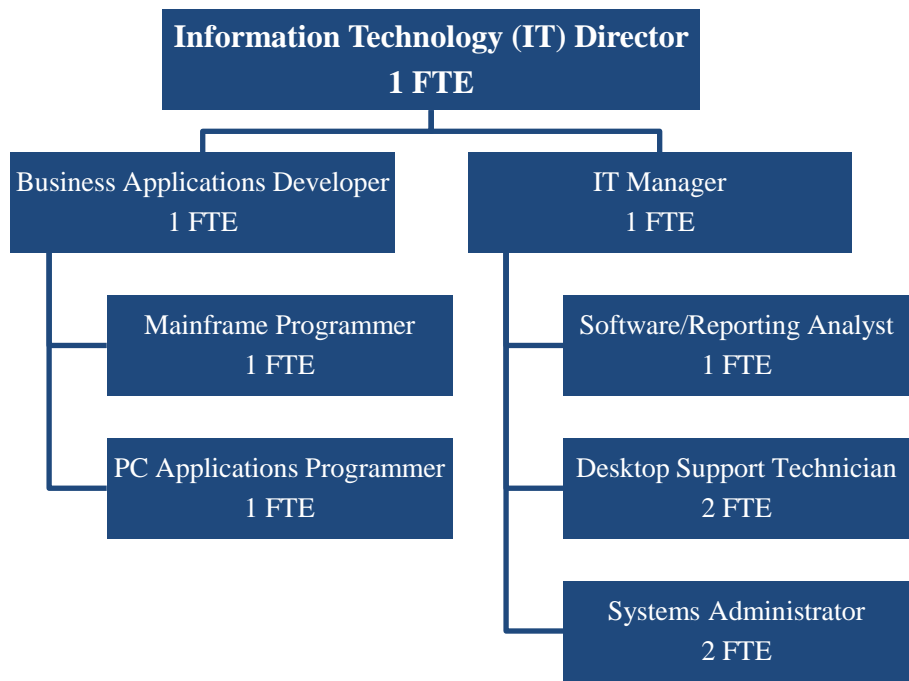


INFORMATION TECHNOLOGY (IT)

Fund 080-028



Information Technology (IT) positions: 10 FTE

MISSION STATEMENT

To assist County Departments in developing and implementing creative technology solutions that keep data and systems secure, increase transparency, reduce costs and waste and better enable the public to have positive and efficient interactions with County government.

BUDGET HIGHLIGHTS

A separate Information Technology (IT) Budget allows the County to better track technology expenditures. The IT budget covers the cost for the following centralized services for all General Corporate Fund departments:

- copier and printer services
- telecom services
- technology support services
- internet services, cloud based services and perimeter security

The budget includes salaries for all IT positions providing technology and programming support to County departments.

Revenues receipted by IT include the following:

- Reimbursement for services rendered by the IT staff from funds outside the General Corporate Fund
- Reimbursement from other funds for licensing, system software upgrades, internet and cloud based services, disaster recovery and copier services, including \$156,810.26 for support services billed to the Champaign County Nursing Home for FY2015, FY2016, FY2017 and FY2018.
- reimbursement from the City of Urbana and Urbana Free Library for a shared internet connection

Highlights of the FY2019 County IT Budget request include the following:

- Transition of the County's real estate tax system to a new platform.
- Transition of the Sheriff's jail management system and civil process system to new cloud-based platforms.
- Implementation of a unified messaging solution to replace the obsolete voicemail and phone answering system currently used.
- Implementation of an Information Security Operations Center system to enhance perimeter security
- Expanding the utilization of Microsoft Azure cloud services for multi-factor authentication, storage of backup files, archival storage of files that never change but must be kept, and Azure Site Backup/Azure Site Recovery.
- Evaluation of Enterprise Resource Planning Systems (ERP) to replace the aging accounting system.

In addition, the County Board should be aware of several technology related items necessary for the department's optimal operations:

- The County needs a document management system in order to digitize paper documents in various offices that do not utilize the judicial system case management system.
- The County's network infrastructure needs to be expanded to include wireless capabilities in all facilities, except the Courthouse, which was done in 2016.
- The County's phone system needs to be replaced. The system is antiquated by modern standards and should be replaced with a Voice over IP system.
- Staffing will need to be realigned over the next 5 to 10 years in order to accommodate the implementation of new systems and retirements of long-time employees.
- The County endured several ransomware outbreaks and a widespread virus infection that hampered justice and public safety operations for several months. Account credentials were stolen and even though they are not directly being used many email accounts are being spoofed. Some of this could have been mitigated through a 24/7 Information Security Operations Center system, which has been included in the FY2019 budget request.
- New software packages for Animal Control and County Board Appointment management need to be evaluated and implemented
- Historical data from AS400 and old Kronos system needs to be converted to searchable SQL databases
- Storage and backup needs continue to grow, especially in the area of video evidence. The County will need to continue to invest in SAN or cloud-based technologies to accommodate increased storage needs as well as to strengthen the County's technology disaster recovery plan.

FINANCIAL

Fund 080 Dept 028			2017 Actual	2018 Original	2018 Projected	2019 Budget
337	27	LOC GVT RMB-UTILITIES	\$3,793	\$4,800	\$4,800	\$4,800
		FEDERAL, STATE & LOCAL SHARED REVENUE	\$3,793	\$4,800	\$4,800	\$4,800
341	35	INFO TECH/HUM RSOURC FEES	\$44,422	\$87,000	\$47,000	\$203,810
		FEES AND FINES	\$44,422	\$87,000	\$47,000	\$203,810
369	90	OTHER MISC. REVENUE	\$16,760	\$21,680	\$17,000	\$17,000
		MISCELLANEOUS	\$16,760	\$21,680	\$17,000	\$17,000

381	22	INFO TECHNOLOGY EXP REIMB	\$0	\$0	\$0	\$19,000
		INTERFUND REVENUE	\$0	\$0	\$0	\$19,000
REVENUE TOTALS			\$64,975	\$113,480	\$68,800	\$244,610
511	3	REG. FULL-TIME EMPLOYEES	\$528,216	\$608,744	\$608,744	\$645,623
		PERSONNEL	\$528,216	\$608,744	\$608,744	\$645,623
522	2	OFFICE SUPPLIES	\$1,078	\$500	\$500	\$500
522	4	COPIER SUPPLIES	\$33,845	\$37,000	\$35,500	\$36,000
522	6	POSTAGE, UPS, FED EXPRESS	\$82	\$0	\$100	\$100
522	44	EQUIPMENT LESS THAN \$5000	\$25,636	\$20,000	\$45,000	\$25,000
522	93	OPERATIONAL SUPPLIES	\$499	\$4,000	\$500	\$500
		COMMODITIES	\$61,140	\$61,500	\$81,600	\$62,100
533	7	PROFESSIONAL SERVICES	\$8,995	\$0	\$0	\$0
533	8	CONSULTING SERVICES	\$10,411	\$2,500	\$2,500	\$2,500
533	29	COMPUTER/INF TCH SERVICES	\$17,738	\$22,000	\$22,000	\$22,000
533	33	TELEPHONE SERVICE	\$37,624	\$35,000	\$38,000	\$38,000
533	36	WASTE DISPOSAL & RECYCLNG	\$631	\$1,000	\$1,000	\$0
533	42	EQUIPMENT MAINTENANCE	\$114,941	\$129,000	\$129,000	\$42,500
533	85	PHOTOCOPY SERVICES	\$220,915	\$227,500	\$227,500	\$227,500
533	93	DUES AND LICENSES	\$1,765	\$1,000	\$1,000	\$1,000
533	95	CONFERENCES & TRAINING	\$7,748	\$10,000	\$8,990	\$10,000
534	37	FINANCE CHARGES,BANK FEES	\$11	\$0	\$0	\$0
		SERVICES	\$420,779	\$428,000	\$429,990	\$343,500
544	33	OFFICE EQUIPMENT & FURNIS	\$26,757	\$0	\$0	\$0
		CAPITAL	\$26,757	\$0	\$0	\$0
EXPENDITURE TOTALS			\$1,036,892	\$1,098,244	\$1,120,334	\$1,051,223

EXPENSE PER CAPITA and FULL TIME EMPLOYEE HISTORY information is included in the General Corporate Fund Budget Summary.

ALIGNMENT to STRATEGIC PLAN

County Board Goal 1 – Champaign County is committed to being a high performing, open and transparent local government organization

- To ensure that current and accurate information regarding the operations of County Government is available to the public through the County's website and social media in a format that is responsive in design and accessible to all regardless of abilities.
- To strive to improve scores for website openness and transparency by providing more information to the public.
- To improve citizen engagement by better access to County Board and Committee meetings through public access channel and internet broadcasts of the meetings.
- To move to a commodity based information technology service model.
- To continue to plan, develop, and implement cost-effective technology infrastructure improvements that enhance the reliability and functionality of technology resources for all

County departments and improve wide area network connectivity for sharing resources digitally with other governmental agencies.

- To develop ways to share services with other governmental entities to reduce costs and improve performance.

County Board Goal 3 –Champaign County promotes a safe, just and healthy community

- To document and update the technology disaster recovery plan to ensure continuing county operations which support health and safety in the event of a disaster.
- To ensure the justice and public safety offices have the technology resources that they need in order to provide services to the public.

County Board Goal 4 – Champaign County is a county that supports balanced, planned growth to balance economic growth with preservation of our natural resources

- To maintain a capital equipment replacement plan for all of county's technology to ensure an effectively managed and budgeted technology replacement schedule.
- To ensure that the County's technology resources are managed in a way that ensures minimal energy usage.
- To offer advice to County departments ensuring that technology projects are sustainable in the future.

DESCRIPTION

The IT Department provides computer, reporting, and programming support to the County's 600 plus technology devices supporting the County's workforce. Services include:

- operation of a secure and robust computer network that connect all of the County's worksites via fiber optic cabling or secure site to site VPN
- development and maintenance of the County's website
- operation of sixty-four Windows servers, twenty-five SQL database servers, and two IBM iSeries mid-range computers
- programming services for various customized in-house programs used for animal control, accounting and purchasing system, fixed asset system, real estate tax assessment, and collection system
- operation and support of various vendor purchased solutions for timekeeping and human resources, inmate services, public safety, and management of court-related offices
- broadcasting, recording, and video streaming of all County Board and Committee meetings
- network perimeter security including firewalls and virus/malware protection
- video evidence management

Support is provided using an integrated help desk, which is manned during regular business hours and monitored on an emergency basis outside of regular business hours. After hours service is also provided to three shift operations at the Sheriff's Office and Adult and Juvenile Detention Centers through an on-call cell phone. Incidents are tracked using the software and can be anything from a "how do I do this" question to a malfunctioning printer or computer to a major programming change. Utilization of the help desk by employees allows IT Services to track frequent issues which can result in identification of opportunities for training as well as ways to improve business processes.

OBJECTIVES

1. To provide quick, reliable, trusted, and cost-effective IT services to all users while improving staff efficiency
2. To ensure the security and protection of all electronic information maintained and shared through the County's network
3. To work with all County Departments to develop information technology as a means to improve the effectiveness and performance of programs and initiatives of County government
4. To provide training resources for County Departments

PERFORMANCE INDICATORS

Projects completed in FY2018

Project	Outcome
AS400 Operating System upgrade	Operating system was nearing end of support and needed to be upgraded.
Kronos system upgrade	Implementation of new Kronos Dimensions system will enhance time management and human resource features for all employees and will provide mobile access to designated employees and managers.
Real Estate Tax system replacement	The County will enter into a contract to replace the current real estate tax system with a more modern system.
Expungement Event	County IT assisted the Circuit Clerk's Expungement Event by configuring and deploying 75 laptops borrowed from the County Clerk and providing direct support for staff and attorneys for the event. After the event was over County IT re-configured the laptops within two weeks so the County Clerk could use them as poll books at the election. This event is an annual occurrence.
Annual Computer refresh	The County generally replaces personal computers (PCs) every five years, which means County IT replaces approximately 130 computers each year. In 2018 the primary departments receiving replacements were the Circuit Clerk, Probation and Court Services, Planning and Zoning, Auditor, Treasurer and Supervisor of Assessments. Computers were replaced within the financial parameters set forth in the Capital Equipment Replacement budget
Deployment of new MDC tablet computers for Law	County IT replaced 50 Mobile Data Computers

Project	Outcome
Enforcement	(laptops) with tablets.
Microsoft Azure services	County IT established a tenancy in Microsoft Azure. The first task will be to deploy a domain controller integrated with our on premise Active Directory to act as a backup. Azure will also be used to establish multi-factor authentication for Law Enforcement that use mobile computers, which is a Criminal Justice Information Services (CJIS) requirement and for backup and recovery services for the GIS Consortium
UPS Failure	During a short power surge the UPS at Brookens failed and had to be taken out of service for a few months while a new one was ordered and installed. Servers and communications equipment were then affected by numerous power outages (both scheduled and unscheduled) due to an Ameren project to upgrade electrical service on Main Street and Lierman Avenue. When the UPS was replaced a maintenance bypass switch was installed so that if the UPS fails again or needs to be replaced it can be bypassed temporarily. One was also installed on the Courthouse UPS.

SECURITY ISSUES

The County endured three severe virus outbreaks in 2018 that overwhelmed County IT.

In February, a department head clicked on what appeared to be a link to an invoice in a spoofed email and released ransomware on the network. The virus itself infected two computers. Both users reported issues to IT and we were able to respond within 10 minutes and remove the two infected computers from the network. However, by that time the ransomware encryption had file shares on several servers and workstation. County IT was able to restore server file shares from backups limiting data loss to work completed on the day of the outbreak, some archival GIS data and files stored on infected workstations that the users weren't backing up.

After hours one night in early March network subnets at the Courthouse, Sheriff's Office and Adult Detention facilities were hit by a variant of the Emotet virus (a Russian virus that steals logon credentials). The initial infection of this virus usually comes in an email link, once a computer on a network is infected the virus spreads from it using a specific network protocol. County IT was able to determine which computer was first hit with the virus but was unable to determine how the virus started.

The antivirus software that was in use at the time found, detected and removed the virus from all the workstations but could not inoculate them from re-infection and was eventually overwhelmed by the virus. Over 200 computers were infected which greatly affected business operations for many offices.

Email credentials for many accounts were stolen by the virus, which led to a mass password change. While County accounts aren't being used to spread the virus many of our account names and contacts are being spoofed.

Consultations with the FBI, Department of Homeland Security, Illinois State Police and software vendors ensued and County IT received advice on various possible solutions. Over Easter weekend County IT deployed a trial of Sophos antivirus at one of the Adult Detention facilities and it was able to remove the virus and keep computers from being re-infected. Over the next few weeks, Sophos was deployed throughout the County and the virus was brought under control.

Although computers are no longer infected with the virus staff at the courthouse continue to experience issues with computers that were probably brought on by the virus outbreak. These problems may continue until IT Staff has time to reload all the computers.

Simultaneously to the Emotet virus outbreak many of the Sheriff's Office Mobile Data Computers (MDC) were infected by ransomware due to weak local password security and an open internet facing port on them.

County IT continues to educate staff on identifying and deleting suspicious emails.

These incidents illustrate the importance of implementing a 24/7 Information Security Operations Center system. With such a system County IT would have been notified immediately and would have had an on-call security engineer available to compile and analyze all server, workstation and firewall logs. Sensors deployed on the network would also have prevented account passwords from being harvested.