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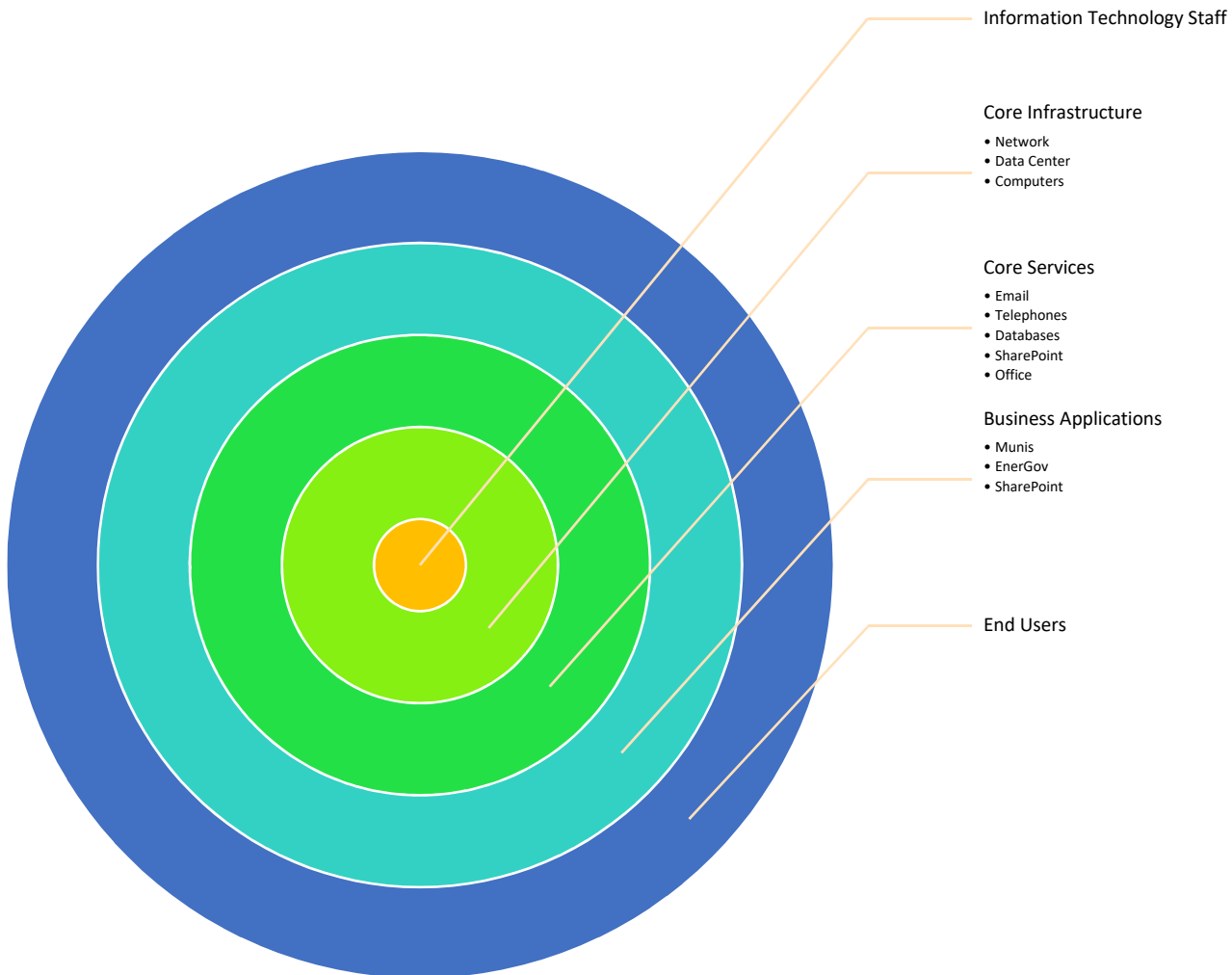City of La Crosse
Information Technology

IT Department Overview

The City of La Crosse Department of Information and Technology is responsible for driving global operations and delivering information technology services to the City of La Crosse. This entails directing all activities related to running and maintaining the City of La Crosse information systems enterprise-wide: technology infrastructure, public information systems including financial, payroll, police, fire and other key internal systems, communications systems, including emergency communications, server and desktop applications.

City of La Crosse Information Technology System

Information Technology Staff

Core Infrastructure
• Network
• Data Center
• Computers

Core Services
• Email
• Telephones
• Databases
• SharePoint
• Office

Business Applications
• Munis
• EnerGov
• SharePoint

End Users

Everything I will focus on is the Core Infrastructure. Core Services and Business Applications do not run without it.

5 Year Information Technology Department Plan

1. Acquire, enhance and maintain the technology needed to facilitate improved collaboration between city employees and between city departments.
   a. Focus on GIS[1]. Continue to map the City's assets. Acquire and implement a total asset management system.
   b. Use IoT[2] to provide a fleet that is connected to answer questions like "where is my snow plow, and where has it been" or "where is my bus."
   c. Assist our end users to be more mobile. Provide equipment and training to those areas that will see a benefit to the mobility and data at their fingertips
   d. Promote enterprise-wide applications and the sharing of data between all agencies.
2. Provide the technology needed to improve the ability of the city to communicate with citizens, to provide city services via the internet, and to support open and transparent government.
   a. Providing the citizens with online access to most services.
   b. Online calendars for my recycling dates, garbage dates. Subscriptions to calendars to be notified of events around the City.
   c. Providing a full 311 service. This includes alerts city wide users can sign up for any alert the City might provide. Having districts setup for these alerts.
   d. Promote open government for our Citizens to feel more connected to their government.
3. Ensure that the City's technology infrastructure is secure, reliable and agile in an ever-changing technology landscape.
   a. Acquire hardware and software that rank among the leaders in the industry, as balanced by their compatibility with the City's infrastructure, and by the resources needed for support.
   b. Continue to focus on investments to increase the security and resiliency of the City's Technology Infrastructure: DR[3] Site, Cybersecurity, Data Retention and Backup policies.
   c. Stay current with core infrastructure that we use, as balanced by their compatibility with the City's infrastructure, and by the resources needed to stay current.
   d. Implement policies on power saving to assist with our green initiatives.
   e. Leverage cloud-based technology to reduce costs for things like backups, long term archiving and other appropriate cloud workloads.
4. Attract, develop and retain Information Technology staff that are able to implement the City's IT Strategic Plan.
   a. Continuously improve communications within Information Technology in order to support our mission.
   b. Provide industry leading tools and solutions for use by Information Technology staff, in order to enable them to provide world class support to City end-users.
   c. Review the IT organizational structure in order to provide support to customers in the most responsive manner.
   d. Place a high priority on training in order to make better use of technology and improve customer service.
5. Participate in projects with other units of government that are mutually beneficial and ensure that the City's technology infrastructure aligns with the City's green initiatives.
   a. Installing fiber throughout out City streets to become connected with all our assets and other agencies to provide better services to our citizens.
   b. Implement policies on power saving to assist with our green initiatives.
   c. Continue to recycle and auction old hardware in an environmentally and fiscally responsible manner.

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[1] Geographic Information System
[2] Internet of Things
[3] Disaster Recovery

City of La Crosse Information Technology Hardware

End User Technology Devices

	Desktops		Laptops		Police Squad Terminals		Fire Rig Terminals		Tablets	
Current Inventory	**345**		**100**		**25**		**10**		**26**	
	Replacements	Additions	Replacements	Additions	Replacements	Additions	Replacements	Additions	Replacements	Additions
2020	100	5	24	6	-	-	-	-	12	4
Expected 2021	85	5	25	6	25	-	-	-	13	4
Replacements 2022	86	5	26	6	-	-	-	-	14	4
and Additions 2023	87	5	27	6	-	-	10	-	15	4
2024	88	5	28	6	-	-	-	-	16	4
2025	89	5	29	6	-	-	-	-	17	4
Replacement Lifecycle	**5-6 yrs.**		**4-5 yrs.**		**4 yrs.**		**4 yrs.**		**2-3 yrs.**	
Comments	Addition of 2nd and 3rd Monitor increases cost.		Also includes cost of docking stations and monitors.		Replaced as one large batch, in order to ensure single common model for support purposes.		Replaced as one large batch, in order to ensure single common model for support purposes.		The city is seeing an explosive growth in tablets being deployed as more and more departments move to provide their employees with greater ability to work while out in the field.	

	Desk Phones	Printers	Projectors	Scanners	Televisions/ Monitors
Current Inventory	**288**	**138**	**16**	**29**	**740**
Replacement Lifecycle	**As Needed**	**As Needed**	**As Needed**	**As Needed**	**As Needed**

End User Technology Purchases

2020	**2021**	**2022**	**2023**	**2024**	**2025**
$295k	$200k	$200k	$200k	$200k	$200k

Lifecycle and Replacement Policies
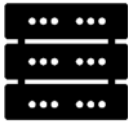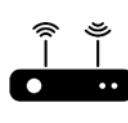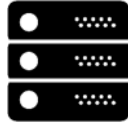
The IT Department implements a comprehensive lifecycle policy for managing end user technology equipment, this includes things like purchasing warranty's for new equipment to cover the expected life of the item, recycling out of warranty equipment to other non-critical areas within the city, and auctioning off old equipment to offset the cost of purchasing new equipment. We are at the mercy of vendors such as Microsoft. In January 2019, Windows 7 is no longer supported which means no more patches which means security vulnerabilities. We cannot have these machines on our network.

To extend our lifecycle of machines we are looking to deploy energy saving features like mandatory computer shutdowns at a certain time every night. The IT Department has joined the State Electronic Challenge. This coincides with green initiatives from the Mayor and Planning. We are about 99% successful in purchasing items that are Gold star Energy Star rated. This ensures power savings which reduces our energy bills. Fun nerdy fact: you can save an average of $50 per computer system annually by ensuring that power management settings are activated on computers and monitors. We have just over 220 computers these power savings measures can be applied to. That can save $11K annually in energy costs. By utilizing a recycler that is certified, we make sure harmful items are not put into our landfills. When we can, we auction off our items. This is used to help offset some costs for technology purchases.

IT needs an internal service fund for Technology. This field changes daily and so do the needs of our users. It is unrealistic to expect a department to wait over a year for an equipment request to go through this process. IT is here to help make things more efficient and give accessibility to our audience (this could be internal employees or citizens) but this takes capital. A fund like this is also needed for unexpected equipment failures such as a printer.

Infrastructure Technology Devices

These devices need to be replaced within their replacement lifecycles because of vendor support and lifecycle policies and the critical nature of this equipment.

	Core & Distribution Switches	Rack Switches	Access Switches	Firewalls	Routers	Wireless Access Points	Physical Servers & Appliances
Current Inventory	**3 sets**	**5 sets**	**42**	**2**	**3**	**36**	**15**
Replacement Lifecycle	**4-5 yrs.**	**4-5 yrs.**	**4-5 yrs.**	**4-5 yrs.**	**4-5 yrs.**	**4-5 yrs.**	**4-5 yrs.**
Average Replacement Cost	**$28k to $50k**	**$4k to $28k**	**$4k**	**$18k**	**$10k**	**$1k**	**$6k - $300k**
Comments	Must be bought in sets of 2 for redundancy.	Must be bought in sets of 2 for redundancy.					

For storage – we purchase what we forecast we will need for 4 years out. However, the City's storage demand has experienced explosive growth and we have to comply with 7 year mandatory retention periods for most of our data. The unexpected scale that storage requirements have grown, has meant that we have underestimated the storage needed by the city. Due to the rapidly changing nature of the technology industry and the pervasive impact that technology has on everything the city does, we expect that the demand for IT services, and storage in particular, will continue to grow at the phenomenal rate it has done for the last 4 years. We currently purchase what we think we need for 4 years out. We want to change this model to purchase what we need currently and add drives as needed. This goes back to having an internal service fund to purchase such things as needed.

Infrastructure Technology Purchases

2020		**2021**		**2022**	
Servers & Appliances:		**Network Equipment**		**Network Equipment:**	
Mobile VPN Server	$6k	Access Switches (x6)	$24k	DR Site Core Switch	$50k
Domain Controller	$6k	Rack Switches (x4)	$15k	DR Site Internet Router	$10k
Storage & Backup Equipment:				Access Switches (x6)	$24k
City Hall SAN Array	$125k			Rack Switches (x2)	$10k
Network Equipment:				**Servers & Appliances:**	
Access Switches (x6)	$24k			Email Filter	$6k
				Storage & Backup Equipment	
				City Hall SAN Array	$300k
				Video Storage Array (Dwntwn)	$125k
Total = $161k		**Total = $39k**		**Total = $525k**	

2023		**2024**		**2025**	
Servers & Appliances:		**Servers & Appliances:**		**Network Equipment:**	
Web Filter	$7k	City Hall Virtualization Servers	$50k	City Hall Firewall	$18k
Network Equipment:		**Storage & Backup Equipment:**		DR Site Firewall	$18k
Distribution Switch	$28k	DR Site SAN Array	$300k	Access Switches (x6)	$24k
Access Switches (x6)	$24k	**Network Equipment:**			
Wireless Access Points (x38)	$35k	Access Switches (x6)	$24k		
Storage & Backup Equipment:					
Backup System	$220k				
Total = $314k		**Total = $374k**		**Total = $60k**	

Applications and Special Purchases

2020		2021		2022	
Plotter Purchase	$20k	Security System Enhancements	$30k	Security System Enhancements	$30k
3rd Floor Conference Room A/V	$15k				
Portable Conference A/V Equip.	$8k				
Forest Hills POS System	$15k				
Portable Voting System	$50k				
Copier Replacement (x23)	$150k				
Total = $108k		**Total = $30k**		**Total = $30k**	

2023		2024		2025	
Security System Enhancements	$30k	Security System Enhancements	$30k	Network Power Backup System	$250k
VoIP System Upgrade	$250k	IoT Vehicle Locator Technology	$20k	Security System Enhancements	$30k
IoT Vehicle Locator Technology	$50k			IoT Vehicle Locator Technology	$20k
Total = $330k		**Total = $50k**		**Total = $300k**	

Additional consideration will need to be given to the City's P25 Digital Trunked Radio System maintenance and upgrades.

Additional consideration will need to be given to the Downtown camera system maintenance.

Overall Capital Equipment Plan

	2020	2021	2022	2023	2024	2025
■ Applications & Special Items	$108,000.00	$30,000.00	$30,000.00	$330,000.00	$50,000.00	$300,000.00
■ Infrastructure Technology	$161,000.00	$39,000.00	$525,000.00	$314,000.00	$374,000.00	$60,000.00
■ End User Technology	$295,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00	$200,000.00