

MINUTES OF THE HOUSE COMMITTEE ON COMMUNICATIONS, COMPUTERS AND TECHNOLOGY

The meeting was called to order by Representative Mike Meacham at
Chairperson

3:30 ~~am~~/p.m. on January 26, 1984 in room 522-S of the Capitol.

All members were present except:

Committee staff present:

Sherry Brown, Fiscal Staff, Research Department
Chris Stanfield, Fiscal Staff, Research Department
James A. Wilson, III, Senior Assistant Revisor
Betty Ellison, Secretary to the Committee

Conferees appearing before the committee:

Mr. Gerald W. Pettegrew
Director of Data Processing for Sedgwick County

Dr. Mike Harder
Secretary of Administration

Mr. Pettegrew read from his prepared testimony, explaining the reasons for House Bill 2743. (Attachment 1) Representative Chronister moved and Representative Dean seconded that the bill be reported favorably. There was no objection to placing the bill on the Consent Calendar. A vote was taken and the motion carried.

Secretary Harder testified regarding computer capacity of the Division of Information Systems and Computing (DISC). He used a chart in presenting the following considerations:

Contextual

1. Are the actual or potential improvements in governmental decision-making sufficient to justify expanding our central data processing system?

— \$12,109,534.34 by end of 1990

2. Given our present dependence on the Univac for personnel, accounting and payroll operations, and given the lack of a back-up system, dare we risk not expanding our central data processing equipment?

— 99% of capacity
— 12% natural increase
— If the Univac goes down at a critical time?

Technical Payoffs--Pros

1. lower operating costs of data processing
2. faster availability of information
3. wider distribution of information
4. generation of new information
5. greater consistency in reporting data
6. reduced distortion of data reported to the top
7. eventual development of a giant data bank
8. greater freedom from routine reporting

CONTINUATION SHEET

MINUTES OF THE HOUSE COMMITTEE ON COMMUNICATIONS, COMPUTERS AND TECHNOLOGY,

room 522-S, Statehouse, at 3:30 ~~xxx~~/p.m. on January 26, 19 84

Technical Payoffs--Cons

1. increased capital costs
2. demands for more highly skilled personnel
3. a tendency towards greater reliance on quantifiable and measurable variables
4. increased narrowness of comprehension, particularly incipient changes in the environment
5. reduced sensitivity to the opinions of intermediate and even top level officials

Power Payoffs

Who gains in influence and who loses as data becomes more and more centralized?

1. The technically educated gain at the expense of those who are not.
2. Those who can manipulate numbers are usually more influential than those who must rely on wisdom of experience.
3. Lower and intermediate level officials lose power to top management.
4. Legislators?

Secretary Harder listed five possible options to be considered in solving the problem of computer capacity. (Attachment 2) He commented that approximately \$1.2 million had been put into the budget with the idea of using Option 3, but that choice could still be changed.

The following policy problems were listed:

1. Lease-purchase v. purchase
2. Rapidity of technological change
3. Centralization v. decentralization
4. Number of brands of hardware
5. Sunken cost phenomenon (KIPPS)

There was considerable discussion concerning policy, the various options, etc. Mr. Bill Belleville, Director of DISC, answered some of the Committee's questions. Chairman Meacham noted that the Committee would have another hearing on this topic, focusing on the related issue of the KIPPS problem, about February 6.

A preliminary summary of costs of the Univac options was given to the Committee but will be discussed at a future meeting. (Attachment 3)

The meeting was adjourned at 4:45 p.m.

The next meeting of the Committee will be held on January 30, 1984.

REPORTS OF STANDING COMMITTEES

MR. SPEAKER:

Your Committee on Communications, Computers and Technology

Recommends that House Bill No. 2743

"AN ACT concerning Sedgwick county; relating to the sale of certain property."

Be passed and, because the committee is of the opinion that the bill is of a noncontroversial nature, be placed on the consent calendar.

Chairperson



SEDGWICK COUNTY, KANSAS

DATA PROCESSING

GERALD W. PETTEGREW
DIRECTOR

COUNTY COURTHOUSE • 510 N. MAIN • WICHITA, KANSAS 67203-3704 • TELEPHONE 268-7968

TESTIMONY OF GERALD W. PETTEGREW
DIRECTOR OF SEDGWICK COUNTY DATA PROCESSING
HOUSE COMMUNICATION, COMPUTER AND TECHNOLOGY COMMITTEE
HOUSE BILL 2743
JANUARY 26, 1984

In September of 1983 the Sedgwick County Commission and Wichita City Commission entered into an agreement to consolidate their Data Processing functions under a single department under Sedgwick County. Due to the immediate and anticipated capacity requirements, the decision was made to replace the two existing intermediate IBM systems (4341's) with a single large system.

An IBM 3083 has been acquired and is currently serving the processing needs for the consolidated computer center. The City of Wichita has sold their 4341, and Sedgwick County would like to declare our 4341 as excess property and solicit bids for its sale.

When I contacted the County Legal Department, they advised me that under current State Statute, disposal of any property with a value in excess of \$100,000 would require an election. Since we expected to sell the computer for approximately \$180,000, I contacted the Election Commissioner who advised me that it would cost around \$80,000 to hold the election. Following this procedure did not seem to be in the best interest of the taxpayers, so it was determined that we should seek an alternative through the Legislative process.

The computer has a list price of approximately \$375,000. While the market for used equipment fluctuates, the resale value of this particular machine has established a trend downward at 1% monthly. Consequently, each month that the sale is delayed costs the taxpayers about \$4,000. This is the reason that we want authorization to sell the 4341 as soon as possible, and I am confident that this committee will agree with our sense of urgency.

Attachment 1 1/26/84
House Communications, Computers and Technology

UPGRADING THE SPERRY-UNIVAC COMPUTER SYSTEM

January 1984

I. INTRODUCTION

The largest application in the Sperry-Univac Computer Center is, and will be, the Kansas Integrated/Personnel Payroll System (KIPPS). This system includes four major components:

(1) Applicant, (2) Position, (3) Employee, and (4) Payroll. The first three components are fully implemented statewide. The fourth is implemented for approximately one half of the State's employees. In other words, all State employees are managed with KIPPS, but only half of them are being paid by it. The remaining employees are paid through the old payroll system.

The major benefits of this application go beyond employing and paying people. KIPPS provides executives at all levels of State government the features needed to effectively access and analyze personnel/payroll management information. Even in its incomplete implementation status, several State managers, knowledgeable in the use of KIPPS, have taken advantage of these opportunities.

II. BACKGROUND

During the 1980 planning for the KIPPS development project, the State selected the Sperry-Univac software product, MAPPER. MAPPER is an easy to use data base management/programming language. This fourth generation systems development tool permits the fast implementation of systems by allowing user personnel to write many of the programs themselves. To operate this software, the State entered into a seven year lease agreement with Sperry-Univac in 1980 for a Model 1100/60 computer and associated peripheral equipment. As the planned development of KIPPS progressed, this hardware configuration was updated periodically to meet the expected workloads. At the present time, the configuration is composed of three central processing units, ten magnetic tape drives, approximately 8 billion characters of disk storage and over 250 terminal devices.

III. PROBLEM

At this time, this equipment cannot provide adequate terminal response time because of the heavy workloads in KIPPS. The Sperry-Univac equipment is experiencing a severe capacity problem. The mainframe now indicates routine use levels around 94%, reaching as high as 99% during peak periods.

During the spring and summer of 1983, State and Sperry technicians modeled the remaining expected KIPPS workloads. The resulting statistics indicated that the FY 1984 upgrade would handle the added workloads. Further supported by the data contained in the individual agency long range plans, and given the budget restraints imposed at that time, it appeared reasonable to believe that no mainframe upgrade would be needed until FY 1986. However, the consensus was that it would be "tight". A moratorium on the development of new Sperry applications was imposed until KIPPS was fully implemented in order to see if there would be any leftover resources. It is now evident that the forecasts were too low.

Considerable efforts have been made to make the application programs more efficient and have resulted in some performance improvements. However, not enough resources have been or can be recovered to fully implement the remaining 12 agencies in the KIPPS payroll component.

IV. FORECAST UPDATED

During early December 1983, Sperry technicians remodeled the KIPPS workloads based on the most recent KIPPS experiences. They also interviewed several major State users to determine their Univac needs and desires. Although Sperry's final conclusions are not published as of this writing, preliminary findings described indicate several factors/concerns:

1. Sperry recommends the use of a 70% system utilization threshold rather than the 80% factor used for State long-range planning. The 70% factor should improve response time, but will require more processing power than for the 80% threshold used for State planning.
2. It is expected that implementing the remaining 12 agencies will create a 37.5% increase to the current KIPPS workloads during peak periods.
3. It is expected that KIPPS use and data base size will grow around 12% every six months through FY 1986. This growth will result from four factors: (1) addition of new data elements required to comply with future administrative and statutory reporting/operating requirements; (2) increase in numbers of transactions recorded and reported; (3) additional agency and staff usage of MAPPER in lieu of manual methods to meet management data needs and reporting requirements; and (4) expansion of the reporting capability to support other auxiliary functions such as budget, grant and other cost funding systems.

4. Based on the preliminary findings described from the Sperry interviews, it is evident that the long-range planning and budgeting review processes tend to discourage the generation of data processing wish lists. Sperry disclosed that several users wanted to develop many other MAPPER systems--not KIPPS related. These unplanned systems would more than triple the current need for computer resources just to operate them.

Nevertheless, it now appears that about an 80 - 100% system upgrade is needed to implement the remaining agencies into KIPPS and to provide all agencies reasonable response times during peak workload periods.

V. OPTIONS

In order to meet these anticipated KIPPS workloads, five Sperry equipment options have been identified:

Option 1: No Upgrade

Description: Do not add a processor beyond that already present. The purpose of this option is to have KIPPS and its users run in the current environment, freezing the KIPPS project where it is, continuing the moratorium on development of new Sperry systems, and limiting or restricting use of existing systems.

Benefit: The major benefit is that it is the cheapest direct cash outlay alternative.

Costs: The costs are primarily indirect: (1) the continued use of two payroll systems, (2) the delay of KIPPS management benefits until a later date and (3) the worsening of performance problems. These costs are significant and will be avoided if other options are selected. It will not provide reserve computer resources to handle mechanical failures or when other situations disrupt the normal processing schedules. The result may include delayed issuance of paychecks, overtime expenses for agency personnel, etc.

Comment: This action would forestall effective use of CASK and other existing systems to meet current and future data reporting requirements. It would also promote pressures to seek other data processing options, thus establishing the climate: (1) for performing data manipulation manually, or (2) doing without, or (3) for the acquisition and proliferation of data processing equipment and facilities in the agencies.

Option 2: 1100/64 Upgrade

Description: Add one processor to the existing Univac computer complex along with some peripheral equipment. The purpose here is to continue to implement as many other agencies as possible with a minimal upgrade.

Benefit: This option is the second smallest direct cash outlay.

Costs (ESTIMATED): The additional processor will cost approximately \$692,400 in FY 1985 and \$692,400 annually over the next 6 years. (\$4,846,800 spread over 7 years.) It is also expected that an additional air conditioner will be needed, costing around \$55,000.

Comment: It is doubtful that this option will provide enough computer resources to fully implement KIPPS and provide adequate levels of service to terminal users. It again will not provide reserve computer resources to handle mechanical failures or when other situations disrupt the normal processing schedules. The result may include delayed issuance of paychecks, overtime expenses for agency personnel, etc.

Option 3: Added Computer Complex

Description: Add a comparable computer system side-by-side to the existing system thereby doubling the processing power. The purpose here is to provide the computer resources needed to fully implement the remaining agencies into KIPPS only and address the KIPPS usage growth anticipated.

Benefit: This option offers an equipment proposal to fully implement the remaining agencies into KIPPS during FY 1984-1985 without committing the State to future acquisition of Sperry equipment.

Costs (ESTIMATED): The configuration envisioned is the side-by-side installation of a computer processor complex similar to the one currently installed. The estimated cost of the new hardware is \$1,067,064 in the first fiscal year and the same for the next 6 years. (\$7,469,448 spread over 7 years.) The complexities involved in installing and running a dual, loosely-coupled computer system complex will incur some additional costs during FY 1985-1986, such as : (1) Sperry consultants to effectively connect these two computers are estimated around \$80,000 to \$100,000, (2) new State technical support and computer operations people to run the dual computers are estimated around \$80,000 to \$100,000 annually, and (3) ancillary equipment (air conditioning, chillers, etc.) and structural enhancements to support this added computer are projected to be around \$150,000.

Comment: This option has the reasonable potential to fully implement the remaining agencies into KIPPS.

Option 4: 1100/90 Upgrade

Description: Replace the existing 1100/60 computer complex with a large scale 1100/90 computer complex. The purpose is to meet now the KIPPS processing requirements anticipated over the next 5-7 years.

Benefit: This option would provide a 4-5 time increase in computing resources.

Costs (ESTIMATED): The cost of a Sperry 1100/90 computer complex will be around \$12,441,414 if purchased outright. Acquiring this machine on a long term capital lease or time payment plan would raise the total cost to \$19,259,760 spread over a five year period. However, Sperry may not be able to deliver such a unit until March/April 1985 and thereby, until then, this option has the same disadvantages as stated in Option 1. The environmental equipment and structural changes to support a Sperry 1100/90 computer in the State Office Building are estimated to be around \$230,000. Additionally, this early acquisition will force the State to move this equipment to the Santa Fe building, further increasing the costs to relocate and the risks to be taken as part of the relocation.

Comment: This is really Option 1 until the new equipment is delivered, and then the processing power is available for only one year until the move to the Santa Fe building. It may defer the real costs and risks to the relocation move itself.

Option 5: Future 1100/90 Upgrade

Description: Commit to Sperry to acquire a large scale 1100/90 computer complex for the move to Santa Fe building. The purpose here is to have Sperry provide whatever interim equipment is needed in the State Office Building to fully support KIPPS at discounted prices.

Benefit: This option offers the same benefit as Option 3 with the interim upgrade equipment costs for the next few years being discounted by Sperry until the move to the Santa Fe building. It does resolve the relocation move strategy and risks.

Costs (PROVIDED BY SPERRY): The incremental annual costs for this option are projected to be (1) an additional \$61,623 for FY 1984, (2) \$972,750 for FY 1985, (3) \$2,536,868 for FY 1986, (4) \$3,531,180 for FY 1987-1989, (5) \$2,952,870 for FY 1990, and (6) \$1,466,580 for FY 1991 to cover equipment maintenance and five year capital leases beginning during each of these fiscal years. This is equal to a total cost decision of \$18,584,231. If this equipment was purchased, instead of a capital lease, the decision value would be \$14,118,074. Since this option is a combination of Options 3 and 4, the Sperry consultant support costs (\$80,000 to \$100,000), the State people requirements (\$80,000 to \$100,000 annually) and the environmental equipment and structural changes (\$230,000) must be included.

Comment: This comprehensive alternative provides a long range solution with an excess of \$1.6 million discount proposed by Sperry.

VI. SUMMARY

In effect, we can upgrade or not. If we choose not to upgrade (Option 1), the expected annual KIPPS growth will only increase the capacity problems. Some agencies may have to revert to the old payroll system and be taken out of KIPPS completely. The resulting manual workloads will create several problems in both A&R and DPS. Operating two payroll systems for that long will also create unplanned maintenance workloads in DISC.

If we choose to upgrade, the choices are varied. One option (Option 2) upgrades the equipment without much hope for complete success. The processing power guarantees offered by getting the large upgrade option now (Option 4) can possibly create similar problems as for not upgrading because of the late equipment delivery, and can create relocation problems resulting in processing delays in the future. An interim upgrade that defers the acquisition of a large computer system until DISC relocates to the Santa Fe building presents attractive options. One of the two (Option 5) includes "Sperry guaranteed" sufficient processing power now, but with longer commitments; the other (Option 3) provides the equipment deemed needed now to fully implement the remaining agencies into KIPPS without committing to future Sperry equipment upgrades.

dj29/DJ3

PRELIMINARY SUMMARY UNIVAC OPTIONS
 ADDITIONAL COSTS IN 1984 UNADJUSTED DOLLARS
 (DOLLARS IN MILLIONS)

<u>Assuming Lease</u>		FY 85	FY 86	FY 87	FY 88-89	Est. Total
Option #1	None Now	\$ 0	\$ 0	\$ 4.0	\$15.5	\$19.5
Option #2	1100-64	.7	.7	4.0	15.5	20.9
Option #3	1100-73	1.5	1.2	4.0	15.5	22.2
Option #4	1100-90	4.0	3.9	3.9	7.5	19.3
Option #5	1100-90	1.0	2.5	3.5	11.6	18.6
 <u>Assuming Purchase</u>						
Option #1		0	0	12.5	0.5/yr x 4 = 2	14.5
Option #2		.7	.7	12.5	0.5/yr x 4 = 2	15.9
Option #3		1.5	1.2	12.5	0.5/yr x 4 = 2	17.2
Option #4		10.8	1.0	0.5	0.5/yr x 4 = 2	14.3
Option #5		3.9	4.5	3.8	0.5/yr x 4 = 2	14.2