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Department of State

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September 1, 2002

Colorado Joint Budget Committee
Representative Brad Young, Chairman
Legislative Services Building
200 East 14th Avenue, 3rd Floor
Denver, Colorado 80203

Dear Representative Young:

The following report is submitted to the Joint Budget Committee in response to Footnote 236 of the 2002 Long Bill, which provides as follows:

- 236 Department of State, Information Technology Services, Information Technology Asset Management -- The Department of State is requested to provide to the Joint Budget Committee by September 1, 2002, a detailed inventory of Information Technology assets it intends to periodically replace. This inventory should include a complete categorical listing of all existing IT assets, their purchase price, and their useful life. Further, the inventory should summarize previous replacements made within this line item since its creation. The department is requested to make future requests for replacements of existing assets within this line as decision items, and future requests for additions to this inventory as decision items prior to inclusion in this inventory.¹

This report provides an update to the Joint Budget Committee on the progress of the Department of State in regards to the specific activities carried out as part of the Department's *Information Technology Asset Management* decision item as approved by the Committee earlier this year.

Two documents that have been submitted to the Governor's Office of Innovation and Technology (OIT) as part of the FY 2003-04 budget process are included in this report. The documents are the *IT Schedule 4000 - IT Asset Management Inventory Annual Summary* and the *IT Schedule 4010 - IT Asset Management Plan Framework*. These two documents are a portion of the standard complement of forms due to the OIT by state agencies for this budget cycle.

The Asset Management plan follows the methodology approved for use by the Department by the Joint Budget Committee (JBC) in both FY 2001-02 and FY 2002-03. The Department will prepare decision items on an annual basis for the hardware and software assets that are due for

¹ The Office of State Planning and Budgeting has previously requested that footnote reports include a disclosure of the funding required for completion of the report. Accordingly, we estimate that this report required 7 hours of staff time to prepare, at a cost of approximately \$340. These amounts do not include the time and resources required to prepare and maintain the inventory described in this footnote report, since such an inventory is regularly maintained regardless of the footnote.

replacement in a given fiscal year. The Department has adopted the lifecycle standards adopted by the OIT where available, and has adopted its own lifecycle measures consistent with prevailing practices where standards have not yet been adopted by the OIT. A summary of the lifecycle figures in use by the Department is presented here:

Asset Category	Lifecycle prior to eligibility for replacement
Facilities	8 years
IT Hardware – Workstations	
Heavy clients (PCs)	3 years – <i>OIT standard</i>
Thin clients	6 years
IT Hardware – Servers	5 years
IT Hardware – Printers	5 years
IT Hardware – Network	4 years
IT Hardware – Other	5 years
Software	
Windows-based	3 years – <i>OIT standard</i>
Unix-based	6 years

Significant events that have affected the Department's Asset Management Plan in the last fiscal year include:

- Approval of a Document Imaging System Upgrade decision item during the 2002 Legislative Session. This resulted in the removal of thirty-eight computer workstations, thirty-nine high-resolution 19" monitors, and ten heavy-duty flatbed scanners from the Department's Asset Management plan. The existing document imaging system requires the use of outdated, proprietary hardware and software for its operation. As we transition to a new document imaging system, these items are due to be replaced as part of that decision item. They do remain in the Department's inventory, but have been removed from calculations and consideration for replacement.
- The addition of an IP Telephony telephone system in the Department due to a decision item approved during the 2001 Legislative session. The Department replaced a leased traditional telephone system with a modern, IP-based telephone system. The new phone system utilizes the existing network infrastructure of the office while providing a robust, easily configurable system. The computers, software, and networking hardware for the IP Telephony system have been added to the Department's Asset Management plan.
- The Department's FY 2002-03 Asset Management decision item presented during the 2002 Legislative Session was partially approved. The requested appropriation of \$566,484 was reduced to \$211,919. Funding for some anticipated replacements - with the exception of server replacements - was not granted. Assets that are still in use by the Department that had been scheduled for replacement according to the lifecycle standard will thus remain in service, and will be added to the asset plan for replacement in FY 2003-04. A table summarizing these assets is provided as Attachment 1.

The rationale of replacing information technology assets on a scheduled basis, rather than waiting for urgent situations to occur before addressing needs, arises from several assumptions:

- The State, and the Department of State in particular, has made a substantial investment in information technology assets, and wishes to maintain that investment in good working order.
- State agencies must plan for expenditures twelve to twenty-four months in advance. This amount of time between requesting an appropriation for information technology assets and actually receiving the authorization for expenditures necessitates a strategic approach to asset management. The strategy adopted by the Department is to assess the office's need for information technology assets, evaluate the available options, procure the optimal resource for fulfilling the need, obtain maintenance contracts for those assets while they are in service, and plan to replace information technology assets on a defined schedule.
- The risk of equipment failure increases over the lifespan of assets, and resources to return failed equipment to service become more difficult and expensive to obtain as the equipment becomes aged.
- Planned replacement of assets according to an established schedule allows for the replacement of resources before obsolescence issues may become critical.
- The core function of the Department of State is information management (receiving and processing documents, and making the information available to the public). Increasingly, the Department is dependent on the capabilities of its information technology systems to store and retrieve all information. For example, the Department images all documents and has no facilities to maintain paper originals. For this reason, a hardware failure on any of the Department's systems could be disastrous, not only for the Department but also for the customers who depend on this information.
- Technological advances in information technology assets generally provide greater functionality in later generations of hardware and software. The planned replacement of assets, then, can provide for an increase in the usefulness of the asset. This can allow a continual upgrading of services that can be provided by the information technology assets.

IT Asset Management was added as an individual line item in the Department's budget in the 2001 Long Bill, covering FY 2001-02. IT assets affected under this line item include:

- Replacement of some existing 4mm, 8mm, and DLT tape drives with AIT-3 drives. AIT-3 tapes can store from 100 to 300 GB on a single tape, with a much faster data transfer rate than earlier generation drives. We have also begun purchasing AIT-3 tape media, so we can begin to move the entire operation to the new backup devices. Moving to the newer technology allows for faster backup and restore of critical data, while using less tape media to do so.

- We have replaced an older model laser postcard printer with a newer model. Our office prints and mails approximately 22,000 postcards every month to business entities to inform them of their responsibility to file a periodic report. The printer that we replaced was failing to print the cards as needed, and was deemed irreparable by our service provider.
- We replaced six desktop machines that had come out of warranty. We also replaced one laptop, and one Windows server that were both out of warranty.
- We signed a Data Management Program Agreement with IBM for database management software. In July of 2001, IBM acquired the database assets of Informix Corporation. Informix is the enterprise-level database used in the Secretary of State's office. The purchase of Informix by IBM raises questions about the continued viability of the Informix Relational Database Management System (RDBMS) software used as our core database product in the Department. The agreement with IBM allows the office to transition to IBM's flagship DB2 RDBMS as our resources allow. As we move our operation to DB2 over the next years, our costs for software maintenance may drop significantly; IBM's charge for license maintenance and support are significantly lower for DB2 than for the Informix products.

In summary, our office will continue to provide feedback to the Joint Budget Committee and the Governor's Office of Innovation and Technology regarding the Department's Asset Management Plan. We will also continue to request, on an annual basis, appropriations to support the implementation of the plan.

Sincerely,



Donetta Davidson
Secretary of State

List of Attachments

Attachment 1 – Summary of IT Assets Scheduled for Replacement in FY 2002-03

Attachment 2 – IT Schedule 4000 IT Asset Management Inventory Annual Summary

Attachment 3 – IT Schedule 4010 IT Asset Management Plan Framework

Attachment 1

Summary of Information Technology Assets Scheduled for Replacement in FY 2002-03

Category	Lifecycle	Cost	Description
Facilities	8 years	\$1,600	Bar code scanners (2)
Network	4 years	0	-
Imaging	5 years	0	-
Printers	5 years	\$14,180	Color inkjet printer (1), Laser printer (1), document stampers (12)
Servers	5 years	\$211,919	RAID storage server (1), development server (1), production servers (2)
Windows Software	3 years	\$155,427	Microsoft (MS) BackOffice, MS Terminal Server (4), MS Office licenses (94), Rational Rose licenses (5), Windows 2000 client access licenses (100), Citrix Metaframe licenses, scanning software
Unix Software	6 years	0	-
PC Workstations	3 years	\$92,000	Desktop PCs (5), laptop PCs (28)
Thin Clients	6 years	\$90,828	Thin client X-terminals (116)
Monitors	5 years	\$530	Sun server monitor
TOTAL		\$566,484	

Description of Categories

Facilities includes items such as facsimile machines, uninterruptible power supplies and battery backup for servers, air conditioning equipment for server room, fire system for server room, door lock system, shredders, microfiche/film machines, cameras, etc. This category includes essentially all items that are under the responsibility of the I.T. division, but not directly computer-related.

Network includes items such as modems, network switches, hubs, routers, firewalls, and load balancing hardware.

Imaging includes flatbed scanners, and a single high-speed scanner with associated scanner-specific peripherals (touch screen monitor, custom workstation).

Printers includes printers (laser, line), printer control devices, and stamper/validators.

Servers includes Unix and Windows print, file and database servers and peripherals (tape drives, CD writers, etc.), and storage devices.

Windows Software includes all Intel-compatible software, both server (network operating systems, backup software, load balancing software, security software) and workstation (desktop application suites, client access licenses, and specialized desktop software such as html authoring software, project management software, graphics software, etc.)

Unix Software includes all software for Unix servers, including operating systems, database management, storage management, client management, web server, application development software, and credit card processing software.

PC Workstations includes all personal computers in the office, including all laptops and desktop machines, excluding only Intel-based computers that are part of the Windows server category.

Thin clients includes all thin clients in use the Department (all X-terminals used to deliver Unix and Windows client functionality to office personnel).

Monitors includes all monitors for any computer used in the Department.

IT Sch4000
IT Asset Mgmt Annual Summary FY02-03

This schedule is intended to provide a high-level, comprehensive overview of the department's IT assets and their associated costs including those for replacement, recurring maintenance, as well as administration and support.

IT Asset Category	IT Asset Sub Category	Quantity of Units	Deployment/Replacement			Ownership		FY02-03 Expected Expenses
			Total Current Value (replacement cost)	Average Lifecycle	Annual Amortized Cost (D/E)	Annual Maintenance Costs	Category TOTAL (F+G)	
A	B	C	D	E	F	G	H	I
Facilities		# computer rooms w/ A/C:1 # Fire Suppression: 1 # Security: 1	\$250,384	8	\$31,298	\$25,000	\$56,298	\$1,600
IT Hardware - Workstations		Total # of workstations: 220	\$454,626	5	\$101,028	\$51,072	\$152,100	\$530
	Heavy (PC/Laptop)	# of PCs: 64 # of Laptops: 35	\$216,983	3	\$72,328	\$17,172	\$89,500	\$92,000
	Thin (PDA/cell phone/pager)	# cell phones: 0 # pagers: 5 # of other (describe): 156 thin client X-terminals	\$154,592	6	\$25,765	\$18,720	\$44,485	\$90,828
IT Hardware - Servers		Total # of server boxes: 40	\$2,050,992	5	\$410,198	\$95,012	\$505,210	\$211,919
	Web Functions	# of servers that perform web functions: 6						
	Mail Functions	# of servers that perform mail functions: 1						
	Print Functions	# of servers that perform print functions: 0						
	Database Functions	# of servers that perform DB functions: 7						
	Other Application Functions	other functions: (describe) 9 app servers, 4 dev servers, 1 file server, 5 IP telephony						
IT Hardware - Printers		Total # of printers: 45 + 15 validators	\$133,851	5	\$26,770	\$21,744	\$48,514	\$14,180

Attachment 2

			\$427,896	4	\$106,974	\$35,051	\$142,025	\$0
IT Hardware - Networks	Circuits	# of FDDI: 0 # ISDN: 0 # SMDS: 0 # ATM: 0 # Frame Relay: 22 # of other: (describe) 5 T1's, 9 1FB's						
	Routers	# of routers: 5						
	Switches	# of switches: 4						
	Hubs	# of hubs: 12						
IT Hardware - Other Components		# of scanners: 11 # of plotters: 1 # of other (describe)	\$392,928	5	\$78,586	\$40,254	\$118,840	
Software		Total # of software licenses/purchases: 951 licenses	\$2,069,047	5	\$459,788	\$306,287	\$766,075	\$155,427
	MS Office	Total # of MS Office licenses: 94						
	GIS	Total # of GIS licenses: 3						
			\$6,151,299	5	\$1,312,735	\$610,312	\$1,923,047	\$566,484
							Base Budget:	\$211,919
							Other:	

Comments:

IT Asset Mgmt Plan Framework	IT Sch4010 FY02-03
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This schedule is intended to describe the department's objectives, policies, and procedures established for the IT asset management decision-making and operating processes.

Department: Colorado Department of State

1. Plan Description

The Asset Management Decision Item submitted for FY 2002-03 (for which the funding was approved by the IMC and in part by the Joint Budget Committee) established the current basis for the Asset Management Plan. The strategy consists of several steps:

- Continuously maintain a current inventory of the information technology assets of the Department;
- Define a replacement schedule for the I.T. assets;
- Identify those assets that are due for replacement according to the replacement schedule;
- Assess the Departmental need for replacement of the identified assets;
- Evaluate the need for and the feasibility of replacement technology; and,
- Recommend the replacement of assets where appropriate to further the aims of the Secretary of State.
- Monitor failure rates for excessive mean time between failures to maintain acceptable levels.

The objectives which are pursued in the asset management plan are:

- Maintain existing functionality for the various business units and programs for which the Secretary of State is responsible;
- Enhance functionality for the Department where changing conditions have modified the environment in which the business units operate (such changing conditions may include statutory changes, regulatory changes, changes in the focus and/or policies of the Secretary of State, etc.);
- Position the Department to meet anticipated future executive or legislative needs where possible;
- Minimize the cost impact of asset management decisions while maximizing the benefits to the office's operation; and,
- Provide sufficient information to the business units and the Secretary of State for considering new initiatives and making fee-setting decisions.
- Maintain technological level of equipment to stay current with technological advancements.
- Meet the standards set by IMC and OIT per policy.

2. Deployment/Replacement

Processes:

- Periodic review of the Department's master I.T. asset inventory to ensure that new assets are tracked using the methodology described above, current assets are identified for review and action, and retired assets are removed from consideration.

- High-level consultation with the Secretary of State and the head of the various operating units in the Department to identify shortcomings in the existing environment, and position the I.T. division as a whole for meeting the Department's goals.
- Monitor failure rates for excessive mean time between failures to maintain acceptable levels by logging service calls and equipment down time. Review logs database for problems.
- Recommendation of asset and resource decisions to the Secretary of State for action.

The Secretary of State is ultimately responsible for all expenditures for asset management. She has delegated responsibility to the operational unit Division Directors for making recommendations for future asset needs, and to the Chief Information Officer for evaluating those recommendations as to technical merit and feasibility. The Operations Supervisor generally handles small day-to-day purchases (under \$1,000). The Chief Information Officer handles larger purchases directly, with input from other staff in the Department.

Tools:

Current tools used include a database schema maintained by the I.T. division. While some thought has been given to acquiring software to assist in managing the I.T. assets of the Department, no such software is currently in use.

3. Staffing (help desk support)

Processes:

The I.T. division bears responsibility for support of the I.T. assets of the Department. Maintenance contracts with service organizations are in effect on most of the hardware in use. Software support contracts are, in most cases, negotiated with the vendor of the particular software. When problems do occur, staff members within the I.T. division are responsible for performing diagnosis, logging, monitoring, effecting repairs where possible, and escalating requests for service to the outside service organizations. The Department maintains a staff of computer operators for routine, low-level support of technology assets, system administrators for system support, and programmer/analysts for application support. The Department is also re-organizing some new and existing resources for front-line support of web-based systems for which the Department is responsible (while not strictly I.T. asset-related, those systems do utilize I.T. assets).

Tools:

4. Ownership (administration and maintenance)

Processes:

All I.T. assets within the Secretary of State are the responsibility of the I.T. division of the Department. The Chief Information Officer and other staff in the I.T. division evaluate needs, prepare recommendations, act on directives from the Secretary of State, procure maintenance contracts on I. T. resources where appropriate, and ensure that equipment is in good working order. Using the methodology described in the "Plan Description" section, the I.T. division prepares recommendations on asset management decisions for the Secretary of State.

Tools:

5. Standards | Lifecycle | Description

Facilities		8	Facilities includes items such as facsimile machines, uninterruptible power supplies and battery backup for servers, air conditioning equipment for server room, fire system for server room, door lock system, shredders, microfiche/film machines, cameras, etc. This category includes essentially all items that are under the responsibility of the I.T. division, but not directly computer-related.
Network		4	Network includes items such as modems, network switches, hubs, routers, firewalls, and load balancing hardware.
Printers		5	Printers includes printers (laser, line), printer control devices, and stamper/validators.
Scanners		5	Scanners includes flatbed scanners, and a single high-speed scanner with associated scanner-specific peripherals (touch screen monitor, custom workstation).
Servers		5	Servers includes Unix and Windows print, file and database servers and peripherals (tape drives, CD writers, etc.), and storage devices.
Software	applications	3,6	Intel-based applications (MS Project, Visio, etc.) due on a three-year schedule; Unix-based applications (Veritas, Sun Forte, etc.) due on a six-year cycle
	database	6	Enterprise-level database software
	directory	-	No directory services software currently in use at the Department
	e-mail	3	Intel-based email client and server software (MS Outlook and MS Exchange) due on a three-year schedule
	OS	3,6	Intel-based OS (Windows) due on a three-year schedule; Unix-based OS (Solaris) due on a six-year schedule
	productivity	3	Intel-based desktop productivity software (MS Office, Corel WordPerfect) due on a three-year schedule
Workstations - heavy	desktops	3	Desktops for regular office use where Intel-based machine is needed and/or where floppy drive/CD-ROM is necessary.
	laptops	3	Portable desktops for most management staff, off-site presentations, and most technical staff for off-site support.
Workstations - thin		6	Desktop suite functionality and Unix server access provided by thin clients to most line staff in the Department.

Comments: