Introduction

The Computer Services department is responsible for maintaining all hardware, software, and network access for the various City departments. Hardware support includes the evaluation, purchase, installation, preventive maintenance, repair, and the inventory of supplies for the computer equipment throughout all City departments. Some of the hardware supported includes a high availability virtual failover cluster running 80+ virtual servers (including an on-premise Exchange server, CAD servers, and GIS server), firewalls, L3 switches, BYOD smartphones and every desktop/laptop/tablet and printer in the City. For software, we both assist all departments when researching new software, as well as work alongside them on the final implementation, testing and training of the new software installed on the City's network of servers. Our staff then provides ongoing first line support to the City's departmental personnel for all software operating on the City's network. We are responsible for administering the 3rd party packaged software applications on the network, performing periodic system software updates, and backing up all server data on a regular basis. Several City applications and reports are custom written and maintained by Computer Services staff as well. We provide basic operational support for various versions of Microsoft Office products such as word processing, spreadsheets, and calendar sharing.

Staffing

Staffing for the office consists of:

Brent Schroeder: Information Services Manager (10 years' service time)

Charles Curley: Network Administrator (9 years' service time)

Jason Dunn: Software Developer (3 years' service time)

Troy Wahl: Help Desk Technician (1 year service time)

Key Activities &

Computer Services Applications & Equipment

All of the various software modules used city wide are accessed by hardware located in 28 city department locations, as well as several County agency locations, including: Hancock County Sherriff's office, Adult Probation, Hancock County Court House, and Hancock County Prosecutor's Office.

Both physical and logical upgrades to the City's virtual infrastructure continued throughout the year, as well as major security patches. The Microsoft Windows servers are the central storage areas for departmental files.

The City maintains an enterprise grade MS Exchange 2016 server to provide email service to all City employees. Email, as well as calendars, tasks, contacts, etc. can be accessed via MS Outlook at the individual users' desktops, and also available via OWA (Outlook Web Access), on any internet connected device (within the United States) including Android, and Apple

smartphones. The City utilizes MFA for access to the OWA web interface for email outside of the City network, and an MDM (Mobile Device Management) service for access via the email app on BYOD smart devices.

The City's network is protected by a multiple layer defense which includes a DMZ between two layer 5 firewalls on each of our redundant WAN connections. We have been informed that one of these systems will be End of Life mid-2026 so we have started the process of searching for alternatives to replace this integral part of our system.

The City's website (www.findlayohio.gov), delivers the City's departmental information via web pages to the World Wide Web. The site is hosted by a 3rd party vendor, and is located outside the City internal network. The City of Findlay's top-level domain (TLD) was migrated to .GOV in 2022. All websites internal and public facing were moved to this new domain, and all sites with the former TLD have been set to permanently redirect to the new domain. The wildcard SSL certificate for the old .COM URL's will be allowed to expire in 2024 at which time SSL redirects may issue warnings on browsers or not work at all. In the 2 years since the switch most all links on the internet have been updated to the new .GOV URL, and all static entries we have come across have been updated or reported to the site owner.

The Geographic Information System (GIS) is hosted internally on a VM, utilizing Esri software. The former GIS server is still running for legacy applications but is in the process of being decommissioned. The Esri GIS server stores and makes available the various Engineering mapping layers to city offices. The Police department is facilitating training on this system in order to keep maps updated for use by the Police department in emergencies.

Two physical servers maintain control over the Municipal Building door locks, as well as the Camera system. The door lock system has received a software update this year, backups are regularly confirmed to ensure failure of this hardware does not result in data or configuration loss. The security camera system has again been expanded to include additional remote locations. There are plans to continue expansion of security cameras, as such we began looking into replacing or upgrading our current server to support the additional load. Additional funding was secured near the end of 2023 to expand the electronic door lock system to remote offices. As of the end of the year we had begun receiving quotes from various vendors for this work. We have also begun a plan to deploy additional buttons to the panic button system that will alert the building to severe weather situations, building lockdowns, etc. Computer Services maintain all of these systems, but keep a contract in place for support by dedicated providers of each system.

The Tyler New World servers controls the interfacing tools used for patrol car computer access to Ohio LEADS, and the Computer Aided Dispatching system via cellular cards on each system, among other things. All additional servers make up the hardware necessary for the various departmental software applications which primarily run in a Microsoft Windows Server environment. Additional requirements from LEADS was passed on to us near the end of this year that will require a major re-work of how cruisers and PD desktop computers are setup. We are exploring all available options, and hope to have a plan ready to implement early 2024.

We are expanding our use of Linux throughout the cluster as well, and have begun to standardize on CentOS / Redhat. While we do still have Ubuntu VM's running these will eventually be phased out for CentOS.

The City Income Tax dept migrated to a new software this year (City Tax). The Computer Services office worked with ISSI to build a new virtual server and install the software. We also built a dedicated server used to convert data from the old tax system to the new. We worked with the vendor to roll software out to all the CIT computers and confirm functionality. We continue to work with the vendor to clean up various bugs and issues that CIT users encounter in the new system

Some, but not all of the departmental software applications include: CMI - Utility Billing, City Tax - City Income Tax, Tyler New World Suite & NICE – Police, ContentVerse & CourtMaster 2000 - Municipal Court.

The network supports resource sharing, and provides seventeen remote offices with a direct fiber optic connection to the central network servers. The network also provides Internet access to the entire City network through redundant fiber connections managed by two separate ISP's connected at 2 different physical locations. A new PepWave cellular device was purchased in 2023 for testing cruiser connections and will be used as an emergency redundancy in the event of multiple ISP failures.

Computer Services Activities

Our new computer management system has continued to function well for our department and we have begun utilizing additional features within the software to use it to its fullest potential. This system is being used to keep inventory on hardware and software as well as allow troubleshooting, remote access, and patch management among other things. It has been decided that we will switch from the annual renewal on this software to a perpetual license as we intent to use this software into the foreseen future. There is a large upfront cost to move to this license but the ROI is minimal. We hope to continue building on this system with the multiple product offerings from this company which will ultimately streamline our processes and improve security and end user support at the same time.

Exchange is set for EOL in 2025 and as of the end of 2023 there is no release date for a new on-premise version. As this is the case, we have begun exploring the possibility of switching to MS 365, moving exchange to the cloud. We will be inventorying user/machine counts in 2024 and will likely budget to make this move in 2025.

We were informed near the end of 2023 that LEADS requirements are changing to require 2FA to access any machine that is capable of accessing LEADS information among other things. We have begun to look into all the scenarios for achieving compliance and hope to have a plan in place soon to put into action.

An additional VMWare host were deployed in 2023 to our DR site with an additional one purchased with 911 funds for deployment at the dispatch dark backup site. The DR host is fully functional and is replicating most City servers at regular intervals. This host would be capable of running most city servers on site in the event of a major outage in the Municipal building. The dark backup host is fully configured and is functioning as intended, however it has not been deployed yet due to construction of the new dispatch center not being fully completed yet. This will be a major project for 2024.

The fiber loop has maintained almost 100% up time throughout 2023, there was a short outage due to a backhoe strike on Main St. This caused an outage lasting several hours to Fire station

1, until the damage could be repaired. We still have two sites that do not have redundant links active, due to a suspected splice failure. This will be investigated by the vendor that maintains our fiber plant. Each City building currently has a minimum of dual 10Gb links back to the municipal building, which is well beyond current usage. Some sites have been migrated to simplex fiber connections to allow us to utilize the fibers more efficiently. So far this has been going smoothly, and this process will likely continue into the future.

The primary backup repository is maintained at our DR site. This repository is nearing the end of its life, so we have begun to plan for replacement. The new system will have much more storage to account for the exponential growth of data the City has.

The Police department NICE recorder has continued to operate on a virtual machine. The old physical NICE server remains in a powered down state and is periodically started when old recordings need accessed. We should be able to completely decommission this server in 2025 as the recordings age out of retention requirements.

Necessary updates and fixes were installed on all of our third-party software applications running on the network servers, network PCs and Police Department Laptops in the cruisers. The Computer Services staff attempts to minimize the downtime caused by these installations by performing them either after hours or during low volume processing times for the various affected personnel. The various software upgrades performed throughout the year included Exchange 2016 updates, CMI Authority updates, New World updates, CourtMaster updates, Pitney Bowes updates, as well as general Windows Server updates.

Additional steps have been taken throughout the year to increase the overall security of the City's network. Some of these steps include upgrades to physical equipment, and a multiple layer approach to security. We have been making strides toward further network segregation, each implementation of a new server has been installed on its own segregated network with least privilege principals in place. We are continuing use of the same AV vendor that we have utilized the past 3 years. Performance has been very good, and no major occurrence have happened since its implementation. The City had no major virus incidents, and takes the utmost level of caution where any potential virus or intrusion attempt is observed. We have maintained, or improved all other security implementations in place. We ensure all end users complete annual security training to spot and report phishing emails among other items. We also test users periodically via several popular means of virus deployments. Any failure of these tests is taken as an opportunity to provide further training. We have performed several combs of our edge firewall rules, as well as UTM rules to remove anything no longer needed, and combine rules where beneficial. During 2023 Computer Services performed additional "pen testing" on public facing connections. No weaknesses were discovered during these tests; however, it is something that continues to be scrutinized, and monitored.

Patching of all end user devices continues to be a priority, and is maintained by our computer management system. All OS and critical third-party patches are installed within 24 hours of release, with all other patches being installed weekly all after-hours

The Tyler New World system, which is a joint City/County CAD system utilized by the City PD, FD, Engineering, as well as County Sheriff and Jail staff has been Live for over 4 years now. The system is regularly updated and new features are being brought online throughout the year. This system utilizes 16 virtual servers that Computer Services works closely with Tyler to maintain and keep things as stable and fast as possible. We also work jointly with County IT staff in order to allow network communication via fiber for County Sheriff office to connect into

this system. County IT personnel are able to create and remove County employee accounts from our AD infrastructure via a web-interface. This reduces the load on City IT staff for maintaining County employees.

The security camera system expansion that begun in 2022 was completed early this year, this project was delayed due to several shipping delays as well as one DOA camera that required replacement. After completion of deployments an additional project was started to offload all motion tracking from the server to the individual cameras. This offload a major source of resource usage from the server, and allows for much quicker utilization of this server. The camera system utilizes the city owned fiber loop to propagate this service to all of our remote offices. Additionally, each camera has redundant onboard storage in the event of lost network connectivity. This eliminates the need for multiple servers at each location, and streamlines Dispatch and Police department access to all cameras.

A large batch of new desktops was purchased this year. We were able to receive a great price reduction for the bulk order. Systems were deployed by our Help Desk Technician utilizing our new management system for imaging. With this deployment, all old-style systems have been replaced, and we will be switching to a new replacement schedule, which will see the useful life of these desktop computers extended.

The help desk technician position was filled in early January of 2023, so we continue to maintain a staff of 4 full time employees. Our Software developer has communicated his intention to retire at the end of 2026. As we near that time we will be reevaluating the position and budgeting for overlap to do a knowledge transfer. As our workload and new projects continue to expand we may look into reassessing the total number of employees needed to staff our office. A couple larger departments have expressed interest in having an IT staff member that is more dedicated to their department as technology continues to expand.

Key Performance Indicators (KPIs)
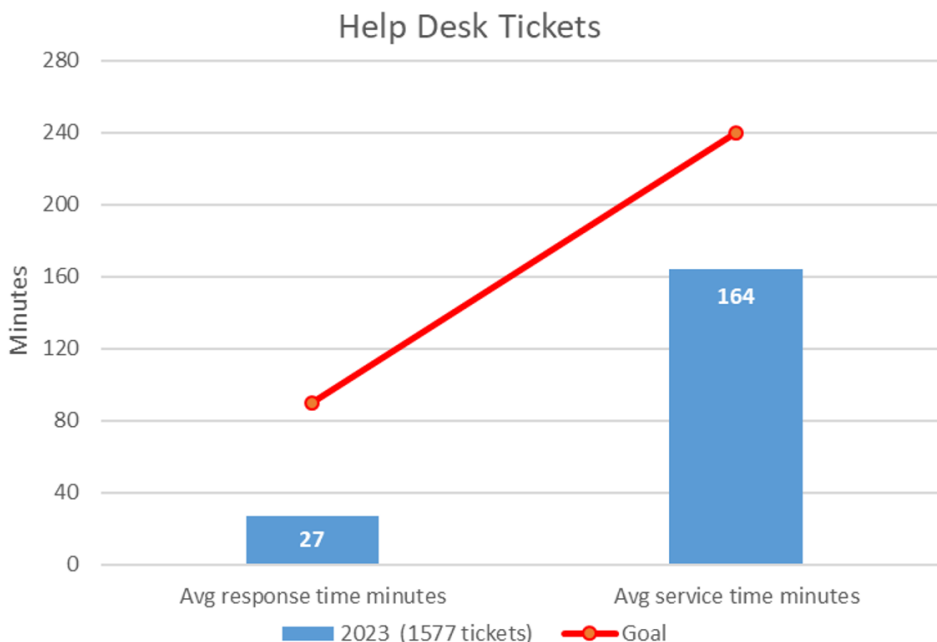
More details on Key Performance Indicators can be found at:

www.findlayohio.com/performance

Objectives for the Next Year

We will be working to phase out any MS SQL instances that are going EOL in the near future. This will require working with various vendors to in almost all instances to upgrade the database and confirm full functionality of the software. Our backup/replication system will be relied on heavily during this process.

The VoIP phone system will continue to be fully administered by Computer Services staff, with support from the PBX vendor. The helpdesk employee has expressed interest in learning the VoIP system, so this work will be spread across more staff going forward.

The dispatch dark backup site will be a major project that we will be seeing through to completion. This is a joint project between City and County dispatch centers, as this site will be able to fully function as both dispatch centers at any given time. We will be working to plan for all potential scenarios. The site will be utilized on a regular basis for dispatching to ensure full functionality at all times. We aspire to do a full DR test (meaning severing the link between buildings) after the site is complete, to confirm functionality in a major catastrophe.

Our DR site is online and fully operational, we hope to do some production testing next year to confirm functionality. This site will be the lifeline for the City network in the event of a disaster at the municipal building, ensuring we can continue to operate and provide services to the public. We hope to make needed repairs to the redundant links on the fiber plant to the two remaining offices, and fully test the redundancy.

As part of DR planning, a supplementary wireless connection will be built out to each site. Antennas have been installed on each water tower and antennas have been purchased for each remote office to connect to these antennas. We hope to have these deployed in the spring of 2022, this will provide emergency connectivity in the event of a catastrophic failure of the fiber loop.

The electronic door lock capital project did not receive funding until the end of this year, so this project will be started in 2024. We will be installing electronic door locks at most remote sites for primary employee entrances. This will allow for access identification, as well as provide a backup for misplaced or forgotten means of entry to a building

Network security will continue to be an important initiative. We are exploring different systems as our current system will be end of life in 2026. This will be a multi-year process due to the complexity and scale of the system. We hope to have a new system selected in 2024 and purchase in 2025. We will likely spend most of that year performing the migration via a slow methodic process. We will work to close any potential security holes, and increase network security via hardware, and configuration changes.

Computer Services personnel will continue to pursue training in areas that can be of greatest benefit to the management of the city's network. We plan to purchase online training accounts for all Computer Services personnel that can be used to gain knowledge of products and systems used by the City, and hopefully obtain certifications in various fields.

The Computer Services Department will continue to support all of the existing applications running on the city's network, both 3rd party and custom written. Maintenance programming and user help support for the various application systems will consume much of our time. We will make ourselves available to discuss and analyze the technical needs of the various city departments. We will strive to become more efficient and cost effective through the use of technology advancements within the city's network environment.

Budget Summary Sheet

We calculate how much money should be charged back against a department based on the percent their department used of the total services and resources made available by the Computer Services department. The total of the Computer Services projected budget is multiplied by that percent, providing the amount to be charged in that particular department's budget. The items considered in services and resources are: equipment, number of users, application use, internet access, phones, printers, cloud faxing, programming, and project time that will be spent on anticipated projects in a particular department for the coming year. You can find a departmental break down listed in Table A-1.

TABLE A-1

DEPARTMENT	Computers	Phones	Fax	Servers	Printers	Users	Apps	Internet	Proj Hrs	Proj Pts	Prog. Units	Usage %	Budget Amt
Airport	5	4	0	18	1	5	7	5	60.00	12.00	5.0	3.06%	$20,917.92
Auditor	14	8	1	18	4	6	10	17	60.00	12.00	5.0	3.83%	$27,344.99
City Council	2	2	0	14	0	11	6	0	20.00	4.00	0.0	2.02%	$13,601.00
Civil Service	1	1	0	17	1	1	6	1	5.00	1.00	5.0	2.37%	$15,775.68
Comp Serv *	7	6	0	8	1	4	7	28	400.00	80.00	5.0	4.58%	$0.00
Dispatch	11	25	1	41	3	11	15	10	150.00	30.00	0.0	6.67%	$47,138.46
Engineering	14	11	0	21	6	8	10	10	40.00	8.00	0.0	3.78%	$27,060.42
Fire	32	39	1	36	8	66	13	19	150.00	30.00	10.0	7.62%	$56,546.45
HRPC	6	8	0	18	2	7	9	6	5.00	1.00	0.0	2.76%	$19,346.71
Income Tax	11	9	1	19	7	11	7	9	200.00	40.00	10.0	4.58%	$32,037.22
Law Director	3	2	0	18	6	2	9	4	5.00	1.00	0.0	2.72%	$18,303.54
Mayor	6	8	1	20	3	4	9	4	50.00	10.00	0.0	3.20%	$22,465.11
Muni Court	56	44	2	28	19	32	13	34	70.00	14.00	25.0	7.81%	$60,663.20
NEAT (Removed)	0	0	0	0	0	0	0	0	0.00	0.00	0.0	0.00%	$0.00
Police	79	54	2	46	17	73	18	52	200.00	40.00	25.0	11.87%	$90,355.40
PW - Cemetery	2	3	0	17	2	3	6	2	5.00	1.00	0.0	2.33%	$15,722.55
PW - Recreation/CUBE	14	11	0	18	4	7	10	11	20.00	4.00	0.0	3.29%	$23,866.08
PW - Streets	9	10	1	17	3	9	11	8	20.00	4.00	5.0	3.09%	$22,166.30
PW - Traffic Lights	2	2	0	17	0	3	5	2	5.00	1.00	0.0	2.24%	$15,072.32
HR Director	1	1	0	17	1	1	7	1	5.00	1.00	0.0	2.26%	$15,024.07
Safety Dir	0	0	0	0	0	0	0	0	0.00	0.00	0.0	0.00%	$0.00
Service Director	2	1	0	17	1	1	8	1	5.00	1.00	0.0	2.32%	$15,493.13
Treasurer	1	1	0	17	0	1	4	1	2.00	0.40	0.0	2.13%	$14,159.72
Water Billing	22	11	1	23	3	10	11	10	150.00	30.00	10.0	5.09%	$36,618.29
Water Dist.	9	5	0	21	2	13	10	5	100.00	20.00	5.0	3.90%	$26,864.21
Water Treatment	12	23	1	20	5	15	11	7	200.00	40.00	5.0	4.60%	$33,510.90
WORC (Removed)	0	0	0	0	0	0	0	0	0.00	0.00	0.0	0.00%	$0.00
WPC/Sewer Maint	13	15	0	17	5	19	13	10	90.00	18.00	0.0	3.69%	$26,711.97
Zoning	5	3	0	18	3	3	8	3	30.00	6.00	0.0	2.78%	$18,952.37
TOTALS *	339	307	12	541	107	326	243	260	2047.00	409.40	115.0	104.58%	$715,718.00

2024 Computer Services Budget (Less Internet/Phone/Fax)	$656,738.00
2024 Internet Charge	$26,000.00
2024 SIP Trunk + Management Charge	$30,960.00
2024 Cloud Fax	$2,020.00
TOTAL 2024 Computer Services Budget Request	$715,718.00

2024 Computer Services Budget Request

* Computer Services Usage is subtracted from totals before % is calculated for departments

Computers = 1 point for each individual system

Internet = Internet usage based on # of computers from total yearly internet charge

Phone = Phone usage based on # of phone from total yearly Phone charge

Servers = 4 point for physical or virtual server

Printers = 1 point for each individual printer

Users = 0.3 points for each user over the total number of computers for a department (this accounts for shared systems)

Apps = 1 point for each application used by the department

Projects Points equals .20 points per man hour for these estimated project hours

  * 648 of the total Project Hours are shared equally by the 27 Departments

Programming Units to maintain their custom application = 5 points per application (some are split)

Usage % is calculated as: (Computers+Servers+Printers+((Users-Computers)*.3)+Applications+Proj Points+Programming Units)/

    (The totals of columns B C D E G H - Computer Services amounts))

Internet & Phone usage is calculated separately based on the actual yearly cost of each service, and the actual number of users and Phones