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EG-0028-88

19 SEP 1988

MEMORANDUM FOR: Acting Chief, Information Management Staff, DO

FROM: Edward J. Maloney
Director, Office of Information Technology

SUBJECT: Implementation of the Wang to AIM Capability .

REFERENCE: Memorandum for D/OIT from AC, IMS/DO, dtd 17 Aug 1988,
Same Subject

1. The Office of Information Technology is developing a facility to allow the interchange of electronic mail between Wang OFFICE systems and AIM. This system is being developed as a response to a formal requirement from the DS&T and will be operational in the General Services Center. This project is called the Agency Document Distribution System (ADDS). We will be happy to assist the DO to establish a similar system to link its Wang VS computers with mainframes in the Special Computing Center.

2. Before this implementation, however, there are critical questions concerning mainframe processor capacity, data storage, and security that need to be addressed. To help answer these questions, OIT will assist the DO in setting up a test facility for exchanging electronic mail between the IMS Wang VS-65 and the DO's AIM system in the Special Center. OIT will have this system available for mutual evaluation by 1 Oct 88. This will be a test system only. It should be limited to no more than four concurrent VS workstations at any one time. Document transfer should be limited to no more than 100 documents between the AIM and Wang system each day. These limitations are necessary to reduce the risk of impacting your production environment. Before this system can enter a production environment the DO will need to develop a security plan for review by OS/ISG.

3. During the testing phase, IMS should be aware that a software failure of the VTAM gateway induced by the load link interface, which links the SC2 AIM system to the ADDS application on the MVS host, will cause a lock-out of all VTAM users while the system restarts itself. Such failures can be expected.

SUBJECT: Implementation of the Wang to AIM Capability

4. We expect that the evaluation should run at least sixty days to produce meaningful results. By 1 November, IMS should provide OIT/EG with a proposed architecture of the final system. With this data and the architectural plan, EG should be able to provide you with costs and capacity impacts within four weeks of the end of the evaluation period.

5. Some of the costs to be quantified by the evaluation include additional communications, data storage, and data processing capacity. Initially, the license fee for the Soft-Switch software will be a minimum of \$69,000 to support up to six Wang VS systems. This cost will increase as your VS network expands. The DO should plan funding for FY89 and FY90 at a level of 15% of the initial costs for Soft-Switch maintenance. There will be costs for additional Wang software that will depend on your configuration.

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6. The project manager for ADDS is [redacted] of OIT/EG who can be reached on secure [redacted] has already formed a project team to implement the ADDS project in the Special Center. He will be contacting you with a status report on 15 Sept 88. We ask that you also appoint a project manager as [redacted] counterpart prior to introduction of the test program. I have appended a capabilities and impacts statement as an appendix to assist your staff in the evaluation of critical issues in more detail.

[redacted]

fr Edward J. Maloney

Attachments:

- A. Reference
- B. Appendix

SUBJECT: Implementation of the Wang to AIM Capability

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C/DCD/EG/OIT/[] (9 Sept.88)

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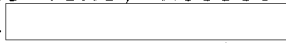
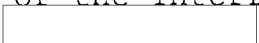
17 AUG 1988

MEMORANDUM FOR: Director, Office of Information Technology

STAT FROM: 
Acting Chief, Information Management Staff,
DO

SUBJECT: Implementation of the Wang to AIM Capability

1. I am requesting your immediate support in implementing the interface, developed by your staff, to connect the Wang mail system and AIM. The demise of the tube system is going to place an insurmountable amount of work on the DO to move cables and memos for coordination and information purposes. While there has been considerable discussion about the loss of the tube system, the rest of the DO has yet to fully realize its impact. We have been studying the problem and looking for options to reduce the impact. It was determined that within the DO, approximately 75% of the material sent via the tubes is cables for internal coordination and requests for IMS services. With the entire DO now creating their cables with Wang systems or AIM and the severe resource limitations with which we are faced, the implementation of the connection between the Wang systems and AIM is the best thing that can be done immediately. This would allow us to take advantage of the existing equipment and pass correspondence electrically to the extent possible. There have been several conversations between our staffs, and this will formalize our request to install this capability first for IMS and then subsequently for the entire DO.

STAT 2. We have identified the money needed for the Softswitch software and are working with  to order it. We have all of the Wang components and are in the process of preparing that side of the interface. However, it was brought to our attention by  that there are a few things that need to be done to prepare the IBM systems in the SCC and

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that we couldn't use our existing communications line between our Wang system and the SCC, as it needs to be moved from VM to MVS. We urgently need your support to accomplish this so that we can develop and demonstrate an electronic coordination procedure for the DO. With 26 August being the termination date of the tubes, our desire was to accomplish this connection by the end of August. We need to develop software and procedures prior to October, so that we can offer an alternative to the DO when FY-89 money becomes available. The remainder of the DO would be connected as quickly as we can purchase and install the required Wang VS systems. This would also require additional communications lines between the Wangs and the SCC. Our staffs can jointly develop an implementation plan and schedule for the remainder of the Directorate.

3. The DO is highly dependent upon the tube system and is just now starting to react to the fact that we will no longer have it. We are going to be inundated with cries for help on the 29th of August. I very much need your help in accomplishing this effort so that we can begin to answer the pleas. The IMS focal point for this effort is and he can be reached on

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APPENDIX

Capabilities and Impacts Statement
for
DO/IMS Wang Soft-Switch Implementation

1. ADDS will provide several capabilities to OIT customers. DO/IMS is developing a system to provide proper coordination on cables which may originate on either Wang systems or AIM. As a result of the coordination process, hard copy will be produced for release. Additionally, DO intends to transfer internal mail between these systems.

2. ADDS provides an electronic mail connection between Wang OFFICE and AIM. In this type of connection, Wang customers do not need to learn AIM or to log on to AIM to send mail to AIM. This is an easy type of connection for the customer to use and understand since he does not have to be able to log onto different systems or even change environments within the same system (such as setting up a telecommunications session). This is one of the essential features of the OIT ADDS project. Interactive logon to mainframe systems is not provided.

It should be noted that the DO would be the first operational customer for ADDS. IMS intends to set up a demonstration system as soon as possible and if this is successful, IMS will implement this connection for some larger number of systems. The purpose of this test system is to provide a meaningful evaluation of ADDS in a customer environment.

3. The following resources are necessary for your test implementation.

a. The Soft-Switch central must be licensed to run on an MVS processor. This software will provide the function to translate and route electronic mail between AIM and the Wang VS systems. This will require an initial license fee of \$34,560 for the Soft-Switch SNADS gateway (to connect to AIM). In general for any Soft-Switch product licensed, it is necessary to budget 15% of the original cost for license renewals in follow on years, so that the DO should budget for these additional funds being available in FY 89 and 90. The Soft-Switch translation is a CPU intensive process and this will place an additional load on the MVS system. OIT has just begun a performance evaluation effort on Soft-Switch and at this time cannot predict the impact of running this software. However, given the recent impact of MPS and MDS-3 running on the same MVS system, and the problems that it caused MPS with ramifications for ECOH, it is not recommended that the Soft-Switch server reside on the same MVS processor as MPS. Since the DO will be OIT's first test customer, OIT is very interested in assisting IMS to produce a highly responsive and reliable system. OIT is also working closely with Soft-Switch to enhance the security capabilities of its product and OIT and IMS, part of this pilot program, should cooperate extensively to define and evaluate these security features.

APPENDIX - Continued

b. The AIM gateway must be installed. This will permit documents to move between AIM and the Soft-Switch server. SNA is used for this connection. Although ADDS will allow documents to be exchanged between Wang OFFICE and AIM, it cannot extend the functionality of AIM to the Wang, or vice versa. For example, features such as routing through releasing authorities or querying the disposition of a document is not extended across systems. The AIM gateway is provided by OIT and is a VM VTAM application. There is very little operational experience with VM VTAM applications, but it is known that a failure of such an application can lock all logged on VTAM users while the system automatically recovers.

c. For each VS connected to this system, a Comten port will be required. For the test system, IMS has reserved the port. If interactive logon to the mainframe is desired in addition to the proposed electronic document transfer, then another Comten port is required. For the ADDS connection, the port must then be connected to the MVS system since that is where Soft-Switch is resident. Use of the Mailbridge server on the Wang VS dictates that an MVS address be dedicated this connection. OIT is working with Wang to develop software that will allow this to be an SNA connection. This will remove the resource requirement of the MVS address but, more importantly, it will significantly increase the throughput of the system. These ports must be on DLC-MIMs. The Comtens providing connectivity for the Wang VS systems must be operating with the SNA software. For the long term this may require upgrading the Comten operating system to be able to support additional memory and additional MIMs. OIT has already funded and ordered an additional 1 Mbyte of memory for the Special Center Comtens as part of the NEWS project and IMS may want to plan for the procurement of additional MIMs. These resource requirements can be better quantified after the evaluation is complete.

d. The Soft-Switch Mailbridge software will need to be licensed for the Wang VS system. The license fee is \$34,560 to support up to six Wang VS systems. There are a number of Wang software packages that must be procured for the Wang VS. In general, this list depends on specific configurations and applications. OIT/EG has had Mrs. Cyndy O'Neill from Wang at Bethesda, Md., under contract for the past year on the ADDS project. She can be contacted at 657-5283 to assist in obtaining the required Wang software. OIT/EG will fund her time under its contract.

APPENDIX - Continued

e. For the electronic mail to be routed correctly from Wang to AIM and vice-versa, a coordinated directory scheme must be designed and installed. The model chosen for the General Services implementation is to allow Soft-Switch knowledge only of certain Wang nodes and not of each individual user. It is then the responsibility of the Wang OFFICE system at that node to distribute the documents to users on that system. Initially, each Wang user will have to have their USERID placed in the AIM directory. In addition, each AIM user who will receive mail from a Wang user will have to have their AIM USERID placed in the Wang OFFICE directory. Furthermore if it is planned to connect several Alliance systems to a VS system, the user must provide unique user identifiers across those Alliance systems. As in the case of other system directories, it will be necessary to implement an administrative function.

4. In the long term, the DO will need the resources mentioned in paragraph 4 and there will be additional considerations. Soft-Switch licenses their products such that there is a cost increase for each additional three nodes or devices over the initial six. The maximum license fee for any one product is \$96,000. As the volume and length of documents increase, and as the system becomes more popular, the impact on the MVS system will increase. The system will need to be carefully monitored as Wang VS systems are incrementally added to determine if and when additional CPU and DASD resources will be required. Additional CPU resources may require additional system software licenses and further additional DASD. The Comten resource issue has been discussed and as Wang VS systems are added, additional Comten resources will be required depending on plans for connectivity. OIT needs some lead time to procure and install the hardware and to upgrade the software as discussed. Although it is anticipated that the bulk of DO requirements will be satisfied by the electronic mail connection, should there be a desire to add interactive connections, the impact of these additional users on VM systems must be considered.

5. ADDS is a multifaceted project. In addition to the capability that DO desires initially, ADDS will also provide connection to other mail systems, including DEC and various LAN mail systems. As part of this program, the Message Electronic Transfer Service (METS) is being developed. This is a locally developed system that will deliver cables from MPS to Soft-Switch and from there to the connected electronic mail systems. Technically, there is no reason that this function cannot be extended to electronically originated cables.

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26 August 1988

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MEMORANDUM FOR:

[Redacted]

FROM:

SUBJECT:

Response to IMS Requirements Memo:
Implementation of the Wang to AIM Capability

Appended is our suggested response to the subject memo. I realize it is longer than you would normally like to see. My troops feel pretty strongly, however, that they would like to see this material covered. There is a substantial background to all of this, particularly to the configuration and who pays issues. Our experience with IMS is that a thorough mutual understanding of what we are going to do is essential to a smooth working program.

An alternative to the D/OIT signing out such a long memo is to make it an addendum to a shorter forwarding one. Should you prefer this approach, we would be happy to work with you to execute it.

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[Redacted]

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- addressee

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[Redacted]

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RESPONDING TO:

RE:

(et al.) note dated 09/07/88

On the Wang to AIM capability, I understand that DO has contacted Wang to connect alliances to the first test system. This is in contradiction to the spirit of the original request. I would like to hold up on our response until we can get a stronger memo back which defines what the system has to be. My number is

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8 September 1988

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MEMORANDUM FOR: FROM: SUBJECT: Response to IMS Requirements Memo:
Implementation of the Wang to AIM Capability

Bob, I have a number of problems with and questions about the draft response. Please pardon me if I ask some technically naive questions; I've been out of the loop for quite a while...

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The original memo from to D/OIT asks a yes/no question: Will we help IMS implement an interface between Wang mail and AIM? The draft response is more like a project implementation plan -- with four pages of details and caveats. I believe our response should start with a simple YES or NO statement followed by the appropriate BUTs.

Our memo must clearly identify the costs and impacts which we expect the DO to bear. As I read your memo, the impacts are:

- (1) This will be a testbed. We're not scheduled to complete the full-up ADDS system for DS&T in the near term.
- (2) The DO must fund \$34,560 in FY-89 and \$6,00 a year thereafter for the Soft-Switch MVS central license.
- (3) The Soft-Switch central MAY have a negative impact on MPS and/or MDS-3 performance.
- (4) EACH Wang VS the DO connects via this link will require its own COMTEN port. Since there are no new ports available, the DO must reassign ports from their existing pool to provide these, or else fund for new DLC-MIMs and ports.
- (5) In addition, the DO must purchase a configuration-specific number of Wang software packages of unspecified cost for EACH VS they connect.
- (6) There will be an extensive amount of start-up and on-going

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administrative work (both from the DO and from OIT) to make this interface work.

Did I miss any of the key impacts/costs?

On a more editorial note,

- I don't think we should mention the three options in paragraph 3 of your note. Since we clearly recommend option C, and that is the one that IMS wants anyway, why not just say 'We recommend a technical approach in which'...and include the text from 3.C.
- In paragraph 4.A, we raise the potential problem of Soft-Switch's performance impact on MPS and MDS-3, but we do not give any suggestions of what the DO should do about it. Should they: plan to buy another processor or a bigger one? go slowly in adding VSes?
- In paragraph 4.A, we mention something about enhancing security capabilities of Soft-Switch. That whole section lost me. Is there a problem the DO should know and worry about? Do they have reservations we need to address?
- In paragraph 4.B, we allude to routing/releasing/querying across systems. Is this a problem? If not, let's drop it. If so, let's highlight it under the section on costs/impacts.
- In paragraph 4.C, we talk about MVS addresses and Wang's SNA connection software. Are these problem areas? Do they affect cost, schedule, or functionality? What happens if the DO doesn't fund additional DLC-MIMs? Do they need to? In short, we raised a lot of issues but didn't give the DO some required or recommended courses of action.
- In paragraph 5, we talk about license fees of \$96,000 maximum. I missed the point. Is this something else we expect the DO to fund?

I guess the bottom line of my comments is that our memo had no bottom line. Will we help the DO on this or not? And if we will, what are the approximate schedule, cost, and impacts? Most of the rest of the memo belongs in an implementation plan.

Jim

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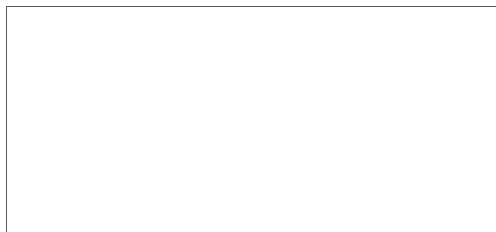
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