TO: DAVE VALENTINO

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DATE: 17 JULY 1990

FROM: SUE NAGEOTTE

RE: DR DOS LAUNCH PLANNING
        TECHNICAL SUPPORT CONSIDERATIONS - REVISION #2

This document was prepared with the assumption that the DR DOS retail launch would be structured to meet the Corporate Mission Statement, specifically that the plan would be "market driven" providing "quality Operating Systems" "while building long term customer satisfaction."

Technical support considerations for the DR DOS retail launch fall into four main areas: technical issues, documentation, staffing, and training. The extent to which we can correct/document issues will affect the last two areas.
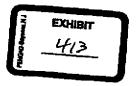
TECHNICAL ISSUES

A. Memory
    1. MemoryMAX
        a. Functionality
            - Command set
            - Hardware dependencies
            - Special conditions (video drivers, ND Netware, etc)
            - Optimum configuration
        b. Relationship to other memory managers
        c. Limitations (and suggested correction)
            - EMMXXHA.SYS does not support current IBM boards; suggest
                Engineering update driver
            - BDOS at FFFF using HIDOS.SYS /NOXMS can get stomped by
                applications including our own VDISK and CACHE;
                suggest Engineering modify HIDOS to look like VDISK
                for proper detection by applications
            - EMM386.SYS loads modules in inappropriate order; suggest
                Engineering revise
            - EMM383.SYS does not support full LIM 4.0 pageframe size;
                make high priority to fix in next major release,
                meanwhile add to doc (IT).
            - Load location of BDOS not shown in MEM; suggest Engineer-
                ing modify MEM to reflect final location
            - Load location of EMM386.SYS not shown in MEM; suggest
                Engineering modify MEM to reflect final location
            - DMA zero writes under EMM386.SYS crash system; suggest
                Engineering verify conditions, develop patch; if
                unable, document (IT)
            - Common areas of conflict w/ apps; document symptoms,

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causes, and known offenders; be proactive with
companies writing such apps for them to fix problem
- C&T NeAT & LeAP chipsets not always detected properly;
could INSTALL or HIDOS give better message?

2. Memory-related applications
   a. Apps with their own memory management (documentation)
      - Windows 3
      - Paradox 386
      - DesqView/QEMM
      - Qualitas 386-Max
   b. Apps with MEMMAX requirements (documentation)
      - Windows 3
      - Novell
      - GEM 3.x SETUP
      - Ventura Professional 2.0
      - Wordperfect Office/Library Shell
      - others . . . ?
3. General installation and configuration
   a. FDISK & partitioning (documentation)
   b. BACKUP between DOS version levels (documentation)
   c. Why INSTALL sometimes doesn't ask for ViewMAX disk (user
      error, didn't run AUTOEXEC.BAT; training)
   d. others . . . ?
4. Networking issues
   a. Novell issues
      - use NET3 (documentation)
      - exepack issue (documentation)
      - ND286 (non-dedicated) memory issue (documentation)
   b. IBM PC LAN print problem (training/doc/patch from IBM?)
   c. 3COM Open (OS/2 version) - no problem w/ DR DOS 5.0 on
      requestor, server hard disk must be partitioned w/ OS/2
      (documentation)
   d. LANtastic (documentation, Artisoft confirm compatibility)
   e. PCSA (DECNET) compatibility unknown (determine)
5. Application compatibility
   a. Autocad 10 fails on 486 computers (doc, work w/ Autodesk)
   b. Autocad 10 requires DOS 4.01-level FCBs (documentation)
   c. dBase IV requires DOS 4.x settings for install (doc)
   d. Make list of tested apps available
   e. others . . . ?
6. Hardware compatibility
   a. Sector size must be power of 2 (documentation)
   b. others . . . ?
7. Differences from DOS
   a. Internal/external commands (training)
   b. Enhanced command functionality (training)
   c. Doubts/reassurances (training, documentation)
   d. Programmer issues (training, ?)
   e. Comparison with DOS 5.0 (needs prepared by Marketing)
8. DR DOS enhanced utilities
   a. MemoryMAX
   b. ViewMAX
      - Special graphics cards (documentation)
      - Mouse issues (documentation)
      - INSTALL didn't ask for VM disk (documentation)

c. Disk Cache
    -   Speed (documentation/training)
    -   Caches reads only - not a flaw (doc, training)
d. FileLink
    -   Cabling
    -   Baud rates (doc, training)
e. BatteryMAX
    -   Ensure understanding of why this is OEM-only feature
f. FDISK also performs format, different from DOS (training)
g. XDEL, XDIR, TREE /G, other extensions?
h. other . . . ?

9. Support/certification by software vendors: If a customer with
    DR DOS 5.0 calls a software vendor (for example, Ashton Tate)
    with a problem on another piece of software, the customer may
    be told that DR DOS is not a supported operating system and it
    is not compatible with that software. What the vendor really
    means is that DR DOS is not LISTED as having been formally
    certified by the company . . . but the enduser may be refused
    effective support and his satisfaction/confidence in DR DOS
    may be reduced. This is a public relations and marketing
    issue as much as it is a technical support issue. Recommend:
    a. Send letters to software companies advising of Veritest
        and DRI inhouse test results and requesting that their
        technical support and sales staff be informed, followup
        with "test calls" to determine whether this was done;
    b. Target the top 20 software sellers from each of our main
        distributors, send copy of DR DOS to them for formal
        certification; KEEP ON TOP of this process
    c. Expand this to the top 50 by end of calendar 1990;
    d. Contact those companies which take such a position and
        work to obtain certification;

10. Upgrade from DR DOS 3.x/evaluation/testing requests (training,
    inhouse only)

11. How will bug-fix/maintenance updates be handled? Need Marketing
    decision NOW so this can be communicated to callers as the need
    arises

12. Return requests (training, inhouse only)

13. Monterey testing/support issues
    a. Technical support does not possess the full range of
        hardware which the product supports, therefore cannot
        do onsite testing of all problems reported by customers.
    b. Strongly recommend that future hardware acquisitions be
        known brand-name systems including at least one IBM PS/2
        55, 70, or 80
    c. Technical Support staff are used when Marketing or Retail/
        Corporate sales need assistance, reducing hours available
        for support phone calls
    d. Strongly recommend that GPOS Marketing budget for a
        Marketing Engineer who would assist in developing industry
        alliances, performance benchmarks, and compatibility
        information

14. EDC development/testing issues
    a. Lack of advanced technology hardware and software in EDC
        causes development and testing problems
    b. Some indication that incomplete understanding of US

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market concerns causes US problems/needs to receive less
attention/priority than UK/European problems/needs (for
example the EMMXA.SYS problem)

    c. EDC documentation team is weak right now; documentation
produced in the EDC must balance technical information
and ease of understanding

15. Other technical issues . . . ?

DOCUMENTATION

A. Four levels of documentation are anticipated
1. "Application note" on MemoryMAX and memory issues to be
shipped with the product (AN for app note);
2. Overview of key issues designed for sales staff and dealers
(SI for sales info);
3. More detailed document on considerations, symptoms, and
problem solving designed for distributor and corporate support
staff (OT for outside technical);
4. Highly detailed support document(s) with the "nitty gritty"
compatibility information, designed only for inhouse technical
support use (IT for inhouse technical).

B. Documentation considerations
1. Content should be determined by Technical Support; wording
should be agreed upon by Technical Support and Marketing
2. Outside documentation should be worded in such a way that
major problem areas are raised, but extent is not revealed
(information may fall into Microsoft hands); suggest "this
area is still being tested, call Digital Research Technical
Support for current information."
3. OT pieces should be updated on a regular basis (suggest bi-
monthly) and sent to designated contacts in distributor and
corporate support centers.

STAFFING

A. Variables
1. Number of products sold per month
2. Number of calls per product sold
    a. Quality of documentation
    b. Ease of use
    c. Functionality
    d. Match between functionality & customer expectation
    e. Amount of load handled outside DRI support
3. Average length of call
    a. Match between functionality & customer expectation
    b. Quality of documentation (can customer read it or must
it be explained verbally)
    c. Training/experience of personnel
    d. Availability of information (has this been tested before)
    e. Training/experience of customer (out of our control)
    f. Speed with which customer reached us for support

B. Staffing assumptions:
1. Calculations
    a. Sales to begin in August at 5,000 per month sold

      b.   0.33 calls per product (one call for every three products sold)
      c.   1666 incoming calls per 5,000 sold (5000 x 0.33)
      d.   0.33 hours per call (twenty minutes per call)
      e.   Six hours on phone/TSA/day x 3 calls/hr = 18 calls/TSA/day
      f.   20 working days/month x 18 calls/day = 360 calls/TSA/month
      g.   1666 calls/360 calls = 4.6 TSA needed for DR DOS

2. Startup staffing level will be determined and approved as part of the launch plan; additions will be made when fundable based on products sold/month

3. GPOS Technical Support could absorb an additional 12 calls/day assuming CDOS call load remains steady

4. Options for technical support
    a. Some temporary help may be available from existing Graphics Technical Support and/or Customer Service staff, however with beta activity and increased DR DOS press activity this assistance would be minimal and should not be relied upon.
    b. Contract out technical support (GTE, TRW, etc)

C. Recommendations for minimizing support calls/product sold:
1. Produce a maintenance release 5.01 prior to retail shipment. Maintenance release would include:
    a. MemoryMAX corrections
       - HIDOS w/ BDOS at FFFF to look like VDISK
       - EMM386.SYS to load modules in appropriate order
       - MEM to report load location of BDOS
       - MEM to report load location of BDOS
       - EMMXMA.SYS to support currently-shipping IBM boards
       - HIDOS or INSTALL would alert user to presence of C&T LeAP or NeAT chip set
    b. Expanded application note on memory management issues
2. Provide incentives for distributors/corporate support sites to handle their own support
    a. Reduced pricing to corporate sites with inhouse support centers
    b. Incentives for distributors technical staff who receive our full training; Monterey area hotel packages, etc?
    c. Rebate distributors "x" percentage of sales, based on number of support calls they handle per products they sold (difficult to administer)

TECHNICAL TRAINING

A. WHO NEEDS TRAINED?
1. Short term (be ready to train in August)
    a. Additions to GPOS technical staff, 2-4 weeks
    b. Interim inhouse "float" staff, 4-8 hours
    c. DRI field sales staff, 2-4 hours
    d. Distributor technical staff, 2-4 hours
    e. House account technical staff, 2-4 hours
    f. Sales staff at key allied sales groups (Corporate Software, etc), 2-4 hours
2. Mid-range (September-October)
    a. Corporate (volume discount) sites technical staff
    b. DRI Authorized dealers

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        c. Refresher for short-term trainees
3. Longer range (when needed and can fund)
        a. VARs/Integrators serving target market
            - paid program?
            - via mailing, or part of existing regional shows?
        b. General dealer base
        c. Corporate end-users (?)
        d. General end-users (?)

B. TRAINING OPTIONS
1. In-person, combination of lecture and hands-on, at trainees' location
2. In-person, combination of lecture and hands-on, here at DRI
3. Seminar-style, on the road
    - Associated with existing training/shows such as Softeach
    - Set up directly by DRI
    - Contract with an existing seminar training organization
4. Technical training video with documentation
5. Tutorial/demo disks with documentation

C. SPECIAL CONSIDERATIONS
1. Followup/review is very important
2. DRI staff need to be available for questions during firsts several weeks (distributor, house accounts, and key allied sales groups)
3. Documentation provided must be in a useful form
4. We can't expect people to pay for training (initially anyway)
5. Keep focussed on training the people who will have the most contact with/influence on our target (corporations w/ networks)