

**REVIEW OF VENDOR RESPONSES TO RFP  
(FOCUS ON ARCHIVE AND RETRIEVAL)**

Prepared for

**Federal Reserve Bank of Boston**

October 26, 1994

Prepared by

INPUT

Atrium at Glenpointe  
400 Frank W. Burr Boulevard  
Teaneck, NJ 07666

201-801-0050  
Fax: 201-801-0441



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## I Overview

- The Federal Reserve Bank of Boston (FRBB) has met with IT vendors familiar with check processing and FRB applications and solicited proposals in answer to an RFP for check image processing and archive and retrieval systems. The responses are informative in regard to FRB ideas and functional requirements, but do not present a solution that will do a specified job, and vendors do not discuss steps that would enable them to take the responsibility for arriving at a solution.
- It would have been more desirable for vendors to take a proactive approach and use the tables of data on check volumes in the back of the RFP together with assumptions based on discussions and experience with the FRB as well as the functional requirements in the RFP to develop a proposal to achieve an assumed set of results, or what might have been called a "strawman". The proposals could have been compared more adequately if that had been done, and it would have been possible to work with a selected vendor(s) to modify proposals and meet a more exactly defined set of requirements.
- The FRB did not specify the volumes of items that would be received from processing or anticipated retrieval levels to be supported in the RFP (current or projected). This tended to make vendors take more general approaches to the RFP.
- The vendors are also used to working with the FRB with less than perfect or complete requirements. Steps have been taken in the past to incrementally improve systems as they are implemented or after they have been implemented. This type of approach could be much more risk prone, costly and time consuming than expected with a step as radical as the introduction of imaging and the truncation of paper checks. Imaging has proved to be a step that has more of an impact on business processes than usually anticipated.



## II Review of Vendor Responses

### A. CBIS

CBIS demonstrates knowledge of the FRB check processing environment in the considerations given to storage capacity. CBIS has worked with the FRB in Dallas and Minneapolis.

CBIS points out several ways to guard against disaster and aid recovery. One is to use RAID level 5. Another is to have a backup global site. (CBIS recommends a two tiered index, global and local, with a central site handling global indexes to point to local sites that have the archives.)

Although responses to requirements can be explored in the CBIS proposal, it is not possible to match all the information or responses provided by CBIS to the RFP. It is difficult to confirm that all the items in the RFP have been addressed. It would be helpful if CBIS added references in their proposal to the corresponding items in the RFP as BancTec does or refers to the number for requirements used in the RFP as IBM does in their response.

CBIS also does not attempt to meet all the items in the RFP. CBIS notes that modification is needed to meet space and system requirements for JPEG or other compression/decompression techniques. The RFP has several references to the need for this capability (one is numbered 12.1.1.17). CBIS notes that it has major concerns for the overall impact of FEDNET, but the RFP states that it must be used for communication between Reserve Banks (12.7.1.1). More should be said if there are major concerns.

CBIS includes the ESCON driver among its components for the system, but notes that this driver must be developed, and states that this would be done in the time required to develop the system to meet the RFP. There is insufficient detail provided to predict how long it will take to develop the system. In addition, it might be desirable to have this capability ready for testing at an earlier date.

Although it is noted that Sybase would be used in retrieval, the reference to this product is brief. CBIS does have experience with this product for similar applications, but there have been questions about the use of Sybase with large databases. It should be verified that these problems have been overcome in further evaluation of the CBIS proposal.

Although statements are made about achieving various response times for retrievals, these are not made in relation to anticipated volumes of work at a site. An attempt is not made to match the operation of the system as a whole against some model or assumed set of work.





## B. BancTec

Responses in the BancTec proposal refer to requirements in the FRB RFP. They appear to respond to all requirements.

BancTec has put thought into the responses to the RFP. There are discussions of sizing the archive storage for each level as well as recommending what equipment will be used for each level. Nearline access is also recommended for the first three months of level II archiving.

The proposal includes the use of an "Optimizer" software capability for the purpose of throttling reads and writes during times of high activity so that retrieval can take place. The "optimizer" capability should be used for whatever system is finally obtained.

Considerable detail is provided on indexing structures that go beyond the Treasury application and address needs for commercial check truncation and image retrieval

Despite the depth of the BancTec proposal, it is not possible to match it against a model of the work volumes and RFP requirements which are necessary to accomplish the FRB archive and retrieval job.

There are also questions about the depth of resources that BancTec can devote to problems that might occur.

The selection of the DEC Alpha computer as a component of the solution raises questions. The current sales volume for the Alpha and the cash flow of DEC make the future of DEC not as secure as might be desired. Major vendors of the past have halted support for equipment in order to remain viable. Even if DEC and the Alpha succeed there might be steps to reduce support for software products in the future which would be important to the FRB such as open system products, DCE, JPEG or other components of the solution. DEC has halted support for software products in the past. INPUT would recommend that an alternative equipment choice such as HP or Sun also be considered in relation to BancTec.



C. IBM

IBM responses to requirements in the proposal are coded with the numbering convention in the RFP. This makes it possible to review the proposal and confirm that responses are there or not. Although all requirements are addressed, the responses for many items are brief or not substantial enough to confirm that the requirement is fully recognized and/or supported.

The selection of components is not related to or discussed in relation to the need. This increases attention that must be given to the selection of equipment and particularly the selection of archival equipment. IBM recommends the use of automated tape library equipment for archive levels II and III, although the other three vendors recommend optical storage or jukeboxes for level II in order to improve the speed of retrieval. Tape libraries are only recommended for level III. Has IBM performed calculations that show the ATL units are sufficient for level II?

IBM has not considered the use of nearline with devices in archive level II or III although other vendors recommend this. Have the other vendors or IBM performed calculations that show that this is or is not needed?

IBM has also bid a tape storage unit, NP-2, that will not be available until the third quarter of 1995. No suggestions for the means of estimating the response time of a system with this unit before it is available have been made. Also this type of unit has been delayed. StorageTek might be one alternative to consider if IBM thought that StorageTek's large scale automated tape library (Iceberg) would satisfy timing requirements.

IBM has proposed the use of the RS/6000 running AIX or OS/2 as an open system. Retrieval units were mentioned that would use DOS. (DOS may be phased out as a product supported by Microsoft with the shipment of Windows 95.) The use of Windows or other vendor-neutral versions of UNIX are not discussed. This will not allow software to be developed that can be used on a wide range of open systems.

IBM has also proposed the use of DB2 on the RS/6000 which can also run on some open systems such as HP and Sun (Solaris). This might limit alternatives in the future. Considerable investment is being made by IBM in DB2 at this time, so the use of this product could have advantages. Past users of DB2 question whether the software technology isn't limited by its original design and continued use. They point out that current DB2 users have been given some assurance of compatibility between the downsized product and the mainframe one. They also point out that some features of the downsized DB2 may be two to three years behind features contained in Oracle or Sybase.



IBM is recommending a number of software packages as components of the system including DCE (which can improve security), Netview (which will provide network management), EIF for distribution, and DB2 for the database. This could save development time and cost. The combination could also result in a less than optimal response to work situations if the components do not interoperate adequately in the FRBB's unique environment. Tests would have to be held to ensure that components work together in a manner that would meet FRBB work requirements.

IBM has offered a product oriented solution which has response characteristics that meet RFP requirements, but there is no discussion of the timing considerations involved in handling items from processing together with retrieval at peak periods.



D. Unisys

Although a systematic use of references are not made to the RFP functional requirements, it appears possible to compare responses to requirements as stated in the RFP.

The review of storage for archive levels discusses the volume and timing requirement problems that can exist for the application. Unisys makes several recommendations about alternative approaches to archiving that suggests they have a strong feeling for the timing considerations.

A recommendation is made to use Oracle for retrieval at each of the FRB district offices (with a copy at each) in order to divide up the work. Since the FRB office is identified in the DIN forwarded from RHA, it is possible to do this. However, this would be difficult to expand to commercial check truncation since searches could be made on criteria that did not include the Fed district code. It is unlikely that any effort at changes in operation or standardization could overcome this. Consequently, it would be necessary to broadcast retrieval requests to all district offices for some inquiries that would arise in commercial check processing.

Unisys is planning to use two small software companies for vital pieces of software needed to implement their solution.

The Unisys project management plan indicates that a preliminary limited system will be implemented first. It also indicates that the FRBB will be required to generate a full requirements document as the first step of development. This means that prices and dates will not be pinned down until this document is reviewed by Unisys. This represents an escape hatch for Unisys to rethink its plans based on the final requirements document.

Unisys has not attempted to formulate and respond to an assumption of the workload that can be involved in handling work from processing together with retrieval although questions are raised about what is needed to support the workload as Unisys understands it.





### III Conclusions

- The contents of all four proposals indicates that these vendors understand the archive and retrieval application in general. Any one of the vendors might be able to work with the FRB to generate a workable solution. However, there is a high level of risk in implementing a successful solution and possibility of much higher than anticipated cost and time with this type of application.
- It is difficult to relate the proposal responses since they don't use a common convention for responses. CBIS seems to have the most gaps in terms of the requirements in the RFP as noted in the prior section.
- The proposals all have gaps in relation to the requirements in the RFP and/or raise questions about their responses particularly in regard to the dynamic situations that must be handled.
- There are different approaches to the storage used for archives and to the construction of indexes. There are also differences in the DBMS products recommended to manage the index database. (Unisis recommends the use of the DBMS at all district offices to introduce another differentiation.) There is also no way to compare the differences in approaches since there isn't a model or statement of assumed requirements in any proposal to relate the other proposals to.
- It appears that the vendors expect a decision to be made on their discussion of capabilities and components.
- It must be recognized that the way that the FRBB has proceeded in the past to develop applications by migrating toward a solution with a vendor could be very expensive, time consuming and prone to major problems with an imaging approach.
  - One major project that involved implementing an imaging system to replace paper document handling at a major airline nearly ended in disaster although the vendor had a high level of knowledge in imaging. A leading SI vendor with expertise in BPR had to rethink processes and have major segments of software recoded to rescue the effort.
  - Several imaging systems that INPUT came in contact with during interviews had major problems that led to the consideration of legal action.
  - Another major integrator and Big 6 firm has stated to INPUT that imaging usually requires BPR work since it involves basic changes in procedures.



#### IV Recommendations

- If further comparisons will be made of proposals, steps should be taken to make it easier to accomplish. For instance, CBIS should be asked to code or supply references in their proposal so that it can be compared to the RFP.
- Before a decision is made, steps should be taken to make it possible to compare vendor responses. This would involve work by the FRB to specify volumes of check image work (and ranges of such work) that it wanted vendors to respond to. Vendors would have to develop a model that showed how archiving and retrieval work was affected. The model could be automated or manual based on experience. It could be a series of spread sheets that could be adjusted or changed in relation to the specifications developed by the FRB. The vendors should develop their models with the assumption that the FRB will develop benchmarks based on them for use in measuring performance of test and installed systems. The benchmark might be constructed to reflect the results predicted by a model with an allowance of 5% for instance.
- At this point, only an incomplete comparison can be made between the vendors as shown in Exhibit A. CBIS stands out as the vendor which least meets the RFP and might be eliminated on that basis. Unisys appears most responsive to the requirement for open systems and might be easy to initiate since it offers a preliminary approach for the initial system. However, the Unisys approach could cause most problems in the extension of the use of images in commercial banking. Also, Unisys places most pressure on the FRBB in its project management plan which emphasizes that the FRBB has the responsibility for drawing up final requirements without any indication that Unisys would respond with a model or analysis to pin down costs or elapsed time. BancTec offers the advantage of the most understanding of the imaging application including archive retrieval, and IBM seems to rely most on its past acquaintance with check processing although it offers certain risks in its recommendation of hardware and software products. No selection can be made between Unisys, BancTec and IBM without testing a solution or having these vendors develop models (or even a set of spreadsheets) that respond to a range or set of work volumes including retrievals as discussed above. Those models or spreadsheets can serve as the basis of a decision with the other information available including pricing, and they can also be expressed in benchmarks (with an allowance as suggested) which the winning vendor can be held to.
- INPUT or another consultant would be able to assist in developing the specification ranges needed to compare vendor solutions and in packaging this information for use by vendors.



## EXHIBIT A

### Preliminary Qualitative Comparison of Proposals

Comparison	CBIS	BancTec	Unisys	IBM
Experience with Fed	xx	x	xxx	xxx
Completeness of Response		xxx	xx	xx
Indexing Plan	xx	xxx	xx	xx
Image Archiving Plan	xx	xxx	xxx	xx
Image Compression and Control		xxx	xxx	xx
Scalability	xx	xxx	xxx	xx
Ease of Integration	xx	xx	xxx	xx
Extensibility to Commercial Banking	xx	xxx		xx
Ability to Guarantee Time and Cost	Cannot	Cannot	Cannot (Most risk)	Cannot

Where:

x = low level

xx = medium level

xxx = highest level



- The vendors could start to develop their models before the specification ranges are developed by the FRB. They will have to be informed of this requirement in a written document that points out the advantages that they as well as the FRB will gain, and the alternatives mentioned above will have to be spelled out. It may also be necessary to have a member of your committee or a consultant or both work with them to insure that the task is done. This approach will only be meaningful if two or more vendors proceed with it. For this reason, all four vendors could be asked to respond.
- An analysis of the FRBB specification ranges and vendor models together with associated work activities should be conducted to uncover possible problems in business processes and steps that can be taken to overcome them. This step would be an alternative to a BPR exercise which would be extremely difficult to carry out at this stage. INPUT is prepared to assist in supporting this activity.
- Since this image processing and archive/retrieval application will require ongoing review and planning, it would be wise not to rely on the availability of the systems architects used by a vendor in design and implementation of the system. There have been questions in regard to back up high level staff at all vendors. The FRBB should consider hiring a systems architect who is familiar with the application during project implementation and turnover.





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#### Frankfurt

Sudetenstraße 9  
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Niederkleen  
Germany  
Tel. +49 (0) 6447-6055  
Fax +49 (0) 6447-7327

#### London

17 Hill Street  
London W1X 7FB  
England  
Tel. +44 (0) 71 493-9335  
Fax +44 (0) 71 629-0179

#### New York

400 Frank W. Burr Blvd.  
Teaneck, NJ 07666  
U.S.A.  
Tel. 1 (201) 801-0050  
Fax 1 (201) 801-0441

#### Paris

24, avenue du Recteur  
Poincaré  
75016 Paris  
France  
Tel. +33 (1) 46 47 65 65  
Fax +33 (1) 46 47 69 50

#### San Francisco

1881 Landings Drive  
Mountain View  
CA 94043-0848  
U.S.A.  
Tel. 1 (415) 961-3300  
Fax 1 (415) 961-3966

#### Tokyo

Saida Building, 4-6,  
Kanda Sakuma-cho  
Chiyoda-ku, Tokyo 101  
Japan  
Tel. +81 3 3864-0531  
Fax +81 3 3864-4114

#### Washington, D.C.

1953 Gallows Road  
Suite 560  
Vienna, VA 22182  
U.S.A.  
Tel. 1 (703) 847-6870  
Fax 1 (703) 847-6872

