

<b>TRANSMITTAL SLIP</b>		<b>DATE</b> 15 April 1986
<b>TO:</b> <i>DDTS</i>		
<b>ROOM NO.</b> 2D00	<b>BUILDING</b> <i>20</i>	
<b>REMARKS:</b> <i>CHS. CB</i>		
FYI → copy to each group and <i>done</i> along with if not already done → copy to <span style="border: 1px solid black; display: inline-block; width: 100px; height: 20px; vertical-align: middle;"></span>		
<b>FROM:</b> <i>CHS. CB / ADPEB / CL</i>		
<b>ROOM NO.</b> 2D02	<b>BUILDING</b> HQ	<b>EXTENSION</b>

FORM NO. 36-8  
1 FEB 62 741

REPLACES FORM 36-8  
WHICH MAY BE USED

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OIT-0283-86  
11 APR 1986

MEMORANDUM FOR: Associate Deputy Director for Intelligence

VIA: Deputy Director for Administration

FROM: William F. Donnelly   
Director of Information Technology

SUBJECT: DI Questions About IBM 3270 ATs

REFERENCE: Your Memo, dtd 27 Mar 86,  
Same Subject (DDI #01602-86)

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*John*

1. Your memo about workstations was exceptionally thorough. To provide a framework to address your concerns, I wish to restate the Agency's overall strategy in this area. The complexity of the topic, the incredibly dynamic nature of the marketplace, conflicting requirements of OIT customers, and technical debates between OIT and DI staffs have, I'm afraid, contributed to confusion over this subject. We believe our strategy is a prudent and reasonable path, and I am confident it will act as a guideline for you in making your decisions in the workstation area.

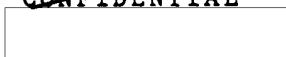
2. What is our strategy? It has several elements. We intend to provide in each workstation both word processing and data processing capabilities, along with mainframe connectivity. A new network architecture and associated communications protocol will provide high data rates, high reliability, and universal connectivity. The New Building Communications Project Office (NBCPO) was responsible for the choice of network architecture. They selected a modern, highly capable Private Branch Exchange (PBX) in June 1984.

3. Our choice of a protocol is IBM's modern variant of the one most used in the mainframe world. It is the so-called IBM 3270 protocol that is supported by almost all commercially-available IBM-compatible mainframe software, plug-compatible front end processors and controllers from many

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SUBJECT: DI Questions About IBM 3270 ATs

vendors, and, most importantly, almost all workstations work with this protocol. Among the many reasons for its rather routine use is that it provides both high data rates (1 megabit per second) and high reliability (3270 compatible front end processors run very sophisticated diagnostic software). Our selection of the 3270 protocol is, in fact, low risk, highly functional, and very conservative from our perspective, and will definitely allow us to improve system reliability as our customers see it.

4. The workstation issue is more complicated. The 3270 protocol is the de facto IBM standard protocol. Our "legacy" is an older asynchronous protocol, supported by our front end processors/controllers (COMTENs), our terminals (Delta Datas), and our applications and systems software (specifically CAM--the Conversational Access Method, a communications software module through which most existing mainframe software in our environment "talks" to Delta Data terminals). How can we deal with the "legacy" and move into the future 3270 world?

5. Our direction involves "bridging" from the Delta Data CAM world under which most of our current applications run to the new 3270 world where we intend to provide our new applications. The best "bridging" solution is the IBM 3270 AT, a sophisticated product that provides the internal software whereby we will be able to run portions of CAM "under" the 3270 protocol. This is an excellent solution, and we have a major effort underway to provide the necessary software (loosely known as the software portion of "NEWS") to support it. We, too, know that the 3270 AT has some deficiencies. Although the cost of this machine recently has dropped, in all probability it will continue to be a relatively expensive machine in the near term. We have considered this in our planning. We are cognizant of the preferences some of our customers have for the less complicated standard IBM AT or compatible equipment. We pointed this out at the Agency Contract Review Board meeting in January and committed to the Board and later to the Information Systems Board that we would competitively procure IBM-compatible, 3270-capable PCs that would meet customer requirements and competition responsibilities at a more competitive price. Our goal is a full workstation cost (hard-disk based, excluding software and network communications costs) for under \$4,000.

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SUBJECT: DI Questions About IBM 3270 ATs

6. We will begin to procure new workstations competitively within the next year and a half (our target for contract award is September 1987.) These workstations will, of necessity, be IBM AT-compatible and capable of 3270 emulation in some manner. In order to avoid being trapped at any point in PC technology or pricing, part of the contract will involve periodic review of both functionality and cost. In the June/July 1986 timeframe, we will begin an internal software development effort that will permit an AT-compatible device to support CAM ("Generic NEWS"). Generic NEWS is targeted to be available in the spring of 1987. The new workstation will therefore handle our software "legacy." It will, of course, be fully supported by OIT. The competitive procurement will guarantee favorable pricing and perhaps open some configuration options not available in IBM brand PCs.

7. This leaves us with the question, "What to do now?" As a short-term solution, I strongly recommend the procurement of the IBM 3270 AT. This is the only equipment for which we currently can guarantee full integration into the Agency network both now and in the future. By this summer, the NEWS software will be available. By January 1987, we also will have available a PC-based word processing capability that can communicate with the host. As the PBX becomes operational in late 1986, we will begin the phased connection of these devices to our mainframe network (including SAFE). We expect, based on proprietary information, that the current 3270 AT will be functionally compatible with IBM's future PC product line.

8. We understand DI interest in the IBM AT. To choose that model now would make you dependent for integration in the Agency network (and use of SAFE Delivery 2) on Generic NEWS. This has risk and cost implications (board changes will be required). Use of available "clones" now would be even riskier, in terms of the ability of Generic NEWS to "play" with the clone. Furthermore, fragmentation of our workstation inventory over many types of clones is, potentially, a difficult support problem, both from the hardware and software side. Based on the results of our planned competitive buy (September 1987), we expect to support one or more clones. Predicting which ones is impossible at this time. We cannot recommend a clone solution to your problem. Apparent cost advantages may well be ephemeral.

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SUBJECT: DI Questions About IBM 3270 ATs

9. We therefore believe that to minimize your risk, the IBM 3270 AT is the preferred path. Our technical personnel will work with yours to select appropriate configurations. In addition, we are prepared to address your current SAFE connectivity problem head-on. You currently have about 200 unallocated COMTEN ports. We are prepared to provide you Delta Data 8260/7260s so that you may use those ports to extend SAFE ~~Delivery 2~~ and Host-based Word Processing to a larger audience now. We understand that you are willing to tolerate some reduction in performance to achieve greater connectivity. Given our current capacity, that is a risk -- especially if AIM use increases <sup>even</sup> moderately. If you choose this option, we will obtain these terminals by "swapping" selected Delta Datas from Agency-wide customers (primarily from OIT "volunteers") for 3270 ATs that you purchase. When NEWS software is finally implemented, we can swap again. I am aware that even with this accommodation, you still will require some kind of workstation for nearly [ ] people. The IBM 3270 AT is the short term answer. Connection to the mainframe must await the operation of the secure PBX, but until then these devices would provide standalone word processing and computing capabilities for your staff.

10. As the PBX becomes operational, we will work with your staff to identify the proper phasing-in of DI personnel to SAFE Delivery 2 using available 3270 ATs and NEWS software. We will enhance DI connectivity in an expeditious and orderly fashion.

11. Now, I would like to ask for your help. In the Gramm-Rudman environment, we will be scrambling for funding for consulting, development, and technical support. We need the technical expertise in your Directorate for advice, consulting, testing and evaluation. I believe we must work at improving the communication between our staffs. I would like a few of my key technical officers involved with network architecture, the NEWS project, and workstation evaluation to brief your staff and answer their technical questions and concerns. [ ] Chief, Network Systems Engineering Group, would be more than pleased to arrange the necessary presentations and participate in subsequent regularly scheduled technical exchanges.

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SUBJECT: DI Questions About IBM 3270 ATs

12. Finally, to develop and implement the Agency information systems network we both desire, I need the commitment of your managers. We have to move from a confrontational environment at the working level to one of mutual cooperation. We must get on with the difficult job ahead.

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[Redacted]

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William F. Donnelly

[Redacted]

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DDA/OIT/MD/rjw/bdh [Redacted] (4/11/86)

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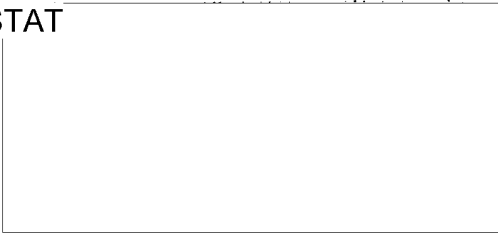
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Central Intelligence Agency  
Office of the Deputy Director for Intelligence

27 March 1986

NOTE TO: Director, Information Technology

*Bill,*

While I was preparing this memo to you yesterday, Dick Kerr walked into my office. When he discovered what I was up to, he asked that I send him a copy of this memo for his information. I have sent a drop copy to Dick at the same time I forward this to you. I hope this causes no problems at your end.

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John V. Helgerson  
Associate Deputy Director  
for Intelligence

Attachment:

DDI #01602-86, dtd 27 Mar 1986

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DDI #01602-86  
27 March 1986

MEMORANDUM FOR: Director of Information Technology  
FROM: John L. Helgerson  
Associate Deputy Director for Intelligence  
SUBJECT: DI Questions About IBM 3270 ATs

*Bill,*

1. The DI has a near-term requirement to purchase as many as [ ] computer workstations for personnel who currently have no access to computing at their desks. We understand OIT's recommendation that we purchase IBM 3270 ATs. We are also aware that there is a vigorous and competitive market (both in cost and performance terms) in PC compatibles or clones. We are attempting to derive a Directorate strategy to go with the IBM or a clone, and would appreciate your views on the issues raised below.

2. We understand that IBM 3270 ATs, as configured for NEWS, cost between \$7,000 and \$8,000 without applications software. Is this a hard figure or can it be brought down in time to get more for our remaining '86 dollars? We believe that we could purchase IBM-compatible machines from other vendors of equal or superior performance for around \$4,000, and basic, low-cost PCs (a less attractive option) for under \$2,000. The cost savings accruing from buying "clones" thus is at least [ ] and could be as much as [ ] I am still unclear about whether and why it is really necessary to endure the extra cost of the IBM equipment. If these savings were available to us, we would hope to provide additional funds to OIT to use on the AIM project, where performance is stretched beyond the limit and where neither of us has significant other funds available.

3. As DI officers understand your plans, full SAFE Delivery 2 compatibility will not be available for the IBM machine until a) the "Virtual CAM Terminal" program is finished, b) a PC-based word processor is integrated with it and AIM and SAFE, c) modifications are made to SAFE and other host-based applications important to the DI to make them operate with the Virtual CAM terminal, and d) IBM PCs can actually be connected to your computers as 3270 devices in significant numbers. Are we correct that those are the necessary steps? If so, when do we

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SUBJECT: DI Questions About IBM 3270 ATs

realistically expect all this to be accomplished? What fallback positions do we have if the Virtual CAM Terminal program is delayed or if it proves difficult to convert our existing mainframe applications to work with it?

4. I understand that your motivation for selecting the IBM 3270 AT is to be in the "mainstream" of the commercial world, and I support this goal fully. Yet as my staffers look at the commercial PC situation, they see the 3270 AT as a costly, specialized, hybrid device that has found uncertain commercial acceptance. Instead, the PC marketplace seems to be evolving a mainstream composed of PC clones connected to local area networks. Do you believe our Agency can be confident that if we embrace the 3270 AT, we will not find ourselves outside the mainstream instead of inside it?

5. We recognize that resources will have to be diverted to the job of converting our current Delta Data-based applications to work with the 3270 AT. What opportunity costs are we incurring? Are there alternatives that do not require conversion of existing applications?

6. One possible DI strategy for dealing with an uncertain future is to avoid overcommitting ourselves. For the decision at hand, this would imply these objectives:

- Minimize the initial investment in PCs, spending money instead on such things as central services upon which our dependence is unambiguous and unlikely to change.
- Buy relatively basic equipment that can be upgraded as necessary.

7. We are aware that DIA has decided to purchase Zenith PC compatibles to be its SAFE terminals. We presume you will devise and implement a scheme to make SAFE work with the DIA PCs. Would it be in the best interest of all if a common solution could be found? Should we go the DIA route and buy the Zenith? What would be the impact on OIT if we did? What would DI users lose with the Zenith that they would have with the 3270?

8. We have examined your NEWS initiative for FY '88 in an attempt to understand the marginal costs associated with converting from asynchronous to 3270 host connection. This conversion would be required if the DI were to buy 3270 ATs and exploit them as such. In the case of additional asynchronous connections and neglecting continuing payments on any COMTEMS that we do not already fully own, we calculate the marginal cost of the additional connections the DI requires to be essentially

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SUBJECT: DI Questions About IBM 3270 ATs

STAT zero. This is because the new PBX can be used as a port contender; indeed, we understand that using it this way is part of your strategy for the move to the new building. What is the marginal cost for 3270 connections? Our estimate, based on the figures in the NEWS initiative, is \$2,000 per device, implying an additional cost of [redacted] for the 3270 AT option compared with PC compatibles. This is a big expenditure, even if it does not have to be paid by us in the DI.

9. I have put these questions on paper to get myself better informed and to help us in the DI weigh the various considerations involved in this important decision. If your office could clarify these points, it would bolster my confidence that we are indeed making the right decision to go with the 3270, or, perhaps, that we should explore more ~~completely whether~~ there are less expensive options available to us. Whatever we do, I want to be sure OIT and the DI have a common understanding of where we are going and why as we decide how to spend our scarce resources.

STAT 10. Thanks for your help.

[redacted]  
John V. Helgerson  
Associate Deputy Director  
for Intelligence

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ADDI/JLHelgerson:sds,  (27Mar86)

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