MINUTES OF THE ___House___ COMMITTEE ON ___Computers, Communications&Technology___

The meeting was called to order by ___George Dean_____
Chairperson

___12:00___ Noon on ___January 22,_____. 19_92_ in room ___529-S___ of the Capitol.

All members were present except: Representative Kline
Representative Mead

Committee staff present: Jim Wilson, Revisor
Julian Efird, Research
Diane Duffy, Research
Donna Stadel, Committee Secretary

Conferees appearing before the committee: Dave Larson, Director Information Systems
Jim Cobler, Secretary of Administration
Jean Turner, Director of DISC

Others attending: See attached list.

Representative Jan Pauls, new committee member replacing Representative Roper, was introduced by Chairman Dean, along with new committee secretary, Donna Stadel and revisor, Jim Wilson.

Dave Larson, Director Information Systems, appeared before the committee and gave an update regarding Legislative Compterization (attachment 1).

Discussion followed concerning use and design of DISC's current system and how agencies presently utilize shared data. Mr. Larson pointed out each agency tends to have a different focus, but shares data where feasible.

Question was raised regarding quantifiable benefits anticipated by implementation of the proposed plan. Mr. Larson indicated typing pool consisting of staff of seven would be disbanded after computers are in place.

Mr. Larson also reviewed revised budget plan submitted to LCC reflecting a price increase from $371,843 to $374,313.44. The increase of $2,470 primarily due to items not included in previous plan; i.e., work stations, training and premise distribution charges. If equipment was purchased today, cost would be $361,246.54. For budget purposes, governor has recommended $374,313.44 figure.

Chaiman Dean explained during the interim, LCC had established a computer task force chaired by Secretary of Administration Cobler, and called upon Mr. Cobler to address committee.

Mr. Cobler advised task force was composed of three branches of government; three representatives from legislature, three from executive branch and three from judicial branch. Their purpose being to form policy, establish reasonable goals and objectives, and report back to LCC prior to legislative session. It was not designed to introduce legislation.

Representative Dean offered information on how Colorado had set up a statutory board, very similar to this task force, which was made up of three branches of government, and also had task forces under it consisting of laymen from industries; i.e., KG&E, Boeing, BCS, Beech computer services and perhaps General Motors computer services, who provide technical advice and are expertise in their fields. It was suggested by Chairman Dean and supported by Mr. Cobler, this would possibly be a better concept then what we now have.

MINUTES OF THE ___House___ COMMITTEE ON _Computers, Communications & Technology_

room _529-S_, Statehouse, at _12 Noon_ a̶x̶m̶./̶p̶.̶m̶. on ___January 22,_____, 19_92_

Discussion followed pertaining to curtailment of DISC purchases since last legislative session until such time an ongoing plan can be agreed upon and in place.

Jean Turner, Director of DISC, gave update and overview of her division, and provided a copy of "Agency Plans for Information Management" for 1992 (Attachment 2). Discussion followed in regard to whether agency plans submitted were more in-depth than in the past. Ms. Turner said she believed more of them were. Instructions to the agencies were to provide more in-depth details, as well as copies of their budgets. She pointed out instructions regarding this were in the back of the above mentioned manual.

Ms. Turner was asked if she could provide the committee her observations and recommendations for improving and changing the existing system of acquiring purchases and development of software systems. She said she would be glad to provide this.

Introduction of her staff of analysts was followed by discussion regarding DISC's process of recommending and approving agency letters after budgeting and dollars have been appropriated. Agencies are required to have approval of DISC before purchasing hardware, even though money has been budgeted; however, this has not always happened.

Ms. Turner pointed out, from her perspective, the process has to all work together. The legislature is a part of the appropriation process who see requests for computers, aquisitions within agencies and provide money for them. By the time they reach DISC, it is a technical aspect. Are they getting the proper equipment--will it work on the system--do they have the right modems--are they spending their money wisely. Many times we tell them, no. When an agency is told, no, for example, KTEC, we give them other suggestions and options. They then, take another look at what they are doing and save themselves money.

Considerable discussion followed on how the purchasing and approval process should work.

Next item for discussion was DISC's capability to track dollars spent on computer hardware and software. There are still problems in attempting to accurately account for expenses due to; 1) risk of duplicating items bought and resold; 2) methods in how items are financed; and 3) capital outlay coding. It was believed good decisions could not be made without the knowledge of how much, and for what, we are spending.

Chairman Dean announced the committee's schedule for this session and the agenda for the following week. Meeting adjourned at 1:10 P.M.

GUEST LIST

COMMITTEE: _Computers, Communications & Technology_   DATE: _Jan. 22, 1992_

NAME (PLEASE PRINT)	ADDRESS	COMPANY/ORGANIZAT
Jim GREEN	KDHE	
Dave Larson	Legislature	
Ellyn Sipp	Post Audit	
Gene James	DISC	
CAREY BROWN	DISC	
John Oliver	DISC	
WARREN NEUDORFF	DISC	
Kathy Martin	Secretary of State	
Jon McKenzie	KCC	
Jim Cowles	Sec'y of Administration	
Jean Turner	Mis of DISC	
Jim Parker	DISC	
Don Heineman	Disc Adm.	

Update on Legislative Computerization
Dave Larson
January 22, 1992

A. Background

    1. September 6, 1990...presented the Andersen Consulting report to LCC. The Andersen study proposed a system of networked microcomputers to achieve the three major information needs of the Legislature *(as defined by a legislative survey in 1989)*. They are: communications, information access and productivity. The system was designed to be implemented in phases. The first phase, called the baseline strategy, was to build the underlying architecture and resources needed to support VoiceMail, Electronic Mail, WordProcessing and DISC access to Bill Status and PROFS. The matter was referred to the LCC Subcommittee on Computers for recommendations.

    2. October 5, 1990...The full LCC received the recommendations of the LCC Subcommittee on Computers. The subcommittee recommended a phased in approach to distributing computers over all legislative offices. The LCC subcommittee also modified the Andersen strategy to reduce cost and the complexity of the installation.

        (The subcommittee decided to recommend all legislative offices get computers. Avoid politics as much as possible. Decided that VoiceMail was not viable at this time. Wanted humans to answer the phones. Decided to recommend all AppleTalk network because it is cheaper and will allow us to get networked faster with less complexity)

        (The LCC plan reduced costs approximately $1,125,091.99)

        (The all telephone wire installation reduced complexity by standardizing the wiring connections, relied on DISC maintenance, used existing facilities in the historic Capitol, required no installation or re-engineering and required no protocol conversions between Ethernet and LocalTalk)

        (What was given up? speed of the system which was deemed not critical to the functions of EMail, WordProcessing and information access (at least initially))

    3. November 2, 1990...The LCC adopted the phased in approach to computerizing the Legislature. The plan encompassed all

legislator's offices over a two fiscal year period. The schedule called for leadership offices to be computerized first, followed by Committee Secretaries *(in order of range)*, Assistant Leadership and Rank & File legislators. Approved the submission of a supplemental appropriation for FY91 and sought an appropriation for the FY92 phase.

4. During the FY91 session the House CCT committee thoroughly examined the Legislative Plan and eventually issued a committee report recommending the plan with modifications to the House Appropriations Committee.

> *(The CCT committee report proposed phased-in approach over FY92 & FY93. Total implementation would provide for 100 microcomputers and 52 laser printers. It recommends disbanding the typing pool after computers are in place and reviewing the best way to support the system.)*
>
> *(This proposal is essentially the LCC plan with further reductions in the numbers of computers, printers and removes certain legislative agency costs from the Legislature's budget.)*

5. The House Appropriations Committee took the computerization funds out of the appropriation bill. The House put a reduced amount of funding *($153,562)* in the Omnibus bill. The House put the reduced amount on the cuts list and in conference committee the House agreed with the Senate position to leave it out.

B. Currently

1. We have 84 nodes on the network, 64 computers and 20 printers. The network provides EMail, file sharing, printer sharing, modem sharing and DISC access. The DISC access allows us to pool access to the Bill Status database and PROFS at a lower cost than the previous dumb terminal access with the enhanced service of being able to cut & paste information out of the mainframe into other documents. Training in use of the system and in wordprocessing has been provided by in-house staff or by outside support personnel at **no cost** to the legislature.

2. Offices using the network are:

> Legislative Administrative Services, Post Audit, LCC Leadership offices, *(Committee Secretaries of)* House Appropriations Committee, Senate Judiciary Committee, Joint Claims Committee, Senate Ways and Means Committee and the Revisor's Office, and this week the House Computers

Mary Ellen

Communications and Technology Committee and House
Education Committee will be added.

3. Post Audit was added to the network in June 1991 at
approximately one-third the projected cost. In addition they have
acquired universal access to DISC at no cost to their department.
*(They previously dedicated a machine to DISC access and had to
physically share that unit among the staff. Each auditor and
secretary can now access DISC from their desk utilizing the pooled
access of the Legislative Network System.)*

4. Productivity measures of Legislative Services staff, Leadership
staff and committee secretaries using the new technology are
looking good. Every committee secretary and clerk has had a very
positive experience and successful implementation of the new
technology. *(Six secretaries using the system last session have been
interviewed for results. Currently these results are being analyzed
to determine quantifiable benefits.)*

5. The Secretary of the Senate and Clerk of the House have
automated certain portions of their operations. They have achieved
productivity gains by reducing re-keying material, achieved better
quality and accuracy by doing more document construction in-house
and have the potential to cut printing costs via camera ready copy.
Both offices have reduced staffing by one position.

6. The Revisor's Office this summer cooperated with the fledgling
Information Network of Kansas (INK) to provide the public access of
the Bill Status system through their network. To my knowledge the
Bill Status information is the first service provided by INK.

7. The Research Department has a bid a network for the department.
I have taken appropriate measures to ensure that this
implementation operates transparently with the existing facilities.
There should soon be a network connection installed between the
Legislative Network and the Research Department.

8. The current system has begun to meet the needs as expressed in
the surveys and documented in the Andersen Study. The system
meets the needs of:

> **Communication** via EMail and DISC access to PROFS
> **Productivity** via EMail, wordprocessing and other software
> such as databases, printer sharing   STARS
> **Access to information** via DISC access and filesharing.

9. Although not funded by the 1991 Legislature, there is still a
Legislative Computerization Plan. The strategy proposed in that

plan does not need to be changed. The steps we have already taken have been consistent with the plan.

C. Future

    1. Seek to implement the current plan. *(The LCC at their Nov. 4, 1991 meeting approved the computer plan again. They instructed that a budget be submitted for FY93 to fund the implementation. This budget is $374,313 and is identical in numbers of machines and printers as recommended by the CCT committee report last session.) (At the request of the Post Auditor, Legislative Services and Post Audit have met and reviewed common computing goals. We have agreed that a coordinated purchase could be accomplished and lower the overall cost to the State. The coordinated purchase would involve transferring Post Audit's older technology computers to the Legislature and upgrading Post Audit with newer machines)*

    2. Secure backup assistance in training users and backup for the Legislative network operations. *(already accomplished)*

    3. Utilize the DEC VAX server and workstations for broader legislative purposes after redistricting. *(Potential exists for additional databases to assist research efforts and analysis, storage and retrieval of legislative documents and committee minutes, or information on text of bills and amendments.)*

Budget Legislative Computerization Project

DL 9/4/91

Revised Plan
Capital Outlay

Qty	Item	Cost @	Tot Cost	Notes
100	Mac LC	$1847.60	$184760.00	Extd KyBd, 2M/40M, 12" mono
17	non-netwk laser	$829.00	$14093.00	QMS price of Ap 1990
35	network laser	$1599.00	$55965.00	NEC price of Sept 1991
100	wp software	$162.50	$16250.00	20 pack price $3,250
100	Email software	$33.78	$3378.00	50 user price $1689
7	Net connect exist units	$199.00	$1393.00	Farallon board $199
			$0.00	
1	Post Audit LAN connect		$0.00	This was done June 1991. Cost was $765 + DISC fees
100	Wkstations (desks)	$200.00	$20000.00	$200 @ desk
7	file servers	$1751.00	$12257.00	Classic II 16MHz, 68030 4M/80M
152	wiring parts	$100.00	$15200.00	$25 phoneNet connector & $75 share of starcontroller
152	network software	$10.00	$1520.00	$10 share of AppleShare services software
	Subtotal capital outlay		$324816.00	

Services

Qty	Item	Cost @	Tot Cost	Notes
152	wiring labor	$145.86	$22170.72	3.25 hrs labor & $44/hr*2% surcharge
152	PDS charges/year	$28.62	$4350.24	$2.25/mo & 12 months*6% surcharge
9	DISC network fees/yr	$330.72	$2976.48	$26/mo and 12 months * 6% surcharge
	DISC use		$0.00	PROFS free and bill status paid by Revisors
100	training	$100.00	$10000.00	WP training
	supplies		$10000.00	see detail **
	Subtotal services		$49497.44	

Total Cost $374313.44

Notes
**	Laser cartridges	$5850.00	$90 @ - 1.25 cartdges/yr
**	paper	$0.00	est same as current consumption
**	diskettes	$550.00	1 box @ $5.50/box
**	power protection	$3500.00	$35 @
		$9900.00	round to $10,000

7 PC's are: (3) Ways & Means, (3) Senate Minority, (1) House Clerk

5-1

Revised Plan of CCT 1991

Qty	Item	Cost @	Tot Cost
100	Mac LC	$1843.85	$184385.00
17	non-netwk laser	$829.00	$14093.00
35	network laser	$1621.75	$56761.25
100	wp software	$220.00	$22000.00
100	mail software	$30.00	$3000.00
152	wiring labor	$150.00	$22800.00
152	wiring parts	$115.00	$17480.00
152	network software	$10.00	$1520.00
9	DISC network fees	$396.00	$3564.00
	supplies		$10000.00
100	?		$13984.72
100			
7	Network connect for existing machines	$212.44	$1487.08
152	PDS charges		$0.00
7	file servers	$2966.85	$20767.95
	Totals		$371843.00

FY93 Plan as submitted to LCC

Item	Cost @	Tot Cost	Diff
Mac LC	$1847.60	$184760.00	$375.00
non-netwk laser	$829.00	$14093.00	$0.00
network laser	$1599.00	$55965.00	-$796.25
wp software	$162.50	$16250.00	-$5750.00
mail software	$33.78	$3378.00	$378.00
wiring labor	$145.86	$22170.72	-$629.28
wiring parts	$100.00	$15200.00	-$2280.00
network software	$10.00	$1520.00	$0.00
DISC network fees	$330.72	$2976.48	-$587.52
supplies		$10000.00	$0.00
desks	$200.00	$20000.00	$6015.28
training	$100.00	$10000.00	$10000.00
Network connect for existing machines	$199.00	$1393.00	-$94.08
PDS charges	$28.62	$4350.24	$4350.24
file servers	$1751.00	$12257.00	-$8510.95
		$374313.44	$2470.44

FY93 Plan as submitted to LCC

Qty	Item	Cost @	Tot Cost
100	Mac LC	$1847.60	$184760.00
17	non-netwk laser	$829.00	$14093.00
35	network laser	$1599.00	$55965.00
100	wp software	$162.50	$16250.00
100	mail software	$33.78	$3378.00
152	wiring labor	$145.86	$22170.72
152	wiring parts	$100.00	$15200.00
152	network software	$10.00	$1520.00
9	DISC network fees	$330.72	$2976.48
	supplies		$10000.00
100	desks	$200.00	$20000.00
100	training	$100.00	$10000.00
7	Network connect	$199.00	$1393.00
	for existing machines		$0.00
152	PDS charges	$28.62	$4350.24
7	file servers	$1751.00	$12257.00
	Totals		$374313.44

FY93 Plan with January 13, 1992 prices

Item	Cost @	Tot Cost	Diff
Mac LC	$1719.60	$171960.00	-$12800.00
non-netwk laser	$813.30	$13826.10	-$266.90
network laser	$1599.00	$55965.00	$0.00
wp software	$162.50	$16250.00	$0.00
mail software	$33.78	$3378.00	$0.00
wiring labor	$145.86	$22170.72	$0.00
wiring parts	$100.00	$15200.00	$0.00
network software	$10.00	$1520.00	$0.00
DISC network fees	$330.72	$2976.48	$0.00
supplies		$10000.00	$0.00
desks	$200.00	$20000.00	$0.00
training	$100.00	$10000.00	$0.00
Network connect	$199.00	$1393.00	$0.00
for existing machines			
PDS charges	$28.62	$4350.24	$0.00
file servers	$1751.00	$12257.00	$0.00
		$361246.54	-$13066.90

STATE OF KANSAS

JOAN FINNEY
Governor

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M E M O R A N D U M

TO: Agency Heads/Data Processing Managers

FROM: Jean L. Turner, Director
           Division of Information Systems and Communications

DATE: June 14, 1991

SUBJECT: Agency Information Management Planning Instructions

     In accordance with K.S.A. 75-4708, DISC is required to prepare the
Kansas Information Management Plan for approval by the Information
Systems Policy Board. The plan includes strategic planning information
of statewide interest about information management activities in state
government. Agency Information Management Plans are foundation documents
for the State Plan and are of interest to both the Executive and Legis-
lative branches of government. Agency plans also become an important
consideration for DISC as it determines resource requirements to meet the
service needs of its customers.

     Attached are the planning instructions for agency Information
Management Plans for FY93. The instructions include a planning
philosophy, an overview of the planning process and a suggested plan
outline with some questions to consider as the plan is developed.

     There are some notable differences in this year's instructions. The
date for submission of conceptual plans to DISC is September 15, which
is more than two months later than last year, and agencies are being
asked to submit details about specific projects that will appear in their
FY93 budget request. Agencies are also being asked to provide current
hardware configuration diagrams and equipment inventories. Another
difference is that bulk approvals will be available only to Regents
institutions.

House CCT
Attachment 2
1-22-92

The planning process for agency business planning starts by defining the overall mission of the agency. The same process applies to planning for information management. For utilization of information technology in an agency to be most effective, it should be used to support the activities associated with the mission of the agency and aligned with the agency business plan. This process helps focus attention on agency functions where opportunities for productivity improvements exist in terms of cost avoidance, minimizing duplication of effort and/or data, and/or providing more effective service levels.

Your agency's plan should include the agency's mission in state government and a narrative description of the information processing functions and activities that support this mission. The plan should identify both processing and telecommunications facilities and services needed through FY95 for new or enhanced applications.

Last year DISC published the agency plans as written. There was a great deal of interest in these plans. Accordingly, an agency should anticipate that its plan will again be published and provided to a large audience.

Throughout the recent legislative session agency budget requests for information technology came under close scrutiny. Many agencies did not receive funding for proposed information systems. Agencies that presented well documented business cases with their budget requests fared better than those that did not.

Again, this year we are asking agencies to provide DISC with the pages from their FY93 budget requests that pertain to capital outlay for information technology items, including narrative descriptions.

If you have any questions about the planning instructions, please contact Gene James, Bureau of Information Resource Management. His phone number is 296-5179.

JLT:ee
JT5191d

Attachment

FISCAL YEAR 1993
AGENCY PLANNING INSTRUCTIONS
for
INFORMATION MANAGEMENT

Philosophy

In the past, state agencies have made extensive use of information technology to improve productivity and increase efficiency in agency operations. Today as revenues dwindle and the demand for service increases, that trend is likely to continue. However, new information systems tend to be expensive and as competition for scarce funds increases, agency proposals for new information technology are going to come under close scrutiny. That means a lot of decision makers are going to have to be convinced of the merits of a system and of the agency's ability to implement a system within the proposed budget before it is funded or approved. The Budget Division, DISC and the Legislature must all approve information technology projects before they can become reality.

One of the best ways to sell the merits of new information technology investments is to employ a sound planning process. Careful agency planning will identify the best ways in which information systems can help an agency meet its objectives and will provide the basis for a solid business case to support subsequent proposals for funding and acquisition.

It is DISC's responsibility to review agency proposals for information technology and make recommendations to the Budget Division and the Legislature as to the merits of those proposals. DISC will support proposals that are backed by a creditable agency plan and documented with a sound business case. DISC will assist agencies in developing those documents by reviewing drafts and making recommendations for improvements. It is the agency's responsibility to develop a complete cost benefit analysis to fully justify the costs of information technology solutions to their business problems.

In the coming year, management procedures will be put in place to assure that information technology expenditures are fully justified and likely to produce the benefits expected. In general there will be a stronger link between information systems planning, agency budget requests and agency requests for approval to acquire information technology. These measures will help assure that tax dollars spent on information technology are a good investment for the people of Kansas.

Planning Instruction Overview

The general thrust of agency Information Management Plans should be conceptual and directional in nature. The conceptual agency Information Management Plan (IMP) should be submitted to DISC on or before September 15, 1991, and should include details about specific projects that will appear in the agency's FY93 budget request. Specific details about projects should also be submitted to the Division of the Budget in September 1991 with the agency budget document. Copies of agency information technology and management budget requests should be submitted to DISC by September 15, 1991 (at the same time the agency submits its budget document to the Division of the Budget). It is important that the agency budget request for information technology and management funding is compatible with and provides specific reference to the agency Information Management Plan.

Agency Conceptual Information Management Plan FY 93-95

The agency Information Management Plan (IMP) is intended to identify how information activities and functions will support the agency's mission and goals for the next three years. Information activities include such things as new application systems, telecommunications, data communications, video and image systems, electronic data interchange, enhanced voice communications and optical storage. It is important to view agency information activities and functions from an overall agency perspective in order to identify areas where technology may produce savings in terms of cost avoidance, elimination of duplicated effort, increased utilization of information that is already captured and retrievable, or increase the effectiveness of services provided to the public.

2-4

AGENCY INFORMATION MANAGEMENT PLAN OUTLINE

I   **Agency Mission**

Include information about the statutory responsibilities of the agency. Identify the activities and functions necessary to accomplish the stated mission.

II   **Agency Goals and Objectives**

Information in this section should explain how activities and functions support the accomplishment of the agency mission.

III   **Assessment of Information Management Current Situation**

Outline the planning process that is used to plan for information systems and information technology projects in your agency. Discuss the existing policies, procedures, and practices governing the management and use of manual and automated information resources in the agency. The focus of this discussion should be the content and availability of information for users and management, and issues of data ownership and communications. Explain how agency mission and goals are supported by this activity.

IV   **Information Management Direction**

Directly relate information management activities and functions to the goals and objectives which support the agency mission. This section should be a narrative description of proposed initiatives to enhance capabilities and communication of agency programs through information management activities during the next three years.

Information management directions should be based on an analysis of the present situation and future information needs of the agency. Goals and objectives for information management should result from an analysis of agency information needs with the priorities set by agency management. As individual initiatives are discussed they should be presented as components of a coordinated plan to support overall agency goals and objectives.

V   **Examples of Implemented Projects**

Several agencies have experienced success in implementing projects which have improved productivity, increased efficiency, reduced costs or improved the quality of service to the public. A section of the Kansas Information Management Plan will include a brief description of these "success stories". If your agency has such a story to share, please include it in your agency IMP. Describe accomplishments in areas where technology has made a positive difference in how information is managed and processed. Include those projects which have been implemented within the last couple of years with explanations about the changes that resulted in how information was managed and processed. Benefits, cost savings, and cost avoidance should be documented.

VI   Feasibility Studies for Proposed Projects

Include a description of proposed projects, with costs and expected benefits identified, that are expected to begin in fiscal year 1993. The statement of expected benefits should be thorough enough to justify the costs. Identification of costs should include the following categories as applicable to your project.

a.   Hardware costs
b.   Software costs
c.   Maintenance costs
d.   Personnel costs
e.   DISC charges
f.   Consultant services
g.   Space and environment costs
h.   Training costs
i.   Data acquisition or conversion costs

VII   Hardware Configuration Diagrams and Equipment Inventories

Include diagrams of current hardware configuration and an inventory of equipment as outlined in the attached example.

VIII   Format

The agency IMP should be a relatively short description of the present situation and future information management plans with fully detailed information for those items requested in the FY 93 budget.

2-6

AGENCY INFORMATION TECHNOLOGY INVENTORY

This year an equipment and software inventory is to be included as part of each agency's Information Technology Plan. The following items should be included:

Hardware

Personal computers
Midrange computers
File servers
Workstations
Mainframe computers
Display terminals
Printers
Print directors
Modems and other data communications equipment
Controllers
Telecommunications equipment
Voice response or processing equipment

Software

CASE software

For both hardware and software, please provide the following information as it applies:

Location
    Division
    Bureau
    Unit
    Address
Brand name
Size notation
Quantity
Estimated dollar investment
Own or lease

2-7

EXAMPLE CONFIGURATION CHART

```
┌──────────────┐      ┌──────────────┐                                    ┌──────────────┐
│    DISC      │      │    DISC      │                                    │ U.S. Dept. of│
│   UNISYS     │      │    IBM       │                                    │  Interior    │
│  Mainframe   │      │  Mainframe   │                                    │  Mainframe   │
└──────────────┘      └──────────────┘                                    └──────────────┘
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DISC UNISYS Mainframe — PCs (4)

DISC IBM Mainframe

AS/400 Model Departmental Processor — Local Area Network — PCs (8)

AS/400 Model Departmental Processor — Local Terminals (16)

U.S. Dept. of Interior Mainframe — PC (1)

Stand Alone PCs (6)

Resource System

REMOTE FIELD EQUIPMENT

PCs (2)

PCs (4)

AS/400 Model B10 — Terminals (6)

Stand Alone PCs (21)

PC (1)

2-8