the members of the 278 project team and find that most of them share this view for various specific reasons.

Recommendations:

1. DO introduce the DECmate using the RX78 tabletop floppy and H978 optional desk, as scheduled at the end of June.
2. DO NOT introduce or commit to delivery the RX02-P pedestal disk until
 - a. DEC standards are met, UL/CSA & FCC compliance is achieved.
 - b. Cost is, at the very least, made competitive with the RX78/H978 and consistent with our business plan.
 - c. Serviceability and quality issues are brought up to reasonable issues.
3. If it does not appear that (2) can be achieved within 6 months, then let's abandon this effort and direct the funds toward the minifloppy, which is certain to reduce cost of our system by 500\$ or more.

Other than the pedestal, the 278 is fully ready to be shipped in high volume as a highly reliable, customer installable product. I recommend that we do so.

I also recommended that we reconsider making the H9780 (Cube/Desk) assembly available as an extra cost option since it is very attractive and makes a very functional workstation. The design of that product is complete, and a hundred units are in stock.

DECmate Transfer Cost Summary

FY '82 Transfer Costs. (Actual or best estimates as of 4/30/81)

Components

RX78-RA (existing tabletop RX02)	\$1063	<committed>	
RX02-PF (new pedestal RX02)	\$1498	<estimate>	[\$1073 planned]
H978-AA (existing 78 stand)	\$164	<committed>	
VT278-AA (@10K build rate)	\$1172	<committed>	

2-drive systems (95% of sales)

VT278 with RX78	\$2235
VT278 with RX78 with H978	\$2399
VT278 with RX02-PA	\$2670

4-drive systems (5% of sales)

VT278 with 2-RX78 with H978	\$3562
VT278 with RX02-PF	\$3586

At a volume of 10,000 sales in FY '82 the use of the RX02-P will reduce gross margin by 4.3 million if H978 were to sold as an extra cost option on RX78 system or 2.7 million if the H978 was bundled into every system at constant price.

jp

Distribution:

Gordon Bell
Buzz Brooks
Tom Campbell
Don Derome
Dave Dorschel
Paul Gardner
Paul McGaunn
Dave Knoll
Si Lyle
Ken Olsen
Dick Price

01-MAY-81 14:22:22 S 11596 EMMK

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*GORDON BELL
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PAUL MCGAUNN

BUZZ BROOKS
DAVE KNOLL
KEN OLSEN

TOM CAMPBELL
SI LYLE
DICK PRICE

* d i g i t a l *

TO: *GORDON BELL

DATE: MON 11 MAY 1981 7:59 EST

cc: see "CC" DISTRIBUTION

FROM: JOHN KIRK

DEPT: CRG

EXT: 223-4690

LOC/MAIL STOP: <ML3-2>/<E41>

SUBJECT: RE: 278 TERMINAL CHARACTERISTICS

The VT278 does behave like a VT100 in all those things of the complete set of VT100 characteristics that it implements - THAT IS THE PROBLEM EMS REQUIRES THAT THE TERMINAL BE ABLE TO EMULATE A VT52.

Not to include VT52 support wwas a very deliberate decision made at the start of the VT278 project - if you read the VT100 USER GUIDE you will find a statement saying "don't design software that uses VT52 Mode as you can't guarantee that future terminals will support this mode. Short of re-writing all the VT278 firmware to recognise VT52 ESCape sequences, and in the process removing all the VT100 support, as there just isn't space for both, there is nothing that can be done to make a VT278 look like a VT52. Clearly a user program can do the necessary emulation but I feel that is merely delaying the inevitable - there will come a time when no terminals support VT52 Mode, we should bring the software into line now.

"CC" DISTRIBUTION:

SAM FULLER
HERB SHANZER

KEN MAYERS
OLLIE STONE

BILL PICOTT

* d i g i t a l *

TO: OPERATIONS COMMITTEE:

DATE: SUN 1 MAR 1981 17:29 EST

cc: see "CC" DISTRIBUTION

FROM: GORDON BELL

DEPT: ENG STAFF

EXT: 223-2236

LOC/MAIL STOP: ML12-1/A51

SUBJECT: KEN'S GRAND OFFICE PRODUCT ANNOUNCEMENT

Ken is asking us to discuss the announcing of all the office products in one, big package, including the following:

1. Standalone 278
2. Bundled DECword 11 using various configurations of 11's
3. Layered DECword 11 on RSTS
(both 2 and 3 would include a drastically repackaged 11/23)
4. DECset for typesetting
5. EMS/VMS
6. High quality communications for local office intercomm. of parts using something until we get Ethernet

Si should get back to us on the 23 as to the configuration so that Dick and Ken get to work on the repackage. The principle goal of all these packages except the large configurations should be: Customers must be able to unpack, assemble and install the configurations with NO outside help! Each of the component parts should be carryable by one person.

I'd like to look at DECset in terms of its compatibility with OFIS, useability, doneness, and systemness (does the buyer have to become a system integrator?).

Dave Rodgers and Si should lead us through the alternatives of how we are going to interconnect the systems to one another and how this will relate to our eventual Ethernet position.

"CC" DISTRIBUTION:

BOB DALEY
RICHARD GONZALES
AVRAM MILLER
DAVE RODGERS

BILL DEMMER
IRWIN JACOBS
MITCHELL @GAPL
HERB SHANZER

J.W. FORD
SI LYLE
STAN PEARSON
BRUCE STEWART

* d i g i t a l *

TO: ED KRAMER

cc: see "CC" DISTRIBUTION

DATE: FRI 15 MAY 1981 3:13 PM EDT
FROM: TED JOHNSON
DEPT: CORPORATE MARKETING
EXT: 223-5942
LOC/MAIL STOP: ML10-2/A55

SUBJECT: DEDICATED WP/VERY SM.BUS.(&278/CT) BUSINESS PLANS

1. If we simply let all sales people sell WP, crediting to their specialty goals, with technical/MSR support, would we do significantly better than we are doing now?
2. I understand that you will sponsor, with JCP and J. Paxton, a recommendation as to how best to maximize our WP and OFIS offerings in our large accounts.

gg
1:5.34

15-MAY-81 15:15:31 S 20207 EM01

"CC" DISTRIBUTION:

*GORDON BELL
R.L. LANE

STEVE COLEMAN
JERRY PAXTON

JEAN-CLAUDE PETERSCHMITT @MM31

* d i g i t a l *

TO: TED JOHNSON

DATE: FRI 19 JUN 1981 15:46 EDT

cc: see "CC" DISTRIBUTION

FROM: DAVE FERNALD

DEPT: COMMERCIAL MARKETING

EXT: 264-5417

LOC/MAIL STOP: MK1-2/N38

SUBJECT: YOUR PROPOSAL ON MARKETING OFFICE PRODUCTS

I agree that we should be organized to take full advantage of our strengths and to provide an excellent focus on the Office space.

Your proposal, however, looks too accounting oriented. What we really need is an overall statement of what our goals are and then strategies and tactics to meet those goals.

For example:

Are we after marketshare across a wide range of products for the first year and half and then after profits for the next several? Or are we after profits from day one? We can't have it both ways necessarily, given the state of market ownership we have now.

I argue that we are well behind and in order to catch up need to focus on product and product marketing specifically.

If this is the case, then each Product Group can construct it's own product line to move a certain bona fide, and well defined, series of products into the specific markets they serve. This will allow them to price according to whatever their overall goals are, i.e. low mark-ups for products like 278s and very high ones for products like 780s. The entire spectrum of pricing could return more than adequate profit and ROA for the corporation.

The sales organization should be despecialized, particularly in large accounts to sell all products within the account according to a product measurement scheme not just total bookings.

We don't need more marketing overhead than already exists today. What we do need is a better understanding of business related applications in end-user product groups that are being pulled toward the office space. Simply organize from the current structure into a more streamlined operation to take advantage of the application space called "Office, then provide very strong product or brand management with contracts to these product lines within product groups.

DRF/hmd

19-JUN-81 15:50:32 S 21962 EMMK

"CC" DISTRIBUTION:

BUZZ BROOKS

GVPC:

JULIUS MARCUS

MKTG MGRS COMM:

* d i g i t a l *

TO: see "TO" DISTRIBUTION

DATE: SAT 11 OCT 1980 12:23 PM EDT
FROM: GORDON BELL

cc: see "CC" DISTRIBUTION

DEPT: OOD
EXT: 223-2236
LOC/MAIL STOP: ML12-1/A51

SUBJECT: OA: WE'LL GIVE IT UP RATHER THAN GET OUR ACT TOGETHER

The attached memo from Jack is pretty accurate.

I attended a salesmeeting in Waltham where I heard that Prime was about to walk off with orders at MIT, Harvard and First Church cause we could say nothing about Office Automation or Mail, where we were headed specifically or generally. We are using the product internally they must have. It is a set of 78's, 200's and EMS. We must get this package together and sell it! (No, Word 11 probably won't be the savior, cause it still doesn't address the Mail issue or the intercommunication that offices must have!) Furthermore, given that our official mail project, DECmail has not yet passed phase 0, it is not available within at least 2 years to address the credibility of us as an Office Automation vendor.

I have been advocating the release of EMS/VMS for quite sometime in order to get some experience with this sort of product in the marketplace. We have a couple of customers that are willing (Sandia) where we believe they could handle it. Furthermore, we have data necessary to evolve EMS/VMS to have a better human interface.

What we must do:

1. Stop knocking our products!
2. Get/don't get Word 11 ... it feels marginally relevant to the short or long term.
3. Tweak EMS/VMS and evolve it, while doing it right with DECmail.
4. Go flat out to get a great WPS system on KO that plays with DECmail, and that can be interconnected as a clustered system.
5. Put the whole marketing message effort together in terms of NOW (WPS Stand-alone, WPS Shared, and EMS/VMS) ... as the answer. Getting Word 11 would be frosting.
6. Continue Developing the ultimate, but don't sell it until we get it.

Doing 5 could make us the strongest vendor; telling the world how bad our WPS is our selling futures in Mail, will only get us in worse shape.

It was truly tragic to listen to the First Church's pleas to have a product from us, and to the fact they had to go to Prime. Our product TODAY is better and is going to evolve to be MUCH, MUCH better, and we can't sell it! Worse yet, they'll

get locked in to PRIME!

We must note that:

for the near term (next 5 years), Electronic Mail will be a Centralized Function! ... all systems are this way today, and the economics of file costs and support force it to be this way (This is in direct conflict with what I think the dreamers in Commercial Marketing feel ... we need to check the grass in MK.) Hence, anyone who gets in with a system, will control a large set of bucks, including those for WPS. Like Mainframes which are also Central, we probably can't get them out very easily. WPS, by contrast, can be dislodged by better products because the buying power is decentralized. Also, the "Apparent Support" cost is less due to the distributed nature of training being at a personal level.

Can I enlist your support so that we don't continue to look like jerks (although we may be)?

"TO" DISTRIBUTION:

BUZZ BROOKS
OPERATIONS COMMITTEE:

BOB DALEY
JOEL SCHWARTZ

DAVE FERNALD
BRUCE STEWART

"CC" DISTRIBUTION:

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LARRY PORTNER