

1993-94 SESSION
COMMITTEE HEARING
RECORDS

Committee Name:

Joint Committee on
Finance (JC-Fi)

Sample:

Record of Comm. Proceedings ... RCP

- 05hrAC-EdR_RCP_pt01a
- 05hrAC-EdR_RCP_pt01b
- 05hrAC-EdR_RCP_pt02

➤ Appointments ... Appt

➤ **

➤ Clearinghouse Rules ... CRule

➤ **

➤ Committee Hearings ... CH

➤ **

➤ Committee Reports ... CR

➤ **

➤ Executive Sessions ... ES

➤ **

➤ Hearing Records ... HR

➤ **

➤ Miscellaneous ... Misc

➤ 93hrJC-Fi_Misc_pt36b

➤ Record of Comm. Proceedings ... RCP

➤ **

**UPDATED
IMPLEMENTATION PLAN
FOR THE
CONSOLIDATION OF
INFORMATION TECHNOLOGY
SERVICES**



**Department of Administration
Division of Information Technology Services**

February 1993

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DIVISION OF INFORMATION TECHNOLOGY SERVICES

IMPLEMENTATION PLAN

February 1993

I. INTRODUCTION

GENERAL BACKGROUND

On November 21, 1991, the Division of Information Technology Services (Info-Tech) submitted its initial Implementation Plan to the Council on Information Technology (Council) and the Joint Committee on Finance (JCF) in fulfillment of statutory requirements contained in 1991 Wisconsin Act 39, the 1991-93 biennial budget bill. This updated implementation plan, also mandated in the budget, provides information not available for the 1991 plan and reports on decisions and progress made during Info-Tech's start-up year. This update also outlines remaining and new issues that need attention.

Substantial analysis and planning during 1990-91 by the Department of Administration (DOA) and an independent consulting firm, Ernst and Young, led to a 1991-93 biennial budget amendment proposing an independent authority to operate a consolidated state information technology (IT) center or computer utility. The goal was to reduce duplication of effort and costs in current IT operations and to plan for meeting the state's future IT needs economically and efficiently. Savings of \$3.5 to \$11 million over five years were projected, depending on the extent and success of consolidation.

The Legislature authorized consolidating the state IT centers and created Info-Tech as an operating division in DOA rather than an independent authority. Session law directed DOA to prepare a plan to consolidate the following six existing state computer centers into one at Info-Tech starting in the 1991-93 biennium:

- * the Wilson Street Regional Computing Center (WSRCC);
- * the Hill Farms Regional Center (HFRC);
- * the Department of Industry, Labor and Human Relations (DILHR);
- * the Department of Public Instruction (DPI);
- * the Department of Natural Resources (DNR);
- * the Department of Administration (DOA).

This plan reports on Info-Tech's creation, the first stage of consolidation--DILHR (September 4-7, 1992), WSRCC (October 9-11, 1992) and HFRC (December 11-13, 1992)--and plans for consolidating DPI, DNR and DOA in mid- to late 1993. Info-Tech is following the Ernst and Young timetable for completing the initial consolidation in FY 1994.

Act 39 also created the Council on Information Technology to review and advise Info-Tech on IT activities and plans. The Council consists of legislators, private sector managers with information technology experience and secretaries of two of Info-Tech's customer agencies.

The original planning for IT consolidation resulted from an extensive project involving Ernst and Young, a state project manager, a private sector/public sector steering committee and many state IT professionals. That planning effort provided the overall structure for consolidation and identified key areas to be addressed in what was expected to be a major undertaking.

Work groups of state IT staff developed specific plans for key areas including: organization, budget, telecommunications, facilities, hardware, software and management controls. The 1991 Implementation Plan contained information from both the consultant and work group plans, identified changes due to the administrative structure authorized in Act 39 and provided updated information and estimates in relation to the consultant's plan.

This 1993 Implementation Plan is both a progress report and an updated IT consolidation and development plan. It addresses issues raised in the authorizing legislation and the 1991 Implementation Plan and identifies additional issues of interest. For ease of use, this plan generally follows the 1991 Plan format. Section 2 briefly summarizes updates promised in the 1991 plan; these issues are explained in greater detail in later pages.

TECHNICAL BACKGROUND

The six IT centers identified for initial consolidation operated IBM computers but used two different types of data processing operating systems or environments. Different operating systems were used because agencies varied in workload size and complexity. As a practical matter, this difference means that software operating in one environment will not run in the other.

Info-Tech's plan organized the consolidation around the two different IBM operating systems. Agencies using the MVS (Multiple Virtual System) operating system (DILHR, WSRCC and HFRCC) were largest and moved first; agencies using the VM (Virtual Machine)/VSE (Virtual System Extension) were smaller and were scheduled for consolidation in mid-1993.

Hardware is the same in all environments and includes:

CPUs-Central processing units or CPUs are large mainframe computers used to process massive amounts of data and perform complex calculations. Info-Tech bought two new CPUs (described in detail in the Hardware section) and transferred software to operate the CPUs from DILHR, WSRCC and HFRC starting in August 1992.

DASD-Direct Access Storage Devices or DASD are hard disk units for storing computer data and software so that they do not take up space on the CPU when not in use. This equipment stores the information on magnetic disks and sends it to the mainframe when the CPU requests

it. DASD is a major hardware component and helps in controlling the demand for larger and larger CPUs.

Tape Equipment-Tape--reel and cartridge--is another storage medium for computer data. Tapes are either inserted into a tape drive or mounted on a reel that allows the CPU to retrieve and use data when needed. The tapes are stored on library-like shelves in the computer room and must be retrieved and inserted or mounted manually by technicians. Tape storage is also used to provide a complete backup copy of the system at a different location.

Devices called controllers connect both DASD and tape equipment to the CPUs and regulate the flow of data.

Telecommunications equipment provides direct, on-line communication between agencies and Info-Tech computers. On-line access means that users see data on the computer screen as soon as it is entered into the system. Presently, the state has a statewide telecommunication network linking state offices to their data processing centers, including DIHLR, WSRCC and HFRC. This network provides data processing customers at distant locations with on-line access to data housed at the Madison data processing centers. The network has been expanded to include the new State Administration Building which houses Info-Tech.

The state-of-the-art technology for telecommunication networks is fiber optic cable that typically runs through underground conduits linking various buildings and computer systems. Info-Tech installed its own conduits but uses phone company lines as well. In fiber technology, light beams carrying data are "shot" down the fiber to move it from place to place. Alternatives to fiber optic cabling include expanded use of regular telephone lines and systems using microwave transmission.

The telecommunication equipment links customer agency work stations and printers to the network and, thus, to Info-Tech. Telecommunications hardware is a critical component of the overall consolidation plan.

Software consists of instructions to the hardware telling it how to move and process data. Software is an individually created combination of coded instructions recorded on tape, disk or some similar medium. A good analogy may be musical notes that are stored on tape or disk and that are used in various combinations to create different sounds for the listener. Like music, software is a form of intellectual property protected by law.

Various types of software are required to use a computer. System software operates the hardware, sets the parameters for running application software and manages and reports on CPU workload. Application software processes data for a specific state project or program. Many application software products run under a single system software package. In this plan, software refers primarily to system software and generally excludes application software.

Disaster recovery refers to procedures followed when IT services are severely disrupted due to a disaster such as a tornado, bomb or similar event. In disaster situations, at least two types of facilities are available to help restore major computing operations. The first is a hot site which

is a location where a computer is sitting idle waiting to be used to run the state's critical computer applications. Hot sites are provided by vendors through a subscription service. Contracting for hot sites is similar to having an insurance policy that is available only when needed. Back-up copies of the state's software also are available. The second is a cold site which is a more permanent location for running the state's computer applications if existing facilities are demolished or so badly damaged that they would be inoperable for a lengthy period. At a cold site, a temporary computer facility can be built within two to four weeks and used to conduct IT activities for an extensive period while state facilities are rebuilt.

Additional information about technologies will be presented as needed in the remainder of the plan.

II. SUMMARY OF IMPLEMENTATION PLAN UPDATES

The following summarizes promised updates to the 1991 Implementation Plan and Info-Tech's accomplishments during the past year:

1. Final Info-Tech Staffing-As of January 25, 1993, 90.0 of the 94.0 authorized positions (including 2.0 FTE assigned to other areas of DOA) have been filled. Hiring for the remaining four positions is underway and may be completed by the time this plan is submitted. Appendix 1 provides Info-Tech's final position numbers by classification and includes pay range, starting date and originating agency.
2. Surplus Positions-To date, no surplus positions have been needed to accommodate existing center staff needs or avoid lay-off of center staff. However, four surplus positions will be created in DOT to accommodate attrition and ensure that DOT can place incumbents from transferred positions in appropriate jobs within the agency.
3. Hardware and Software Transfers-Info-Tech bought new hardware totaling \$23.8 million through October 1992 (see page 10 for a complete list of purchases). The discounts and credits the State received in buying this equipment received national attention and resulted in savings totaling several million dollars. Two new mainframe computers account for approximately \$17 million of the expenditures.

One-time costs to transfer existing software licenses were approximately \$2.9 million which is considerably lower than the consultant's estimate. In most instances, Info-Tech transferred state-owned software from the centers rather than buying new products.

See section IV for further detail on hardware and section V for software.

4. Current Capacity Estimates-Info-Tech's current capacity is 42% higher than the consultant's original estimate (339 MIPS versus 240). Additional workload led to revised estimates of required computer capacity and to the purchase of larger CPUs than originally planned. Section IV, page 8, provides further detail on capacity

planning, its relation to hardware needs and future capacity estimates.

5. DASD Configuration-As indicated above, Info-Tech purchased new DASD as well as using DASD from existing centers. Additional DASD facilitated the stage one moves and will accommodate growth of agency data storage needs. See Section IV, p. 11 for further detail.
6. Decision Re: HFRC Optical System-Info-Tech bought an additional optical system, identical to DOT's current system, to facilitate HFRC's move to Info-Tech, double optical processing capacity and provide backup for the existing system. This purchase represents an interim measure to meet current workload but is not considered a long-term solution because the technology is no longer being marketed. Eventually, Info-Tech will replace both systems with newer technology.

HFRC's optical system stores information about problem drivers and provides on-line access to that information to law enforcement and the courts. Issues associated with the optical system are discussed in section IV, page 12.
7. Decision Re: Purchase of Automated Tape Retrieval Equipment-Info-Tech staff concluded that an automated tape retrieval system will play a key role, in combination with DASD storage and manual tape retrieval, in handling data storage and retrieval functions. A staff study currently underway will determine the best mix of available methods and will address related issues including merging agency tape libraries and reduced tape usage. See section IV, page 12.
8. Telecommunication Network-The telecommunications network uses fiber optic cable to connect the downtown Madison centers with Info-Tech and for the primary connection between HFRC and Info-Tech. The backup connection between HFRC and Info-Tech is microwave. To date, the telecommunications network has cost \$1,413,000. The network is discussed in further detail in Section IV, page 13.
9. 1992-93 Operating Budget Update-Info-Tech's 1992-93 operating expenses are estimated to be \$23.2 million. Expenditures during Info-Tech's start-up year, 1991-92, were \$1 million. Info-Tech's biennial budget estimate for 1993-95, as submitted to the Legislature, is \$47.2 million. Additional budget information appears in Section VI, page 15.
10. New State Building Costs-Modifications to the new State Administration Building attributable to the consolidated computer facility cost \$4,640,000 compared to the \$4,988,000 estimate approved by the State Building Commission. For further information, see Section VI, page 16.
11. Transfer of Center Assets-Cash assets totaling \$8,178,238 were transferred from the three existing centers to Info-Tech in 1991-93. For a complete accounting of the transfers, see Section VI, page 17.

12. Consolidation Plans for DNR, DPI and DOA-Info-Tech is studying the feasibility and desirability of consolidating the VM/VSE operating systems currently operated by DNR, DPI and DOA in 1993-94. Discussion of the study appears in Section VIII.
13. Disaster Recovery-Info-Tech contracted with a national disaster planning and recovery firm for hot site facilities in New Jersey and eventually Chicago. This firm will provide CPUs for all Info-Tech processing if a disaster occurs. Former centers will be used as cold sites if needed.
14. Print Consolidation-At the present time, the regional centers continue to print computer generated documents for their clients as they did before consolidation. Info-Tech currently is studying the feasibility of consolidating some of these printing activities and reducing paper output through greater use of on-line report distribution. The study is scheduled for completion in early 1993.

III. TRANSFER OF POSITIONS & STAFF

CURRENT STATUS OF INFO-TECH STAFFING

The initial consultant's report concluded that a major benefit of consolidation would be in staff cost savings. After substantial analysis, the consultant, working with the affected agencies, identified 121.0 FTE in the six existing centers that could be eliminated upon consolidation. Of that number, DOA received 93.0 FTE from the centers in Act 39 (two were assigned to DOA's Administrative Services Division and 91 to Info-Tech). In addition, the legislation created one unclassified division administrator position to direct Info-Tech. Thus, Info-Tech's authorized position level is 92.0 FTE; 88 of the 92 positions were filled as of January 25, 1993.

Twenty-eight (28.0) FTE were to be eliminated from the state payroll. Formal adjustments to agency position authority and funding levels will occur during the 1993-95 budget process through the Governor's recommendations on agency budgets.

As of January 1992, 91.0 of the 94.0 FTE positions (not employees) had been transferred from the centers and filled (this includes the 2.0 FTE assigned to DOAS). The remaining three positions are primarily for technical staff and are being transferred as filled. Info-Tech currently has 88.0 FTE employees; three positions have not been filled, one was filled but the employee resigned. Appendix 1 provides a full listing of position numbers, classifications and pay ranges for all transferred positions; the starting date, original agency and position authority of each employee are also shown. Below is a summary of Info-Tech staff coming from the consolidated centers:

<u>AGENCY</u>	<u>FTE</u>	<u>FTE TO INFO-TECH</u>	<u>EMPLOYEES TO INFO-TECH</u>
WSRCC	41.0 FTE	32.0	22.0
HFRC	40.0 FTE	33.5	24.0
DILHR	33.0 FTE	25.5	20.0
DPI	3.5 FTE	1.0	2.0
DNR	2.0 FTE	0.0	1.0
DOA	1.5 FTE	1.0	5.0
TOTAL	121.0 FTE	93.0 FTE	75.0

Of the fourteen employees who did not come from IT centers, eight transferred from other state agencies and six came from the private sector. The ten position numbers that have not transferred will come from DOT. In addition, Info-Tech hired 1.5 FTE limited term employees to assist in the areas of inventory, tape mounts and technical assistance.

PROCESS

Act 39 specified that Info-Tech staff be classified employees within the state civil service system. State personnel rules governed the recruitment and hiring of all Info-Tech employees whether from other state agencies or the private sector. The goals included hiring the best qualified staff to accomplish the consolidation on time, to allow the existing centers to maintain adequate staffing during the transition and to avoid layoffs of center staff.

Because Info-Tech created a new organization and began planning for consolidation at almost the same time, staffing occurred in a sequence based on the positions needed for the order in which work needed to be done. Competitive promotional recruitment and employee transfers were used extensively to meet staffing deadlines. The Info-Tech Division Administrator position was filled in September 1991, followed closely by the deputy administrator and program assistant positions. Remaining positions were filled in roughly the following sequence:

November-December 1991	Bureau Directors Technical Support Section Chiefs
January-March 1992	Operations Section Chiefs Administrative Services Positions Network Positions Technical Support Staff-Phase 1
April-June 1992	Customer Service Positions Security Staff Technical Support Staff-Phase 2 Operations Staff

The initial implementation plan provided for creation by DOA under s.16.50(3), Stats. of up

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to 20 surplus or pool positions in the centers to accommodate continuing IT needs and to avoid center staff layoffs. Four surplus positions will be created in DOT to accommodate attrition and ensure that employees who had been in positions transferred to DOA are placed in appropriate positions within DOT.

STAFF ORGANIZATION

The 1991 Implementation Plan described a division with five bureaus as recommended by the state project director in consultation with IT center staff. The bureaus and corresponding FTE position authority as planned and as they exist today appear below. The Administrator's Office adds 5.0 FTE to that total. An organization chart appears on the next page.

<u>BUREAU</u>	<u>1991 PLAN</u>	<u>1992 ACTUAL</u>
Customer Service	6.0 FTE	7.0 FTE
Network Management	5.0 FTE	6.0 FTE
Technical Support	30.0 FTE	30.0 FTE
Operations	36.0 FTE	36.0 FTE
Administrative Services	11.0 FTE	8.0 FTE

The Division assigned positions where workload was greatest.

FUTURE STAFFING ISSUES

DOA's 1993-95 budget proposes two statutory changes to facilitate the provision of computing and other services to new customers. The first change would allow DOA to transfer IT positions in new customer agencies to Info-Tech to provide staffing for the new workload. The second would permit DOA to create up to 10 positions within the 1993-95 biennium to accommodate provision of services to local governments. New positions created under this authority would be reported to the Joint Committee on Finance. Both provisions are designed to give Info-Tech the tools needed to respond quickly to customer demand. Given that Info-Tech is still in a transition phase, it is difficult to predict in advance staffing requirements based on a changing customer base.

IV. HARDWARE

ESTIMATING HARDWARE NEEDS

Capacity planning is the process of estimating the mainframe resources needed to meet anticipated customer demand for data processing. Ongoing capacity planning identifies the amount of equipment required to handle the workload generated by customers and in-house processing.

Two general factors affecting capacity planning are technological change and customer demand. Customer demand may be more relevant for this report. Customer demand increases for two main reasons: natural growth due to additional data processed by existing software applications and demands for software changes based on changes in state programs and in

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Administrator
ITA(22)
Jon S. Miller
Deputy Administrator
ITDA(21)

92 Total Positions

(5)

Customer Service
Bureau Director
Suzanne Stoutt
ITD 4(18)

- Customer Service Mgr
- Customer Support Mgr

Network Mgt
Bureau Director
Robert Stuessy
ITD 2(18)

- Definition/Change Spec
- Hardware/Software Spec
- Planning Spec

Technical Support
Bureau Director
Sari King
ITD 3(20)

DB/DC Support
Section Chief
Larry Walker
MISUP 7(18)

- DB/DC Product Supp
- DB/DC Consulting

Operating Systems
Section Chief
Glenn Harvey
MISUP 7(18)

- Large Systems Supp
- Small Systems Supp
- Capacity Planning
- Storage Mgmt

General Software
Section Chief
Elizabeth Shema
MISUP 7(18)

- Development Support
- Systems Mgmt
- Statewide Systems

Administrative Services
Bureau Director
Bruce Reines
ITD 1(18)

- Acctg/Rates/Billing
- Senior Proj Mngmt
- General Services

Operations/Client Supp
Section Chief
Suzanne Dixon
MISUP 6(17)

- Problem/Change Mgt
- Configuration Mgt
- Production Schedule
- Quality Control
- Operations Procedures
- Inventory/Billing/DB

Second Shift
Section Chief
Brad Hellenbrand
MISUP 4(15)

- Production Control Spec
- Operations Supp Tech
- Network Control

Operations
Bureau Director
Phil Nelson
ITD 2(19)

First Shift
Section Chief
Dennis Arnold
MISUP 5(16)

- Production Control Spec
- Operations Supp Tech
- Network Control
- Stock Technician

Third Shift
Section Chief
Scott Skindzelewski
MISUP 4(15)

- Production Control Spec
- Operations Supp Tech
- Network Control

INFO-TECH SERVICES

Division of Information
Technology Services

Department
of
Administration

software used for state programs.

An example of natural growth is the annual increase in number of driver's licenses that adds continually to HFRC's (and now to Info-Tech's) capacity requirements. The new state accounting system, on the other hand, is a new application that will add to Info-Tech's required computer capacity. In addition, capacity changes related to consolidation per se include latent demand (things Info-Tech can do for the agency that its own computers could not) and overhead requirements due to consolidating several agencies' IT on a single machine.

The primary method of estimating and planning for capacity needs is to determine the number of instructions per second a CPU will be required to process. The measure used is called a MIP (one million instructions per second).

The figures below show how capacity estimates have changed and project Info-Tech's capacity needs for 1993-94.

	<u>April 1992</u> <u>Estimate*</u>	<u>January 1993</u> <u>Actuals</u>	<u>June 1993</u> <u>Projected</u>
Total MIPs	294	339	372

* The projection was made in April 1992 but estimated January 1993 capacity needs.

When more MIPs are required than existing CPUs can handle, Info-Tech must either upgrade (buy additional engines for) existing CPUs or replace them with larger CPUs. To illustrate how quickly capacity estimates change and the factors affecting them, consider the recent CPU purchasing process. The original plan was to buy two IBM model 600J CPUs, each with 117 MIP capacity. As Info-Tech staff received more information about agencies' actual IT requirements, they realized that then-current capacity estimates (234 MIPs) would be outdated by the time the new CPUs were bought. Thus, the State changed its capacity requirements for the bidding process and ultimately bought two CPUs with 339 MIP capacity.

Currently, the Info-Tech is operating fairly close to the 339 MIP capacity of the new machines. As of January 1993, the HDS machine, with a capacity of 135 MIPs, is operating at 115 MIPs. The larger Amdahl CPU, with a capacity of 204 MIPs, operates at 150 MIPs. Typically, CPUs operate at 80% of maximum capacity because to operate at a higher level results in poorer service such as longer response times.

Anticipating future growth, Info-Tech purchased CPUs that are easily upgraded and negotiated fixed prices for the next upgrades. Current projections indicate that an upgrade to the HDS CPU will be required by July 1993 and will provide an additional 33 MIPs of capacity. This upgrade is expected to allow Info-Tech to absorb new programs such as the new state accounting system and new social services systems and serve additional customer agencies. In addition, the Amdahl CPU is expected to need an upgrade in mid-1994.

NEW HARDWARE PURCHASES

Hardware Purchased

Info-Tech's FY 93 start-up costs for hardware bought through October 1992 were \$23,846,507 compared to Ernst & Young's hardware cost estimate of \$27,183,111. A detailed list of FY 93 purchases appears below.

HARDWARE PROCUREMENTS THROUGH OCTOBER 1992

Command Console:

Rack	\$40,572
Display terminals	\$25,714

Telecommunications Network:

Front end processor (used)	\$156,400
Peripheral channel switch	\$136,800
Channel extenders (estimated)	\$316,000
Fiber installed	\$401,000
Fiber route (lease)	\$67,800

Central Processing Units:

HDS 135 million instructions/second CPU	\$7,180,740
Amdahl 204 million instructions/second CPU	\$9,831,003
CPU to CPU channel switch	\$110,600

Direct Access Storage Device:

DHSS disk drive swap (new and used)	\$739,793
DOT disk drive swap (new and used)	\$4,467,217

Tape Drives:

Cartridge tape drives (used)	\$90,600
Cartridge Tape racks	\$39,769

Printers:

Impact line printer (used)	\$4,351
High speed laser page printer	\$128,148

Optical System	\$110,000
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Total \$23,846,507

Purchasing Process

In May 1992, Info-Tech bought two mainframe CPUs using the new solicitation process authorized in Act 39. The final cost of \$17,011,743 represented a 64% discount at a time when typical discounts ranged from 25% to 40%. A computer industry publication's analysis of Wisconsin's success in obtaining this discount appears in Appendix 2.

The first CPU purchased was a HDS model GX8320 that processes 135 million instructions per second (MIPs) and was purchased for \$7,180,740. This price is 55% off the list price. Included at no cost in the transaction were:

- 512 megabytes solid state storage;
- maintenance for three years on the CPU and the semi-conductor storage device;
- 60 days of training in house;
- credits for off-site classes; and,
- 237 days of technical support.

The total discount with these credits was 64% off list price. In addition, Info-Tech and HDS agreed to a fair market value for the future trade-in of the IBM CPU at the Department of Health and Social Services. The agreement also limited the cost of the next CPU upgrade, limited maintenance costs after 3 years and established a maximum price to convert the computer room to fiber optic cable.

The second CPU, an Amdahl Corporation model 5995M-4550 that processes 204 million instructions per second, was purchased for \$9,831,003. This price is 57% off list price. Again, the State received maintenance for three years and in-house and off-site classes--all for no additional charge. This again represented a total discount of 64% off list price. As with HDS, Info-Tech and Amdahl agreed to fair market value for the future trade in of the IBM and Amdahl CPUs at the Department of Transportation. This agreement also limited the cost of the next CPU upgrade and established a maximum price to convert the computer room to fiber optic cable. In total, 1 gigabyte of solid state storage devices was included at no cost in deals with both vendors.

Disposal of Center Hardware

As noted in the 1991 Implementation Plan, Act 39 authorized Info-Tech to transfer hardware and related contractual obligations from the existing centers. Info-Tech paid off outstanding financial obligations totaling \$3,960,934 for the regional centers' CPUs and DASD and then traded them for new hardware.

Instead of using center hardware and leasing additional equipment during the installations, Info-Tech purchased new and used hardware for less than the cost of leasing the same equipment for six months. Moreover, substantial benefits resulted from buying the equipment--the risk of losing data during subsequent moves between equipment was eliminated, three (3)

years of free maintenance was included with new equipment and the state was able to negotiate a trade-in price on its used equipment. The credits obtained for this equipment equaled the value of the new DASD.

In addition, Info-Tech retained used DASD, tapes, front end processors and controllers from the centers. A list of hardware transferred from each agency, including traded equipment appears in Appendix 3. A detailed list of purchased equipment appears in Appendix 4.

Optical Equipment. An optical system is a computer with a scanner, printer and a large amount of storage. Optical equipment allows documents (letters, forms, etc.) to be entered directly into a computer without keying the information. The scanner captures the information and translates it to a form that is understood by the computer. The information is stored on optical disks that are inserted into drives attached to the computers. Optical systems greatly improve work efficiency by allowing multiple users to have immediate simultaneous access to documents that ordinarily would be handed from person to person and eventually filed away in a drawer. HFRC uses its optical system primarily for motor vehicle problem drivers, and it plays a key role in providing important information about license status to law enforcement officers, the court system and others.

Info-Tech and DOT staff considered several alternatives before determining the best way to transfer the optical system without taking it out of use. Moving the optical system differed from moving the system software because the software could be tested on Info-Tech's machines while still being used for production at the centers. However, with only one optical system, the optical equipment would have to be dismantled at one location and re-established at the new one. Without a second optical system, there would have been a period when the information on the optical system was unavailable for processing.

Equipment using newer technology was ruled out as too expensive and unnecessary at this time. In addition, conversion to a new generation of technology would be very time consuming and staff intensive at a time when neither Info-Tech nor DOT had time or staff to dedicate to the project. Since Info-Tech staff transferred HFRC's full operations at the same time, Info-Tech concluded that the best way to handle the optical system was to install a duplicate system. This plan was least expensive, most efficient and safest.

Info-Tech bought a used optical system for approximately \$110,000 (compared to \$400,000 for the new technology). This system doubles the existing capacity, provides a backup system and allows optical processes to continue without disruption. The second system was operational at Info-Tech when the HFRC system was moved.

TAPE STORAGE AND RETRIEVAL ISSUES

Tape storage and retrieval will pose a major challenge for Info-Tech over the next year because of the large number of tapes handled and the staff intensive nature of manual tape retrieval. The three centers have over 140,000 tapes in their current libraries. Info-Tech's

tape library has the capacity to store that number but staff are seeking ways to reduce workload requirements, including reducing the number of tapes. Each time a user requires access to stored data, a staff member has to physically retrieve the individual tape and insert it into a tape drive or mount the reel.

As indicated in the previous plan, technology exists to automate tape retrieval and mounting by using robotics. Info-Tech will automate at least a portion of its tape library but will also expand DASD storage and continue manual retrieval. A tape study currently being conducted will determine the best combination of storage methods and which data is best suited to a particular storage medium.

The first step, however, is to merge the tape libraries from the three centers. Each center has its own tape management system (similar to a book catalogue in a regular library) listing tapes by identification number and describing its contents. Fortunately, DILHR, WSRCC and HFRC used the same software to maintain their tape catalogues but Info-Tech will still have to consolidate them into a single system so that only one catalogue is maintained.

Once the merger is completed, Operations staff will analyze tape use and determine how best to reduce both the number of tapes and the amount of manual labor involved in retrieving and mounting tapes. The study is scheduled for completion by March 1993.

TELECOMMUNICATIONS NETWORK

DOA owns a high speed, state-of-the-art fiber optic cable telecommunication network linking the new State Administration Building with the State Office Building at 1 West Wilson, the Capitol, and the three GEF buildings. The network also connects Madison with remote state offices throughout the state. Recently, fiber cable was installed along University Avenue to connect the Hill Farms State Office Building to the downtown Madison network. A backup microwave link also connects Hill Farms with Info-Tech.

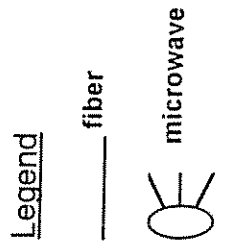
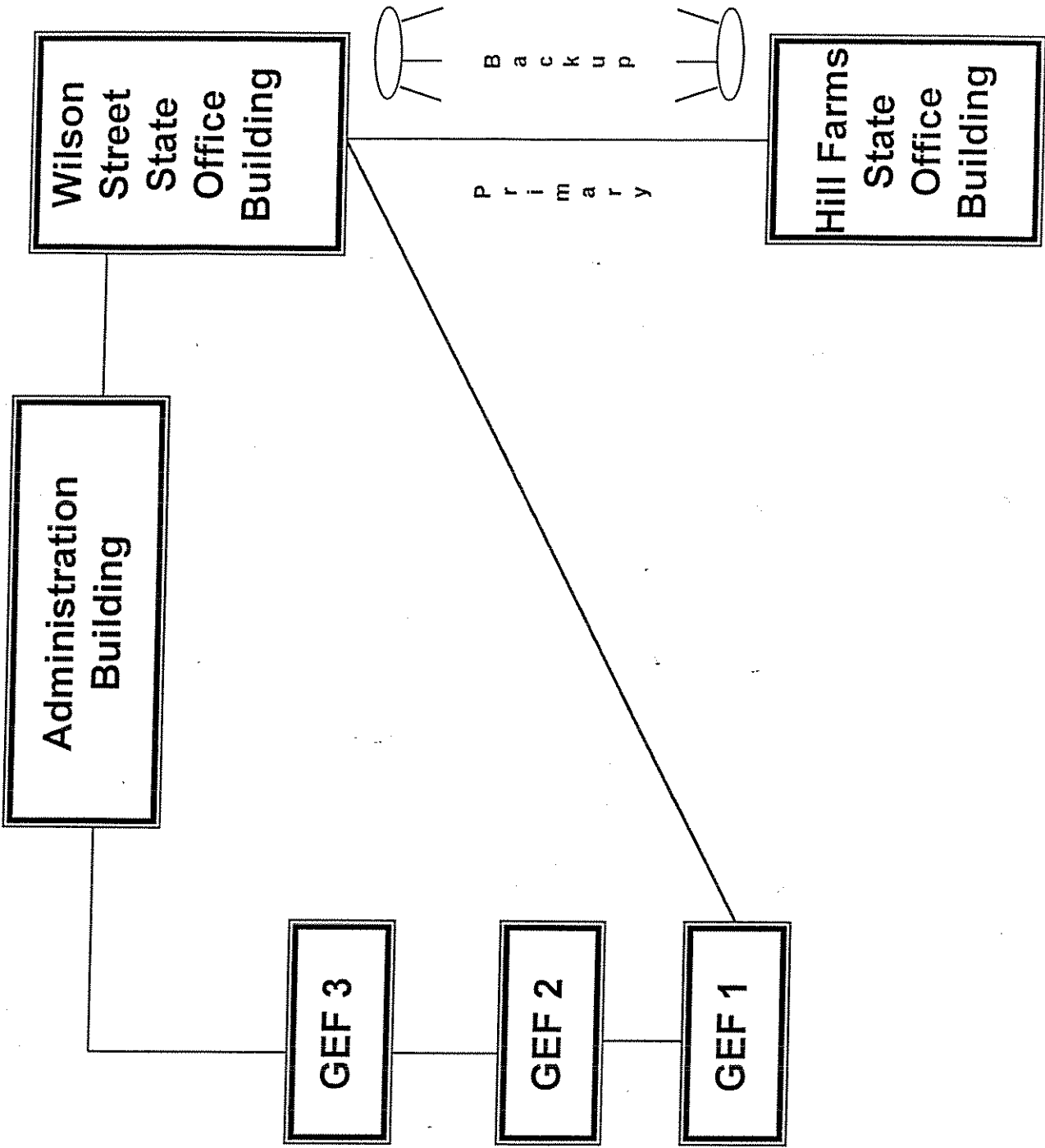
After considering the alternatives, Info-Tech chose fiber technology over microwave and telephone line for the primary connection with Hill Farms because it is more reliable, faster and less expensive in the long run than the other two options. In addition, fiber is expected to be the primary telecommunication technology for the future.

Telecommunication equipment purchases are listed on page 10. A diagram of Info-Tech's current telecommunication network appears on the next page.

FUTURE HARDWARE ISSUES

Telecommunications Network-One major issue for the next year in relation to the telecommunications network is implementing the disaster recovery plan. Additional equipment (network interface hardware, channel extenders and channel switching equipment) will have to be acquired to complete long distance connections for disaster recovery since both hot sites are

Info Tech's Fiber Optic Network



out-of-state. Additional network hardware also will be required in order to back up the network front end processors in case of a localized disaster.

Another hardware issue for the coming year involves upgrading possibly two IBM 3745 front end processors. These network controllers support what was formerly the Hill Farms and Wilson Street regional center networks. Both are over 4 years old and have never been upgraded with faster internal processors. They are approaching their capacity limit, and Info-Tech is currently in the process of determining how soon they will need to be upgraded. Too long a delay in upgrading this equipment would result in slow on-line response time.

Future CPU Upgrades

As indicated earlier, both CPUs will be upgraded in the 1993-95 biennium to provide the capacity required to meet projected workload demands. The HDS will be upgraded by July 1993, the Amdahl by mid-1994.

V. SOFTWARE

Info-Tech transferred existing system software from DILHR, WSRCC and HFRC in stages beginning in July 1992. Software for agency-specific program applications was physically transferred to Info-Tech but the agencies continue to manage their own applications software. Info-Tech tested center software on its hardware while the agencies continued using it for normal processing at the centers. This overlap ensured that data processing operations would transfer with minimal disruption. Official transfer of software for production purposes took place as follows:

DILHR	September 4-7, 1992
WSRCC	October 9-11, 1992
HFRC	December 13, 1992

A list of software transferred from each agency appears in Appendix 5.

As noted in the 1991 Implementation Plan, software vendors generally hold title to software and sell users the right to use the software either perpetually (considered a purchase) or for a specified period (considered a lease or rental). The user typically obtains a license to operate the software on a designated CPU or at a designated location or site. The license places limitations on software use and may require that additional fees be paid when the user changes the CPU, size of CPU, location or other details of the license agreement.

Because the consolidation involved changes in many licensing agreement provisions, most software licenses for transferring software were affected. Info-Tech's general strategy was to amend existing software agreements rather than purchase new licenses unless it was clearly in

the state's interest to do so. The process involved identifying vendors for software licensed at all three centers, notifying them of the proposed consolidation and requesting copies of existing licenses. Although the three centers had file copies of some licenses, records were often incomplete. Each vendor was asked to respond with approval to move the software or to amend existing license agreements if necessary.

A major goal of software consolidation will be to eliminate duplicate copies of software licenses where possible. Although centers used different software packages, Info-Tech eliminated approximately eighty (80) licenses because, for some products, there were more licenses among the three centers than would be needed by Info-Tech. Info-Tech at most will need two licenses of any one product (one for each CPU). Approximately 280 software packages from 71 vendors were transferred from the first three centers. The majority of vendors (66%) either approved transfer at no cost or did not object to the transfer. Twenty-four (24) vendors required a one-time payment either for upgrades (operating the software on a larger machine) or for transferring the software to an unlicensed machine.

The total one-time cost for licensing existing software at Info-Tech was \$2,937,713 which was substantially lower than Ernst and Young's estimate of \$4.7 million for this item. Additional one-time software transfer costs may occur with each subsequent consolidation.

FUTURE SOFTWARE ISSUES

Move Related Consolidation-As each new agency IT center moves to Info-Tech, the license transfer process that occurred for DILHR, WSRCC and HFRC will be repeated. Software packages will be identified, vendors contacted and the license transfers negotiated. If Info-Tech's experience holds, the majority of vendors will approve the transfer at no cost. However, predicting the one-time costs that may be incurred is difficult without knowing exactly the software packages and vendors involved. It is possible that Info-Tech may realize savings because it already has some software used by all agencies licensed for both machines (security software, for example).

Use Related Consolidation-One advantage of consolidating IT centers is that the number of software packages being used and thus maintained either by state IT staff or under purchased vendor maintenance agreements can be reduced. Software with few users, outdated or inefficient software and software that duplicates functions performed by other software should eventually be eliminated. Info-Tech staff works continually to identify software to be eliminated and products that could be used in its place (if necessary). Info-Tech expects this process to continue for the next few years until a streamlined software base is in place. The planning process includes determining a timetable for eliminating the old software and working with users to find replacements.

VI. BUDGET

EXPENDITURES

Info-Tech's budget consists of four major items:

Operating Budget--The operating budget includes funding for staff, equipment, space and other normal business expenses. Details of the 1992-93 budget (\$23.2 million) and 1991-92 actual expenditures (\$1 million) appear in Appendix 6. Appendix 6 also provides expenditure estimates for the 1993-95 biennium as contained in Info-Tech's biennial budget request. Biennial expenditures of \$47.2 million are estimated for 1993-95.

Cost of a Consolidated Computer Facility--Final costs for providing a specialized computer facility in the new State Administration Building are \$4,640,000 compared to the original estimate of \$4,988,000 that was approved by the State Building Commission.

Specific accommodations required for the computer facility included modifications to the heating, ventilating and air conditioning systems, the electrical systems (including the installation of an uninterruptible power supply for Info-Tech Services), plumbing systems and fire and security systems. In addition, special insulation and sealing were added to meet the strict temperature and humidity specifications for data processing hardware, and a freight elevator was installed to transport large computer equipment.

Cost of Establishing the Network--The cost to date for the telecommunication network for Info-Tech is \$1,413,000 as compared to the original estimate of approximately \$2 million over a two year period. These costs included buying and installing front end processors, controllers, fiber cables and channel extenders and right of way costs.

Cost of Initial Hardware and Equipment--Total expenditures to date for hardware and equipment are \$23,846,507 compared to the consultant's estimate of \$27,183,111. Initial hardware costs are financed under the State Capital Master Lease Plan which provides that Info-Tech will make annual lease payments over three (3) years. The annual lease payments are paid from Info-Tech's operating budget and are contained in the total authorization for permanent property. Info-Tech's repayment of a start-up loan from the Bureau of Information Telecommunications Management are listed as a special payment in Appendix 6.

REVENUES

Info-Tech revenues for 1991-93 were \$1.2 million in FY 92 and are estimated to be \$23.8 million in FY 93. These revenues were obtained from several sources authorized by Act 39 for start-up: (1) assessment and pass-through charges to the affected centers to generate \$1.2 million for first year costs; (2) cash transfers from the three centers to Info-Tech; and (3) an existing DOA information technology appropriation.

Cash transferred to Info-Tech from the two centers was:

Regional Centers	\$8,178,238
DILHR	\$0

DILHR does not have the cash reserve available at the former centers which required contingency funds to meet customer needs.

Info-Tech Rates

Beginning in the 1993-95 biennium, Info-Tech will direct bill customers for its services. In March 1992, Info-Tech established a Rates Committee, composed of customer agency and Info-Tech staff, to develop recommendations for the rate structure. The Committee prepared recommendations regarding:

- the FY93 cost allocation method;
- definition of cost centers;
- units of measurement for service;
- definition of billable and nonbillable services;
- Info-Tech's rate structure and procedures;
- FY94 budget rates;
- the potential impact of rates on 1993-95 agency budgets.

Service rates were then developed to: 1) recover Info-Tech operating expenses, 2) equitably distribute costs, 3) support long-term IT strategy, 4) minimize agency rebilling workload, and 5) minimize administrative costs.

The committee will continue to meet throughout FY93.

Assets and Liabilities Transfer

As indicated above, Info-Tech transferred \$8,178,238 in cash from the two regional centers. Info-Tech also transferred \$4,801,709 (book value) in equipment that included DASD, controllers, an optical system and telecommunications equipment. See Appendix 3 for complete listing. A substantial portion (\$3,961,000 worth) of the transferred equipment, including mainframe computers from the regional centers, was traded for new CPUs, DASD and related equipment purchased for Info-Tech.

Liabilities transferred from the centers included software and hardware maintenance contracts and hardware installment payment agreements. Info-Tech's total liability due to installment payment agreements is \$4,269,000. Information is not available to provide a dollar value on the maintenance contracts but Info-Tech is now responsible for those costs as well.

Consolidation Cost Savings

Savings to the state resulting from consolidation are estimated to be \$11.4 million (all funding sources) for the 1993-95 biennium. This estimate is based on FY93 adjusted budget information for Info-Tech, DILHR, WSRCC and HFRC which incorporates assumptions on estimated annual expenditure increases over the next two years for the current data centers. The estimates are that Info-Tech will spend \$57.4 million dollars compared to \$68.8 million if the existing centers continued operation for the biennium.

As mentioned above, Info-Tech Services is still in the process of establishing rates for services for the upcoming biennium. It should be noted that the former regional centers normally established rates one to two months prior to beginning a new fiscal year.

While Info-Tech rates are still preliminary, the Governor's budget recommends a \$1 million per year reduction in GPR base budgets for IT services. The savings will be implemented through a lapse to the state General Fund and will be included in the budget bill's General Fund Condition statement. This mechanism was fashioned to allow agencies the flexibility to target the reduction to the GPR appropriation were the savings were to occur.

VII. CUSTOMER SERVICE and PERFORMANCE STANDARDS

Providing efficient, high quality information technology services to state agency and other customers is one of Info-Tech's primary goals. To achieve this goal, Info-Tech staff are developing new procedures and formal customer agreements that have not been used before by state data processing centers. Customers are involved at each stage from planning to assessing on-going services, and methods for evaluating and altering services have been established.

In August 1992, Info-Tech issued its first Customer Manual addressing policies and work flow procedures such as security, operations (including hours of coverage, staffing levels, customer access, tape library resources, help desk and so forth), network standards, technical support availability and customer service definitions and policies. This manual will be supplemented by individually negotiated "Service Level Agreements" for each agency served by Info-Tech. Over 28 agreements will result from the first stage of consolidation because each agency now served by the former WSRCC or HFRC centers will have its own agreement.

Service level agreements are negotiated between division administrators of Info-Tech and customer agencies with extensive involvement of agency data processing managers. Each agreement addresses issues such as the respective responsibilities of Info-Tech and agency staff, procedures for changing the agreement, network, CPU, database and telecommunications software availability and similar topics of concern to customers. For example, the following is an excerpt from the DHSS service level agreement:

"Info-Tech Services will be responsible for:

- developing draft and final versions of the Service Level Agreements,
- providing a stable environment to maximize service availability and reliability,
- reporting on the results of meeting the service level objectives,
- managing resources to resolve any problems affecting quality service delivery.

H&SS Management will be responsible for:

- providing best effort forecasting workload and resource requirements,
- assisting with justification of additional resources needed to support H&SS,
- alerting Info-Tech management to concerns about service delivery."

In addition, for DHSS Info-Tech agreed to provide network service 24 hours per day, 7 days per week except for scheduled maintenance. Info-Tech will provide a cumulative availability of 99.7% for scheduled service hours of 6 AM Monday through 2 AM Saturday, 7 AM Saturday through 2 AM Sunday and 9 AM through 2 AM Monday. Info-Tech will report network and CPU availability to DHSS on a monthly basis and measure results on an annual cumulative basis.

Typical service agreements also address the following standard service offerings:

- training
- communication, including regular meetings
- descriptions of Info-Tech's change management system
- quality control
- help desk availability
- security
- disaster recovery.

Finally, the service level agreements spell out the order of priority for re-establishing critical applications during disaster recovery. The applications to be recovered were determined through a statewide study conducted by the Bureau of Information and Telecommunications Management to determine the State's critical applications. For example, first priority are several criminal justice programs such as the state law enforcement network (TIME), second are income maintenance programs such as Aid for Dependent Children and Food Stamps, and so forth. However, each priority is identified so there will be no confusion or debate in an emergency.

At the present time, service level agreements have been drafted for DILHR, DHSS, DOR, DNR and PSC. Negotiations are underway with the agencies served by the former WSRCC. In addition, discussions with DOT are starting as well as with agencies served by the former HFRC.

VIII. FUTURE CONSOLIDATIONS--DNR, DPI, DOA and OTHERS

GENERAL

Few state agencies have mainframe computers at this point. The consolidation of the two regional computing centers leaves mainframes at DNR, DPI, DOA, the Department of Justice (DOJ), the Legislature, the Court System and the University (UW). DNR, DPI and DOA are scheduled for consolidation in 1993 but many technical issues are involved and are being examined at this time. The Legislature's mainframe will move to Info-Tech's space but is not part of the data processing consolidation. Initial discussions are taking place with the UW to determine the feasibility and cost of consolidating with Info-Tech.

DOJ operates a Unisys mainframe that may need to be replaced in the next few years but no steps have been taken to include them in the consolidation at this point. One reason it is not feasible to consider consolidating DOJ is that transferring their Unisys programs will require a massive conversion effort over a period of several years. Neither DOJ nor Info-Tech has the resources to commit to such an effort at this time.

The Court System is not currently included in Info-Tech's mandated service plan.

The following discussion is organized in order of anticipated activities.

LEGISLATURE

In March 1993, the Legislature's CPU, previously housed at WSRCC, will be moved to Info-Tech space in the State Administration Building. The Legislature uses a VM operating system and connects with Info-Tech's CPUs to gain access to the automated statutory database, STAIRS. Info-Tech will provide space for the Legislature's CPU but legislative data processing staff will maintain complete control over legislative data processing. This move is not part of the state's consolidation of data processing activities.

DNR, DPI AND DOA

Info-Tech has begun its VM/VSE mainframe consolidation study to identify the best approach to consolidating the IT activities of DNR, DPI and DOA. Key issues include:

- identifying and evaluating current equipment, software and costs at the three agencies;
- identifying current software, license terms and costs;
- analyzing the feasibility of converting VM/VSE applications to MVS as an alternative to simply installing separate machines for them;

- determining capacity requirements for additional processing;
- developing rate and billing parameters;
- planning the actual moves.

The original plan assumed these agencies would transfer to Info-Tech beginning July 1993. However, this schedule was premised on continuing to operate a VM/VSE environment rather than converting to MVS. At this point, the possibility of converting is being considered and, if conversion is determined to be desirable and feasible, the timetable for consolidation could be delayed.

One major issue involving DOA and DNR is the new state accounting system which is scheduled for testing of the first phase in a production environment by July 1, 1993. Currently, DNR only uses the mainframe to operate its departmental accounting system. Successful completion of the new state accounting system may eliminate the need for DNR's VM system. The actual completion date for the accounting project also could affect the consolidation schedule.

UNIVERSITY OF WISCONSIN

Info-Tech met several times with University of Wisconsin staff in mid-1992 to discuss the feasibility of transferring administrative computing at UW-Madison (UW-Madison), UW-Milwaukee (UW-Milw) and University System Administration (UWSA) to Info-Tech. In August/September 1992, the University, at the direction of the Board of Regents, reviewed several options for reducing administrative computing costs, including: 1) forming a UW utility; 2) continuing separate operations; and 3) transferring to Info-Tech. As part of that study, Info-Tech staff met with UW staff and exchanged information regarding equipment, software and computing costs.

In October, 1992, the Board of Regents accepted a UWSA recommendation to begin planning immediately to consolidate UWSA and UW-Madison mainframe administrative computing and to reassess UW and DOA utility options in approximately two years. The Board directed UWSA and UW-Madison to work with DOA in the interim to develop common measurement criteria to serve as a basis for evaluating costs of the options.

UWSA President Lyall subsequently appointed several UW members to serve on the joint UW/DOA committee to develop common measurement criteria and to develop data to compare the relative costs and benefits of establishing a utility at the UW with the costs and benefits of running UW administrative programs at Info-Tech. The Info-Tech Administrator and UW committee chair met in late 1992 to lay the groundwork for the committee's activities. The results of the study are expected to be available in the spring of 1993.

UW-Madison and UW-Milw operate MVS operating systems while UWSA runs in a VM/VSE

environment. By the time stage one and stage two consolidations are finished, Info-Tech will have experience with both environments. In addition, some of the UW's software duplicates software already licensed for and operating on Info-Tech computers.

Issues to be addressed in studying a UW consolidation include:

- capacity requirements;
- costs--to consolidate and to operate on an ongoing basis;
- benefits of consolidation;
- timetable for consolidation.

LOCAL GOVERNMENTS

As of January 1993, Info-Tech is focusing its efforts on completing consolidation of existing IT centers (DOA, DNR, and DPI) and exploring the feasibility and cost of consolidating the University of Wisconsin administrative centers. Although Info-Tech will work with local governments that approach it for service, it will not actively pursue local government customers until time and workload permit additional activity.

LIST OF APPENDICES

- Appendix 1 Final staffing information.

- Appendix 2 Computer World article.

- Appendix 3 Hardware purchased by Info-Tech

- Appendix 4 Hardware transferred to Info-Tech from the three centers.

- Appendix 5 Software transferred to Info-Tech from the three centers.

- Appendix 6 Info-Tech's 1991-93 budget with FY 1992 actual expenditures and the 1993-95 budget as submitted in DOA's biennial budget request.

Personnel Data

Title	Classification	Pay Range	Position Number	Position # Origin	Date Position Filled	Previous Employer	IPA TRACKING- SIGNATURES NEEDED		
							Employe	DOA	Agency
Administrator	Admin.	ESG 5	318079	New-DOA	9/8/91	DOA	No IPA		
Deputy Administrator	Dep. Admin.	21	314223	DOT-MIS5	10/20/91	DOT	No IPA		
Administrative Assistant	PA4	11	011924	H&SS-MIS5	3/22/92	Capitol	No IPA		
Project Planner	MIS2	12	022940	DOT-COMP OP1	9/22/91	EB	No IPA		
Bur Dir-Admin Services	*ITD1	18	300147	DILHR-COMPPOP3	11/17/91	DOA	No IPA		
Bur Dir-Customer Serv	*ITD1	18	010464	DILHR-MIS6	11/17/91	ETF	No IPA		
Bur Dir-Network Mgmt	*ITD2	19	310210	DOT-MISUP5	11/17/91	DOT	No IPA		
Bur Dir-Operations	*ITD2	19	030603	DOT-MISUP6	7/26/92	DOT	No IPA		
Bur Dir-Technical Supp	*ITD3	20	004656	DILHR-MISUP7	11/17/91	DILHR	No IPA		
Operations Section Chiefs									
Oper/Client Supp Chief	MISUP6	17	300604	H&SS-MIS6	1/12/92	DILHR	x	x	x
Shift One Chief	MISUP5	16	018503	H&SS-MISUP4	2/9/92	H&SS	x	x	x
Shift Two Chief	MISUP4	15	011944	H&SS-MISUP3	2/9/92	H&SS	x	x	x
Shift Three Chief	MISUP4	15	038578	DILHR-MIS4	2/23/92	DILHR	x	x	x
Technical Support Section Chiefs									
DB/DC Chief	MISUP7	18	301703	H&SS-MISUP6	12/15/91	H&SS	x	x	x
Operating Systems Chief	MISUP7	18	301843	H&SS-MISUP5	12/15/91	H&SS	x	x	x
General Software Chief	MISUP7	18	033430	H&SS-WP01	2/9/92	ETF	No IPA		
ADMINISTRATOR'S OFFICE									
Disaster Rec/Security	MIS7	17	022810	DOT-MIS5	4/19/92	DOT	x	x	x
ADMINISTRATIVE SERVICES POSITIONS									
Acquisition Specialist	A02	17	314222	DOT-MIS4	2/9/92	DOA	No IPA		
Snr. Financial Analyst	A02	17	304373	H&SS-CompOp3	1/26/92	DOT	No IPA		
Rate Analyst	MIS6	16	305514	H&SS-MIS6	7/26/92	Private			
Billing Specialist	MIS6	16	311081	DOT-MIS6	3/22/92	DOT	x	x	x
Senior Project Manager	A01	16	307560	DILHR-C03	10/19/92	SC	No IPA		
Financial Specialist	To be determ	11							
General Services	PA3	10	304202	H&SS-PA1	5/17/92	DOA	No IPA		
CUSTOMER SERVICE POSITIONS									
Program Assistant 2	PA2	9							
Customer Service Migr	MIS6	16	300469	DILHR-PPA5	5/31/92	DILHR	x	x	x

Personnel Data

Title	Classification	Pay Range	Position Number	Position # Origin	Date Position Filled	Previous Employer	IPA TRACKING-SIGNATURES NEEDED		
							Employe	DOA	Agency
Customer Service Mgr	MIS6	16	313506	DILHR-MIS5	3/8/92	DILHR	x	x	x
Customer Service Mgr	MIS6	16	301221	H&SS-MIS5	3/8/92	H&SS	x	x	x
Customer Service Mgr	MIS6	16	011485	DILHR-MIS5	2/9/92	DILHR	x	x	x
Customer Support Mgr	MIS5	15	316050	DILHR-CO2	4/5/92	ETF	No IPA		
NETWORK POSITIONS									
Definition Specialist	MIS6	16	012398	DILHR-DPOT4	4/19/92	DILHR	x	x	x
Definition Specialist	MIS6	16	008039	DOT-DPOT4	1/11/93	Private	No IPA		
Hardware/Software Spec	MIS7	17	005241	DOT-MISUP4	2/9/92	DOT	x	x	x
Hardware/Software Spec	MIS7	17	309392	DOT-MIS6	2/9/92	DOT	x	x	x
Planning Specialist	MIS7	17	011108	DOT-MISUP6	2/9/92	DOT	x	x	x
TECHNICAL SUPPORT POSITIONS									
Program Assistant 3	PA3	10	039593	H&SS-DED2	5/31/92	DOA	No IPA		
DB/DC Support Section									
DB/DC Prod Supp Spec	MIS7	17	300594	DILHR-MIS6	3/8/92	DILHR	x	x	x
DB/DC Prod Supp Spec	MIS7	17	307248	H&SS-MIS6	5/3/92	H&SS	x	x	x
DB/DC Prod Supp Spec	MIS7	17	064789,811893	.5DILHR-SEC2Conf., .5DOT-MIS4	6/28/92	H&SS	No IPA		
DB/DC Prod Supp Spec	MIS6	16	030135	DILHR-MIS4	3/8/92	DILHR	x	x	x
DB/DC Prod Supp Spec	MIS6	16	301943	H&SS-MIS5	3/8/92	H&SS	x	x	x
DB/DC Prod Consult	MIS7	17	005324	H&SS-MIS6	3/8/92	H&SS	x	x	x
DB/DC Prod Consult	MIS7	17			12/13/92	GLHEC	No IPA		
DB/DC Prod Consult	MIS6	16	005770	DILHR-MIS5	3/8/92	DILHR	x	x	x
DB/DC Prod Consult	MIS5	15	015563	DOT-MIS4	4/19/92	DOT	x	x	x
DB/DC Prod Consult	MIS7	17	311080	DOT-MIS4	12/28/92	DOT	No IPA		
Operating Systems Section									
Lg Op Sys Prod Supp	MIS7	17	012698	H&SS-MIS6	3/8/92	H&SS	x	x	x
Lg Op Sys Prod Supp	MIS7	17	037102	DILHR-MIS6	3/8/92	DILHR	x	x	x
Lg Op Sys Prod Supp	MIS7	17	029602	DOT-MIS5	3/8/92	DOT	x	x	x
Micro Support	MIS5	15	002706	H&SS-MIS5	2/23/92	H&SS	x	x	x
Storage Mgt Spec	MIS7	17	002601	DILHR-MIS5	3/8/92	DILHR	x	x	x
Storage Mgt Spec	MIS7	17	030458	DOT-MIS4	3/22/91	DOT	x	x	x

Personnel Data

Title	Classification	Pay Range	Position Number	Position # Origin	Date Position Filled	Previous Employer	IPA TRACKING- SIGNATURES NEEDED			
							Employee	DOA	Agency	DER Approval
Configuration Determinatio	MIS7	17	000338	DILHR-MIS7	1/12/92	DILHR	x	x	x	x
General Software Section										
Dev Supp Sys Spec	MIS7	17	024827	DOT-MIS6	3/8/92	DOT	x	x	x	x
Dev Supp Sys Spec	MIS7	17	004203	DOT-DPOT4	11/29/92	Private	No IPA			
Sys Mgt Prod Supp Spec	MIS6	16	035510	DPI-MIS5	3/22/92	DPI	x	x	x	x
Sys Mgt Prod Supp Spec	MIS7	17	008144	H&SS-MIS6	3/8/92	H&SS	x	x	x	x
Sys Mgt Prod Supp Spec	MIS6	16	033046	H&SS-MIS6	3/8/92	H&SS	x	x	x	x
Statewide Sys Prod Spt	MIS6	16	311082	DOT-MIS4	3/22/92	DOT	x	x	x	x
Statewide Sys Prod Spt	MIS6	16	308246	H&SS-MIS5	3/8/92	H&SS	x	x	x	x
OPERATIONS POSTIONS										
Program Assistant 3	PA3	10								
Operations/Client Support Section										
Operations Proc Analyst	MIS5	15	302276	H&SS-C03	3/22/92	H&SS	x	x	x	x
Inv/Bill/DB Mgt Spec	MIS5	15	000241	DILHR-MIS4	4/5/92	DILHR	x	x	x	x
Configuration Mgt Spec	MIS6	16	017702	DILHR-MIS4	3/8/92	DILHR	x	x	x	x
Prob/Chng Mgt Spec	MIS6	16	305832	DILHR-MIS5	3/8/92	DILHR	x	x	x	x
Prob/Chng Assistant	MIS6	16	012477	DOT-DPOT4	1/25/93	DOT	No IPA			
Quality Control Spec	MIS5	15	005836	DOT-MIS3	4/5/92	DOT	x	x	x	x
Prod Schedule Spec	MIS6	16	030933	DOT-MIS4	3/22/92	DOT	x	x	x	x
First Shift Section										
Production Control Spec	MIS4	14	000342	DILHR-C03	4/19/92	DILHR	x	x	x	x
Wknd Prod Control Spec-D	MIS4	14	311078	DOT-MIS3	4/19/92	DOT	x	x	x	x
Wknd Prod Control Spec-E	MIS4	14	313719	DOT	8/9/92	Private	No IPA			
Network Control-Lead	MIS5	15	315672	DILHR-MIS2	3/8/92	DILHR	x	x	x	x
Network Control	MIS5	15	311083	DOT-MISUP5	3/22/92	DPI	x	x	x	x
WkEnd Network Control	MIS5	15	308245	H&SS-DPOT3	3/8/92	H&SS	x	x	x	x
Oper Support Tech	DPOT3	12	018474	H&SS-DPOT3	5/3/92	H&SS	x	x	x	x
Oper Support Tech	DPOT3	12	022090	DOT-MIT2	5/3/92	DOT	x	x	x	x
Oper Support Tech	DPOT3	12	035563	DILHR-DPOT4	5/3/92	DILHR	x	x	x	x
WkEnd Oper Supp Tech-D	DPOT3	12	014980	DOT-C03	6/28/92	DOT	No IPA			
WkEnd Oper Supp Tech-E	DPOT3	12	309798	H&SS-MIT2	11/27/92	Private	No IPA			

Personnel Data

Title	Classification	Pay Range	Position Number	Position # Origin	Date Position Filled	Previous Employer	IPA TRACKING - SIGNATURES NEEDED		DER Approval
							Employee	Agency	
Stock Technician	DP0T1	10	307561	DILHR-C01(D0A DP0T3)	9/21/92	H&SS	No IPA		
Second Shift Section									
Production Control Spec	MIS4	14	313234	H&SS-MIS5	5/3/92	UW-ADP	To HSS-x	x	x
Network Control	MIS5	15	310268	DOT-MIS4	6/14/92	DOT	x	x	x
Oper Support Tech	DP0T3	12	302278	H&SS-C03	5/3/92	H&SS	x	x	x
Oper Support Tech	DP0T3	12	032949	DOT-DP0T4	5/17/92	DOT	x	x	x
Oper Support Tech	DP0T3	12	004995	H&SS-PA1	11/15/92	DILHR-LTE	No IPA		
Oper Support Tech	DP0T3	12	020178	DILHR-TrCoord	5/31/92	DNR	To HSS-x	x	x
Third Shift Section									
Production Control Spec	MIS4	14	304376	H&SS-DP0T3	4/19/92	H&SS	x	x	x
Network Control	MIS5	15	306438	H&SS-MIS2	7/12/92	H&SS	No IPA		
Oper Support Tech	DP0T3	12	032000	H&SS-C03	5/3/92	H&SS	x	x	x
Oper Support Tech	DP0T3	12	307564	DILHR-C03	5/17/92	DILHR	x	x	x
Oper Support Tech	DP0T3	12	030372	DOT-C02	5/17/92	DOT	x	x	x
		029402	072491						

Appendix 3
Info-Tech Transferred Hardware

EQUIPMENT DESCRIPTION	# FROM DILHR	BOOK VALUE	TRADE DATE	# FROM WSRC	BOOK VALUE	TRADE DATE	# FROM HFERC	BOOK VALUE	TRADE DATE
		To InfoTe			To InfoTe			To InfoTe	
PU									
mainframes				1 IBM	\$664,656	10/12/92	2-IBM/ AMDAHL	\$1,606,821	1/93
Power Units				2		10/12/92			
Proc Controllers				1		10/12/92	1		1/93
DASD				2		10/12/92	2		1/93
Coolant Dist				1		10/12/92			
Expanded Memory				1		10/12/92			
Central Storage				1		10/12/92			
Expansion Frame				1		10/12/92			
ASD									
ASD Controllers	20	\$882,635	1-9/92	27	\$215,334	2-10/92	39	\$1,224,271	1/93
Mid State Controllers							2		
Mid State Battery							1		
Mid State Storage Units							2	\$5,387	
Optical Library Unit							1	\$73,024	
ables									
isk Controller Upgrade									
ape Equipment									
ape Controllers	3			1			1		
ape Cartridges	2			8			10		
ape Reels	2						3		
ape Drives	7								
ape 1600/6250				3					
ape 800/1600				1					
ommunications Equipment									
nt End Processors (FEP)	3	\$129,581		3			1		
ntrollers	17								
totals		\$1,012,216			\$879,990			\$2,909,503	

Appendix 4

Info-Tech Purchased Hardware

EQUIPMENT DESCRIPTION	# OF UNITS	PRICE	IPA/PAID
CPU			
Telex terminals	26	\$25,714	Paid
Printers	2	\$136,529	1 5 yr. IPA; 1 paid
Amdahl CPU	1	\$9,831,003	Master Lease Plan
Hitachi CPU & 128 channels	1	\$7,180,740	Master Lease Plan
Subtotal-CPU		\$17,173,986	
DASD			
Solid State Controllers	2	\$0	Free with CPU
Solid State Storage Units	4	\$0	Free with CPU
DASD	45	\$4,840,779	3 yr. IPAs & Master Lease Plan
Optical Library Unit	1	\$110,275	3 yr. IPA
Cables	12	\$3,658	Paid
Disk Controller Upgrade	1	\$32,223	Paid
Subtotal-DASD		\$4,986,935	
Tape Equipment			
External Tape Backup	1	\$4,797	Paid
Tape Control Units	5	\$81,600	Paid
Tape Cartridge Storage Units	35	\$32,825	Paid
Tape Drives	2	\$4,990	Paid
Tape Units(w&wo/loaders)	8	\$27,600	Paid
LPAR Adapters	8	\$12,000	Paid
Aisle Display	18	\$9,000	Paid
Sub-total-Tape Equipment		\$172,812	
Communications Equipment			
Token Ring Adapters	74	\$42,389	7 on 3yr IPA; rest paid
Token Ring Support	2	\$1,121	Paid
Cable	5	\$2,825	Paid
Controllers	14	\$325,729	Paid
Terminal Multiplexers	42	\$79,296	Paid
Channel Extensions	6	\$83,414	Paid
4 MB Memory	1	\$10,328	Paid
Optichannel/FXT and XT	11	\$189,413	Paid
Redundant Power Supply	3	\$2,250	Paid
3270 Port Expansion	2	\$6,033	Paid
Channel to Channel Switch	1	\$103,000	Paid
Switch Boxes	22	\$110,000	Paid
Configuration Support	1	\$784	Paid
Cabinets	11	\$13,649	Paid
Modem	3	\$1,629	Paid
Fiber Optic Cable	2	\$396,520	Paid
Fiber Optic Cable Route	1	\$67,800	Paid
Fiber Jumper Cable	1	\$4,728	Paid
Fiber Optic Token Ring Repeater	4	\$4,700	Paid
Subtotal-Communications		\$1,445,608	
TOTAL		\$23,779,341	

Appendix 5

10/28/92

FINAL SOFTWARE TRANSFER LIST

	A	B	C	D	E	F	G	H	I	J
1					OLD CENTERS					
2	PRODUCT NAME	VENDOR	PRODUCT DESCRIPTION	DILHR	WSRCC	DOT 1	DOT 2	TOTAL	INFO-TECH	
3			OLD MACHINE			AMDAHL	IBM	CENTER	LICENSES	
4			INFO TECH MACHINE	AMDAHL	HDS	HDS	AMDAHL	LICENSES		
2	PRODUCT NAME	VENDOR	PRODUCT DESCRIPTION	DILHR	WSRCC	DOT 1	DOT 2	TOTAL	INFO-TECH	
3			OLD MACHINE			AMDAHL	IBM	CENTER	LICENSES	
4			INFO TECH MACHINE	AMDAHL	HDS	HDS	AMDAHL	LICENSES		
5										
6	CONTROL-M	4th D	JOB SCHEDULING	X	X	X		3	2	
7	FAST ACCESS	ALLEN	IDMS ACCESS	X				1	1	
8	ASTUTE/FWRC	ASTCO	CATALOG RECOVERY	X				1	1	
9	CMF	BB	CAPACITY MANAGEMENT			X	X	2	2	
0	CMF/MDL	BB	CAPACITY MODELING			X	X	2	2	
1	CMF/MON-XA	BB	CAPACITY MONITORING			X	X	2	2	
2	DASD ADVISOR-A	BB	DASD MONITOR			X	X	2	2	
3	DASD ADVISOR-IB	BB	DASD MONITOR			X	X	2	2	
4	PERFORMANCE MN	BB	PERFORMANCE MONITOR MENU TO RESOLVE, et.al.	X				1	1	
5	REALTIME	BB	ONLINE MVS MONITOR			X	X	2	2	
6	RESOLVE	BB	ONLINE PROBLEM MONITOR	X		X	X	3	2	
7	TSA/PPE	BB	PERFORMANCE MONITORING	X		X	X	3	2	
8	BMC SuperOptimize	BMC	CICS COMMUNICATION OPTIMIZER	X				1	1	
9	CA-90s	CA	SECURITY SUPPORT REQUIRED FOR CA PRODUCTS	X				1	1	
0	CA-ACF2	CA	SECURITY SYSTEM	X	X	X	X	4	2	
1	CA-ACF2/CICS	CA	SECURITY SYSTEM FOR CICS	X	X	X	X	4	2	
2	CA-ACF2/CICS EN	CA	SECURITY SYSTEM		X			1	1	
3	CA-ACF2/IDMS	CA	SECURITY SYSTEM	X				1	1	
4	CA-ACF2/IMS	CA	SECURITY SYSTEM FOR IMS	X	X	X	X	4	2	
5	CA-ASM2	CA	DASD MANAGEMENT	X	X	X		4	2	
6	CA-DADS PLUS	CA	CICS RESOURCE MANAGER			X	X	2	2	
7	CA-DBA Toolkit	CA	DB TOOLS FOR IDMS	X				1	2	
8	CA-DYNAM/TLMS	CA	TAPE LIBRARY MANAGEMENT	X	X			2	2	
9	CA-EZTEST	CA	EXTENDED CICS TESTING TOOL		X			1	1	
0	CA-FASTDASD	CA	IMPROVED DATA SET PLACEMENT RECOMMENDATIONS		X			1	1	
1	CA-IDMS	CA	DATA BASE MANAGEMENT	X				1	1	
2	CA-IDMS/CULPRIT	CA	IDMS REPORT WRITER	X				1	1	
3	CA-IDMS/IDD	CA	IDMS DATA DICTIONARY					1	1	
4	CA-IDMS/MVS	CA	DATA BASE SOFTWARE	X				1	1	
5	CA-IDMS/UCF	CA	DATA BASE SOFTWARE	X				1	1	
6	CA-IDMS/CV	CA	DATA BASE SOFTWARE	X				1	1	
7	CA-NETMAN	CA	PROBLEM/CHANGE/INVENTORY MANAGEMENT	X	X			2	2	
8	CA-NETMAN/OLC	CA	CA-NETMAN ONLINE CHANGE FACILITY	X	X			2	2	
9	CA-NINE/R+	CA	PERFORMANCE REPORTING-REPORTS ERRORS	X		X	X	3	2	
0	CA-OPTIMIZER	CA	OPTIMIZES COBOL PROGRAMS		X			1	1	
1	CA-DB/PROEDIT	CA	DB2 READ/UPDATE ACCESS TO DB2		X			1	1	
2	PANLINK	CA-PAN	PC-TO-HOST CONNECTION SOFTWARE		X	X		2	2	
3	PANVALET - ISPF	CA-PAN	LIBRARY MANAGEMENT		X		X	2	2	
4	PANVALET - OS	CA-PAN	LIBRARY MANAGEMENT		X			1	1	
5	PANVALET - PV	CA-PAN	LIBRARY MANAGEMENT	X				1	1	
6	PANVALET - TSO	CA-PAN	LIBRARY MANAGEMENT	X	X			2	2	
7	TELON	CA-PAN	COBOL CODE GENERATOR		X			1	1	
8	CL/GATEWAY-IMS	CANDLE	REMOTE ACCESS TO IMS		X			1	1	
9	CL/GATEWAY-MV	CANDLE	REMOTE ACCESS TO THE HOST(VAX-DOT)		X	X		2	1	
0	EPILOG1000-CICS	CANDLE	PERFORMANCE MANAGEMENT			X	X	2	2	
1	OMEGAMON-IMS	CANDLE	PERFORMANCE MANAGEMENT		X			1	1	
2	OMEGAMON-MVS	CANDLE	PERFORMANCE MONITOR		X			1	1	
3	OMEGAMON/CICS	CANDLE	PERFORMANCE MONITOR	X		X	X	3	2	
4	OMEGAMON/CICS	CANDLE	PERFORMANCE MONITOR	X	X			2	2	
5	OMEGAMON/ESR	CANDLE	PERFORMANCE MONITOR	X		X	X	3	2	
6	OMEGAMON/RTA/	CANDLE	PERFORMANCE MONITOR	X		X	X	3	2	
7	IMAGINE	CCA	REPORT GENERATOR	X				1	1	
8	EM (CDC)	CDC	MANAGER FOR DOH APPLICATION		X			1	1	
9	ICESA/FARS	CDS	FINANCIAL ACCOUNTING SYSTEM USED BY DILHR	X				1	1	
0	MVS QUICK REF	CHSOFT	ONLINE TECHNICAL INFORMATION SOURCE		X	X	X	3	2	
1	MD PLOT	CMASOFT	GDDM PRINT FACILITY				X	1	1	
2	ABENDAID-DB2	COMPU	DUMP ANALYSIS AID FOR DB2		X			1	1	
3	ABENDAID-IMS	COMPU	DUMP ANALYSIS AID FOR IMS		X	X	X	3	2	
4	ABENDAID-MVS	COMPU	DUMP ANALYSIS AID		X	X	X	3	2	
5	FILEAID-BATCH	COMPU	FILE READ/UPDATE ACCESS		X			1	1	
6	FILEAID-IMS	COMPU	IMS DB READ/UPDATE ACCESS		X			1	1	
7	FILEAID-IMS BAT	COMPU	FOR BATCH		X			1	1	
8	FILEAID-SPF	COMPU	FILE READ/UPDATE ACCESS VIA ISPF PANELS		X			1	1	
9	FILEAID-XE	COMPU	EXTENTIONS TO BASIC FILE-AID UTILITY		X			1	1	
0	DEC/NET	DEC	DEC TO MVS FOR DNR CONNECTION			X	X	2	2	
1	TPL	DOL	REPORT WRITER	X				1	1	
2	TEXT RETRIEVAL	DRC	TEXT INFORMATION MANAGEMENT SOFTWARE	X				1	1	
3	DYLAKOR 250	DYL/STER	REPORT WRITER		X			1	1	
4	DYL-IQ EXPRESS F	DYL/STER	REPORT WRITER				X	1	1	

	A	B	C	D	E	F	G	H	I	J
1										
2	PRODUCT NAME	VENDOR	PRODUCT DESCRIPTION	DILHR	WSRCC	DOT 1	DOT 2	TOTAL	INFO-TECH	
3			OLD MACHINE			AMDAHL	IBM	CENTER	LICENSES	
4			INFO TECH MACHINE	AMDAHL	HDS	HDS	AMDAHL	LICENSES		
5	DYNAPLAN	DYNASOFT	HOST SPREADSHEET				X	1	1	
6	NCPA	EMCOM	EMCOM NETWORK MONITOR	X	X			2	2	
7	STOP X37	EMPACT	STOPS ABENDS DUE TO DASD PROBLEMS			X	X	2	2	
8	PHOENIX	GOAL	COMPUTER BASED TRAINING		X		X	2	2	
9	BMS/GT-OS	GT	CICS MAP GENERATOR	X				1	1	
10	SAGE	Harte-Hanks	CARRIER ROUTE CODING-STREET ADDRESS GEOGRA			X		1	1	
11	SYSM-CICS	HOW	OFFICE MESSAGING	X				1	1	
12	IMAGECREATE	IMAGE SCIE	SUPP FOR PRINT DS CONV TO OPTICAL				X	1	1	
13	FATS/FATAR	IDP	UTILITIES FOR TAPES		X			1	1	
14	FDR	IDP	DATA SET BACKUP SUPPORT	X				1	1	
15	TIPS	INFORMS	^(Info Mgt-AGPS & CORE)				X	1	1	
16	DMU	INFO RETR	INFORM UTILITIES				X	1	1	
17	TCP/IP ACCESS	INTERLINK	MVS TCP/IP SUPPORT			?	?	2	2	
18	ASU2	ISP	REPORT GENERATOR - SAS/IDMS	X				1	1	
19	ODE II	IST	DATA ENTRY SOFTWARE-DEPT OF CORRECTIONS		X-NEW			1	1	
0	IEW/MF	KNOWLWR	KNOWLEDGEWARE HOST ENCYCLOPEDIA		X-NEW			1	1	
1	ENDEVOR/MVS	LEGENT			X-NEW			1	1	
2	ENDEVOR-ACM	LEGENT			X-NEW			1	1	
3	ENDEVOR-ESI	LEGENT			X-NEW			1	1	
4	ENDEVOR-PANVA	LEGENT			X-NEW			1	1	
5	MICS DB2 ANALY	LEGENT	PERFORMANCE MONITOR				X	1	1	
6	MICS ACCTG/CHR	LEGENT	BILLING SOFTWARE				X	1	1	
7	MICS BASE	LEGENT	BILLING SOFTWARE				X	1	1	
8	MICS CAPACITY P	LEGENT	CAPACITY ANALYSIS				X	1	1	
9	MICS CICS ANALY	LEGENT	PERFORMANCE MONITOR				X	1	1	
00	MICS GDC LICENS	LEGENT	PERFORMANCE MONITOR-MI CONSOLE				X	1	1	
1	MICS IMS ANALYS	LEGENT	PERFORMANCE MANAGEMENT FOR IMS				X	1	1	
2	MICS MSI MAINT	LEGENT	PERFORMANCE MONITOR-MI INTEGRITY				X	1	1	
3	MICS MSM LICENS	LEGENT	PERFORMANCE MONITOR-MI ALLOCATION				X	1	1	
4	MICS MVS PERFO	LEGENT	PERFORMANCE SOFTWARE				X	1	1	
5	MICS SNA NETWO	LEGENT	PERFORMANCE MONITOR				X	1	1	
6	DASD SPACE ANA	LEGENT	PERFORMANCE MONITOR				X	1	1	
7	MICS SYS.RELIABI	LEGENT	PERFORMANCE MONITOR			X		1	1	
8	MULTI-IMAGE MA	LEGENT	MIMGR			X	X	2	2	
9	TSO/MON	LEGENT	PERFORMANCE MONITOR FOR TSO			X	X	2	2	
0	TPX-EXTENDED	LEGENT	MULTIPLE VTAM SESSION MANAGER		X	PILOT ONLY		1	1	
1	FINALIST	LPC	MAIL MANAGEMENT SOFTWARE	X	X	X	X	4	2	
2	MAILERS CHOICE	LPC	MAIL MANAGEMENT SOFTWARE	X				1	1	
3	VPS /VTAM	LRS	VIRTUAL PRINTER SUPPORT	X	X		X	3	2	
4	VCMF/CICS	LRS?	VPS ACCESS FROM CICS			?	?	2	2	
5	CICS/MESSAGE	MACK	CICS MESSAGING FACILITY	X				1	1	
6	LISTCAT PLUS	MACK	LISTCAT PLUS-MVS	X	X			2	2	
7	QSORT	MACK	QUICK SORT	X				1	1	
8	MERRILL'S MXG	MERRILL	PERFORMANCE MANAGEMENT	X	X		X	3	2	
9	CONTROL MGR (M	MSP	DATA DICTIONARY -CMR		X			1	1	
0	DATAMANAGER	MSP	DATA DICTIONARY-DMR		X	X	X	3	2	
1	DICTIONARY MGR	MSP	DATA DICTIONARY-DYR		X			1	1	
2	NOMAD 2	MUST	4th GENERATION LANGUAGE		X			1	1	
3	NOMAD2 COLLEC	MUST	UTILITES FOR NOMAD APPLICATIONS		X			1	1	
4	NOMAD IMS INTE	MUST	IMS ACCESS		X			1	1	
5	NOMAD NAPA	MUST	APPLICATION PERFORMANCE ANALYZER		X			1	1	
6	NOMAD ONE PASS	MUST	SINGLE DATA PASS FOR MULTIPLE REPORTING		X			1	1	
7	TSSO	N/A	AUTOMATED OPERATIONS		X			1	1	
8	CAFC	NETEC	CICS APPLICATION FILE CONTROL FACILITY		X			1	1	
9	KOMAND/CCI	PACE	BILLING SOFTWARE		X			1	1	
0	KOMAND/DAS	PACE	BILLING SOFTWARE	X	X			2	2	
1	KOMAND/DIS	PACE	BILLING SOFTWARE		X			1	1	
2	KOMAND/FMS	PACE	BILLING SOFTWARE		X			1	1	
3	KOMAND/DAMS	PACE	BILLING SOFTWARE		X			1	1	
4	RC/QUERY	PLATINUM	DB2 UTILITY PACKAGE				X	1	1	
5	RC/UPDATE	PLATINUM	DB2 UTILITY PACKAGE				X	1	1	
6	RC/MIGRATOR	PLATINUM	DB2 UTILITY PACKAGE				X	1	1	
7	RC/SECURE	PLATINUM	DB2 UTILITY PACKAGE				X	1	1	
8	PLATINUM REPOR	PLATINUM	DB2 UTILITY PACKAGE				X	1	1	
9	PLATINUM DATAB	PLATINUM	UTILITY FOR DB2 APPLICATIONS				X	1	1	
0	ALPHA/NUM NAM	RNMB	INHOUSE INDEX BUILDER, NUMBER CONSTRUCTOR		X	X	X	3	2	
1	VINA	RL POLK	VEHICLE ID # VERIFIER			X		1	1	
2	SAS - AF	SAS	REPORT WRITER		X		X	2	2	
3	SAS - BASE	SAS	REPORT WRITER	X	X	X	X	4	2	
4	SAS-C COMPILER	SAS	COMPILER FOR C			?	?	2	2	
5	SAS - DB2	SAS	REPORT WRITER		X		X	2	2	
6	SAS - ETS	SAS	REPORT WRITER				X	1	1	
7	SAS - FSP	SAS	REPORT WRITER		X		X	2	2	

	A	B	C	D	E	F	G	H	I	J
1										
2	PRODUCT NAME	VENDOR	PRODUCT DESCRIPTION	DILHR	WSRCC	DOT 1	DOT 2	TOTAL	INFO-TECH	
3			OLD MACHINE							
4			INFO TECH MACHINE	AMDAHL	HDS	HDS	AMDAHL	IBM	CENTER	LICENSES
18	SAS - GRAPH	SAS	REPORT WRITER	X	X		X		3	2
49	SAS - IMS	SAS	REPORT WRITER		X		X		2	2
50	SAS - OR	SAS	REPORT WRITER				X		1	1
51	SAS - SHARE	SAS	REPORT WRITER		X				1	1
52	SSA-NAME 3	SEARCH SOFT				X	X		2	2
53	PDSFAST	SEA	PARTITIONED DATA SET IMPROVEMENTS OVER IEBCOPY		X	X	X		3	2
54	VSAM-ASSIST	SOFTWARE	VSAM TOOL	X					1	1
55	SPSS	SPSS	REPORT WRITER		X				1	1
56	FILE HANDLER	STATE-WI	DOT			X			1	1
57	MAINFRAME TOO	STATE-WI	DOT-INHOUSE LISTS			X	X		2	2
58	MOVE/STAGE	STATE-WI	DOT-INHOUSE TRANSFER ISPF SYSTEM				X		1	1
59	VARLIST	STATE-WI		X	X				2	2
50	MARK IV	STER	REPORT WRITER (MARKIV) ACCESS TO IMS DATA BASES			X	X		2	2
51	SYNCSORT OS	SYNCSORT	QUICK SORT	X	X	X	X		4	2
52	NETWORK DATA	SYSCENT	FILE TRANSFER		X				1	1
53	ANET	TEUB	PROVICED ACCESS TO THE DG FROM THE NET		X				1	1
54	IEF	TEX INSTR	CASE SOFTWARE			X	X		2	2
55	KEYMASTER	TSI	DATA ENTRY SOFTWARE				X		1	1
56	VIA/INSIGHT	VIAISOFT	COBOL SOURCE CODE ANALYZER		X	X	X		3	2
57	VIA/SMARTEDIT	VIAISOFT	COBOL TESTING SUPPORT		X	X	X		3	2
58	VIA/SMARTTEST	VIAISOFT	COBOL TESTING SUPPORT		X	X	X		3	2
59	WANG VSA	WANG	REVERSE LOGON FOR DNR			X	X		2	2
70	CONSOLE MASTE	XENOS	ALLOWS CONSOLE TO RUN MULTIPLE CPUs		X	X			2	1
71	EPIC	XEROX	PRINTER SUPPORT SOFTWARE FOR XEROX PRINTERS	X					1	1
72	HPDL	XEROX	XEROX PRINER SUPPORT	X		X	X		3	2
73										
74										
75	3270 FILE TRANS	IBM	FILE TRANSFER	X	X	?	?		4	2
76	3800 PROGRAMS	IBM	HOST PRINTER SUPPORT		?					
77	ACF/NCP	IBM	NETWORK CONTROL PROGRAM	X	X	X	X		4	2
78	ACF/SSP	IBM	3745 SYSTEM SUPPORT PROGRAM: NCP UTILITIES	X	X	?	?		2	2
79	ACF/VTAM ESA	IBM	VIRTUAL TERMINAL ACCESS	X					1	1
80	ACF/VTAM XA	IBM	VIRTUAL TERMINAL ACCESS METHOD		?	X	X		2	2
81	ASSEMBLER-H	IBM	LANGUAGE	X	X	X	X		4	2
82	ATMS III	IBM	ADVANCED TEXT MANAGEMENT		X				1	1
83	BOOKMANAGER	IBM	CD-ROM ONLINE LIBRARY	X					1	1
84	BTAM/SP	IBM	BASIC TELECOMMUNICATIONS ACCESS		X				1	1
85	CICS FILE TRANS	IBM	FILE TRANSFER	X					1	1
86	CICS PD	IBM	CICS PROBLEM DUMP	X					1	1
87	CICS/VS V2	IBM	TP MONITOR		X				3	2
88	CSP/AD	IBM	APPLICATION GENERATOR (IMS OR CICS)			X	X		1	1
89	CSP/AE	IBM	APPLICATION GENERATOR				X		1	1
90	DB2	IBM	DATA BASE MANAGER		X	X	X		3	2
91	DB2 PERF MONITO	IBM	PERFORMANCE MONITOR FOR DB2				X		1	1
92	DCF MVS/TSO/AT	IBM	DOCUMENT COMPOSITION FACILITY		X				1	1
93	DFDSS	IBM	STORAGE MANAGEMENT	X	X	X	X		4	2
94	DFHSM	IBM	STORAGE MANAGEMENT	X	X	X	X		4	2
95	DFP	IBM	DATA FACILITY PRODUCT	X	X	X	X		4	2
96	DISOSS	IBM	DOCUMENT STORAGE & SUPPORT		X	X	X		3	2
97	DISOSS SYS EXT	IBM	ADDITIONAL DOCUMENT SUPPORT		X				1	1
98	DISPLAYWRITE/37	IBM	WORD PROCESSING FOR THE HOST			X			1	1
99	DITTO (BASIC)	IBM	TAPE/DASD DATA SET MANIPULATION UTILITY		X				1	1
100	DITTO (EXTENDED)	IBM	TAPE/DASD DATA SET MANIPULATION EXTENSIONS		X				1	1
101	DMS/CICS	IBM	APPLICATION GENERATOR - RUN TIME LICENSE		X				1	1
102	DMS/DPCX	IBM	DPCX APPLICATION GENERATOR		X				1	1
103	DPCX HOST SPT	IBM	DPCX SOFTWARE RFROM THE HOST		X				1	1
104	DSF	IBM	DEVICE SUPPORT FACILITY	X	X	X	X		4	2
105	DSX V2	IBM	8100 SUPPORT: HOST SUPPORT OF UPLOAD/DOWNLOAD		X	X			2	1
106	EREP	IBM	ERROR REPORTING	X	X	X	X		4	2
107	EXPEDITE/MVS/H	IBM	DOWNLOAD PTFS-BATCH INTERFACE			X	X		2	2
108	FAF	IBM	FILE APPLICATION FACILITY				X		1	1
109	FILE TRANS PGM-	IBM	FILE TRANSFER BETWEEN HOSTS		X		X		2	2
110	FLSF - MVS	IBM	PRINTER SUPPORT		X				1	1
111	FONT-DATA 1	IBM	PRINTER SUPPORT: FONTS		X				1	1
112	FONT-PI & SPECIA	IBM	PRINTER SUPPORT: FONTS		X				1	1
113	FONT-SONORAN S	IBM	PRINTER SUPPORT: FONTS		X				1	1
114	FONT-SONORAN S	IBM	PRINTER SUPPORT: FONTS		X				1	1
115	GDDM - MVS	IBM	HOST GRAPHICS	X	X		X		3	2
116	GDDM IMD V2	IBM	INTERACTIVE MAP DEFINITION		X		X		2	2
117	GDDM ICU	IBM	HOST GRAPHICS				X		1	1
118	GDDM PGF V2.1	IBM	HOST GRAPHICS	X	X		X		3	2
119	GPAR	IBM	SYSTEM DUMP FACILITY PRODUCTS	X		X	X		3	2
120	GTF PARS	IBM	GRAPHICAL TRACE FACILITY OF GPARS	X		X	X		3	2
121	HCF	IBM	HOST COMMAND FACILITY		X	X			2	1
122	IMS/BTS	IBM	BATCH TERMINAL SIMULATOR FOR IMS		X		X		2	2
123	IMS/DB	IBM	BATCH TERMINAL SIMULATOR FOR IMS				X		1	1
124	IMS/DC	IBM	BATCH TERMINAL SIMULATOR FOR IMS				X		1	1

	A	B	C	D	E	F	G	H	I	J
1										
2	PRODUCT NAME	VENDOR	PRODUCT DESCRIPTION	DILHR	OLD CENTERS			TOTAL	INFO-TECH	
3			OLD MACHINE		WSRCC	DOT 1	DOT 2	CENTER	LICENSES	
4			INFO TECH MACHINE	AMDAHL	HDS	HDS	AMDAHL			
25	IMS MONITOR & A	IBM	PERFORMANCE MONITOR				X	1	1	
26	IMS/ESA DBM	IBM	DATA BASE MANAGER		X			1	1	
27	IMS/ESA DBRC	IBM			X			1	1	
28	IMS/ESA TM	IBM	TELECOMMUNICATIONS MONITOR		X			1	1	
29	IMS/V5 UTIL/DB	IBM	UTILITIES FOR IMS DATA BASES		X			1	1	
30	IMSADF II	IBM	APPLICATION GENERATOR FOR IMS		X			1	1	
31	IMSPARS	IBM	IMS SYSTEM DUMP FORMATTING				X	1	1	
32	INFO/MANAGEMENT	IBM	PROBLEM/CHANGE/INVENTORY MANAGEMENT				X	1	1	
33	INFO/SYSTEMS	IBM					X	1	1	
34	IPCS	IBM	SOFTWARE TO READ SYSTEM DUMPS		X			1	1	
35	ISPF	IBM	SCREEN PANELS FOR TSO	X	X		X	3	2	
36	ISPF/PDF	IBM	SCREEN PANELS FOR TSO	X	X		X	3	2	
37	JES 2	IBM	JOB ENTRY SUBSYSTEM		X	X	X	3	2	
38	JES/328X	IBM	PRINTER SUPPORT			X	X	2	2	
39	MVS/ESA	IBM	OPERATING SYSTEM	X	X			2	2	
40	MVS/ESA JES2	IBM	JOB ENTRY SUBSYSTEM	X				1	1	
41	MVS/SP - JES2	IBM	JOB ENTRY SUBSYSTEM			X	X	2	2	
42	NCP/EP	IBM	NETWORK DEVICE CONTROL		X			1	1	
43	NETVIEW	IBM	NETWORK CONTROL	X		X	X	3	2	
44	NETVIEW FTP BAS	IBM	FILE TRANSFER		X	X	X	3	2	
45	NETVIEW FTP AFF	IBM	FILE TRANSFER		X	X	X	3	2	
46	NETVIEW FTP MV	IBM	FILE TRANSFER			X	X	2	2	
47	NPM	IBM	NETWORK PERFORMANCE MONITOR	X	X	X	X	4	2	
48	ODM	IBM	OBJECT DISTR MANAGER				X	1	1	
49	OFFICEVISION	IBM	OFFICE AUTOMATION			X		1	1	
50	OS COBOL	IBM	LANGUAGE		X	X	X	3	2	
51	OS PL/I V2.1 COMP	IBM	LANGUAGE	X	X			2	2	
52	OS PLI/OPTIMIZER	IBM	OPTIMIZER			X	X	2	2	
53	OVERLAY GEN LA	IBM	APA PRINTER SUPPORT FOR OVERLAYS		X			1	1	
54	PERSONAL MANA	IBM	MAIL SYSTEM-PC BASED?			X		1	1	
55	PPFA - MVS	IBM	PRINTER SUPPORT: PAGE PRINTING FORMAT AID		X	X	X	3	2	
56	PROLOG/MVS	IBM	AI LANGUAGE/KW HOST ENCYCLOPEDIA INTERFACE		X			1	1	
57	PS/CICS of PS/370	IBM	OFFICE AUTOMATION		X	X	X	3	2	
58	PSAF - MVS	IBM	PRINTER SUPPORT: ACCESS FACILITY		X			1	1	
59	PSF	IBM	PRINTER SUPPORT FACILITY		X			1	1	
50	PSF BASE/3800/382	IBM	PRINTER SUPPORT		X			1	1	
51	QMF	IBM	REPORT/FILE UPDATER FOR DB2		X		X	2	2	
52	RMDS	IBM	REPORT/DISTRIBUTION MANAGEMENT		X			1	1	
53	RMF	IBM	PERFORMANCE RESOURCE MANAGEMENT FACILITY	X	X			2	2	
54	ROUTE TABLE GE	IBM	ROUTING CONFIGURATIONS FOR NEW GATEWAY NETS		X			1	1	
55	RPG	IBM	LANGUAGE		X			1	1	
56	SDSF	IBM	SPOOL DISPLAY & SEARCH	X	X	X	X	4	2	
57	SLR	IBM	PERFORMANCE MANAGEMENT	X				1	1	
58	SMP/E	IBM	SOFTWARE MAINTENANCE CONTROL	X	X	X	X	4	2	
59	Software EXCEL	IBM	INFORMATION SERVICE FROM IBM	X	X	X		3	2	
70	STAIRS	IBM	DOCUMENT SEARCH		X			1	1	
71	TSO DATA UTIL	IBM	TIME SHARING OPTION UTILITIES		X			1	1	
72	TSO PCF II	IBM	SECURITY FOR TSO COMMANDS		X			1	1	
73	TSO/E	IBM	TIME SHARING OPTION - EXTENDED	X	X	X	X	4	2	
74	VSCOBOL II	IBM	LANGUAGE	X	X	X	X	4	2	
75	VS FORTRAN	IBM	LANGUAGE	X	X	X	X	4	2	
76										
77										
78										
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32										
33										
34								458	376	82

Appendix 6

INFO-TECH BIENNIUM BUDGET

	Actual FY92 Expenditures	FY92 Budget	FY93 Budget	1991-1993 Budget
Salary	\$405,565	\$373,800	\$3,834,100	4,207,900
Fringe Benefits	86,680	118,600	1,178,800	1,297,400
Supplies & Services	338,172	198,300	6,263,350	6,461,650
Permanent Property	255,513	109,300	9,515,770	9,625,070
Bond payment - BITM Improvement Advance Funds	0	0	632,100	632,100
Subtotal	\$1,085,930	\$800,000	\$21,424,120	\$22,224,120
Building Improvement	8,500			4,320,000
Telecom Improvement	302,883			2,000,000
Grand Total	\$1,397,313	\$800,000	\$21,424,120	\$28,544,120

	FY94 Budget	FY95 Budget	1993-1995 Budget
Salary	\$3,867,679	\$3,867,679	\$7,735,358
Fringe Benefits	1,188,752	1,188,752	2,377,504
Supplies & Services	12,824,372	12,824,372	25,648,744
Permanent Property	10,579,750	10,579,750	21,159,500
Special Purpose	632,124	632,124	1,264,248
Subtotal	\$29,092,677	\$29,092,677	\$58,185,354
Building Improvement	0	0	0
Telecom Improvement	0	0	0
Grand Total	\$29,092,677	\$29,092,677	\$58,185,354