



2022 ANNUAL REPORT

**COMPUTER
SERVICES
DEPARTMENT**

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, 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 also backing up all data on a daily 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:

Information Services Manager (9 years' service time)

Network Administrator (8 years' service time)

Software Developer (2.5 years' service time)

Help Desk Technician (0 years' 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 Sheriff's office, Adult Probation, Hancock Regional Planning, 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's network is protected by a multiple layer defense which includes a DMZ between two layer 5 firewalls.

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 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 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 two software updates throughout the 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 locations. Continued expansion of both the door lock system and security camera system is planned in the coming years. Additional panic buttons were added throughout the City this year, and a process of adding panic buttons to desk phones is planned to be implemented in the near term. This panic button system integrates with the Camera system to allow first responders to get an immediate visual on the area where panic buttons are pressed. 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.

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.

Some, but not all of the departmental software applications include: CMI - Utility Billing, eMIT - City Income Tax, Tyler New World Suite – Police, and Innovare's CourtMaster 2000 for 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 dual fiber connections managed by Buckeye and Spectrum. Use of a cellular provided internet connection is being explored as a redundancy

Computer Services Activities

A new computer management system was put into place this year, replacing the long used Goverlan software suite. The new software combines functionality that required use of several different pieces of software in addition to Goverlan. This will allow us to discontinue support on these other pieces of software, so the net increase in cost for this software will be minimal. The new system provides inventory of both hardware and software, software deployment, image deployment, patch management, mobile device management among others. While this system has had a large learning curve, and required re-building many jobs created in other systems, it has been an excellent addition to our tools. We will continue to build on this system and hope to streamline our processes and improve security and end user support at the same time.

In order to increase security, we added a 2FA requirement for access to the webmail interface of the City Exchange server. All users that need access to webmail were provided with a DUO account in order to facilitate this access. This was the last remaining internet accessible site utilizing City AD credentials that was not secured via 2FA. There have been internal discussions on plans to upgrade to the latest version of Exchange before end of life, which is currently October 2025. Current plan is to complete the upgrade in 2024.

With the addition of 2FA to webmail, a move was also made to increase security on accessing City email via mobile devices. A new Mobile Device Management system was setup that is required to be installed on any device that access City email. This system installed a separate profile on BYOD's that is dedicated to City access. This profile is able to be removed at any time by Computer Services, and does not have access to personal information on users phones.

Additional VMWare hosts were purchased in 2022, with plans to deploy them as DR machines at different remote sites in the City. These devices have been configured and are undergoing testing before actual deployment to remote sites. It is planned that the entire virtual infrastructure should be able to operate without the primary site being online.

The fiber loop has maintained 100% up time throughout 2022, redundant connections have been tested and confirmed working via hard fiber disconnects. 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.

The primary backup repository is maintained at our DR site. This site received some major updates in 2021 and has functioned without issues throughout 2022. This site is fully monitored and mostly automated. Continued work is planned at this site in the coming years which will make the site able to run a large majority of City VM's in the event the municipal building is unusable.

The Police department NICE recorder was replaced with a virtual machine. Phone calls had been connected directly to the server via analog wires. We were able to work with West in order to have the Viper phone system provide a SIP spill directly into the Virtual NICE server via port mirroring. The ability to do this process with radio traffic was cost prohibitive at this time, quotes provided by Motorola were \$200k - \$300k. It was decided to install analog converters at the location of each Motorola consolette the convert the analog audio to SIP, then push to the

NICE virtual server. After some trial and error on configurations, we were able to get this functioning properly. As of the end of 2022, we were still running the new and old systems in parallel with plans to decommission the old server after 30 days of successful use on the new system. As data was not copied from the old server to the new, the old hardware will remain in place and powered down for the next 2 years. After this time, storage hardware will be removed and the physical server will be auctioned.

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 2022 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.

We began an intensive push to get all City computer devices (desktops, laptops, and tablets) completely patched for both the OS and third party software. We also implemented a system that installs high priority security patches the evening after they are released, as well as a weekly push for all priority of patches.

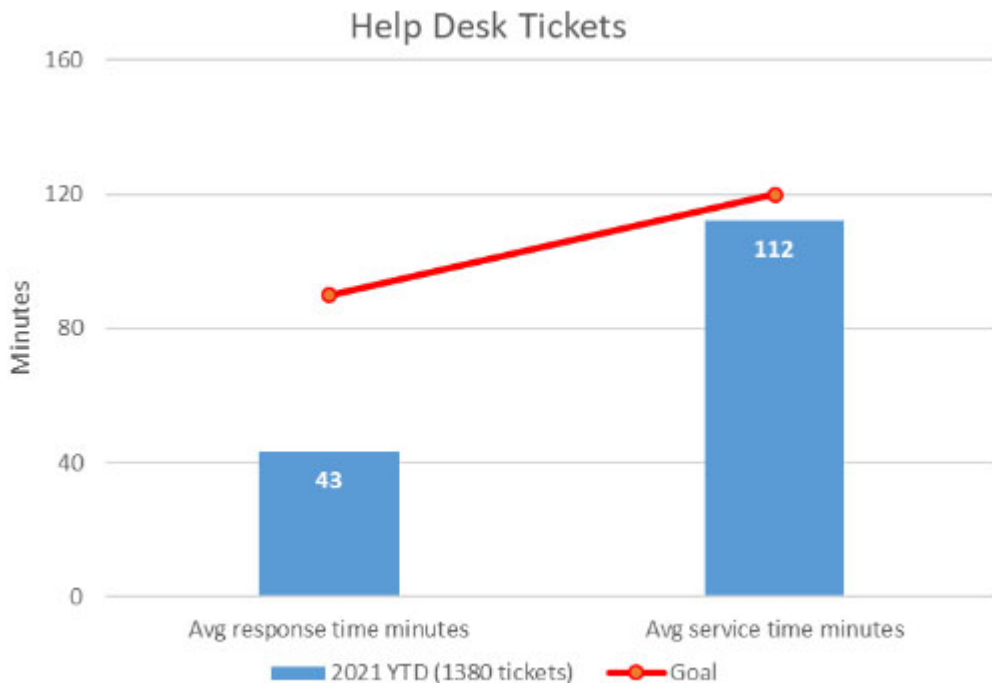
The Tyler New World system, which is a joint City/County CAD system utilized by the City PD, FD, Engineering, as well as County Sheriff and Jail staff has been Live for over 4 years now. The system is regularly updated and new features are being brought online throughout the year. This system utilizes 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. In the future, we may explore the possibility of setting up a trust between our domains to allow county users to use County AD accounts to login to City resources.

The security camera system was expanded further this year. Additional cameras were added to remote buildings including water plants, fire stations, and the City pool, as well as various parks, reservoirs and other areas where needed. These cameras were integrated with the panic buttons, that allow screens to automatically show cameras in the vicinity of panic button presses. With all of the additions, we are getting close to the need for upgrading hardware, that option will be explored in the near future. An offsite storage system for recorded video has been planned, but is not currently in place. The camera system utilizes the city owned fiber loop to propagate this service to all of our remote offices in the future. This eliminates the need for multiple servers at each location, and will streamline Dispatch, and Police department access to all cameras.

A large batch of new desktops was purchased this year as we returned to our standard replacement schedule. 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.

The help desk technician position was vacated near the end of 2022, and will be filled by early January of 2023, so we continue to maintain a staff of 4 full time employees. As our workload, and new projects continue to expand, the help desk technician has been integral in maintaining day to day operations allowing our Network administrator, and Software Developer to focus on their specialties.

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 remaining MS Server 2012 r2 servers as they go end of life this year. This may mean working with various vendors to reinstall their software on new machines, as well as in place upgrades where absolutely needed. 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.

Our DR site will continue evolving, and will hopefully be to the point of live production testing. 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.

We are hoping to expand our electronic door lock system to more of our remote offices. 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 have plans to begin replacement of the UTM with an updated system. This will likely be a multi-year process due to the complexity and scale of the system. 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	Cloud Fax	Servers	Printers	Users	Apps	Internet	Proj Hrs	Prog. Units	Usage %	Budget Amt
Airport	4	4	1	18	1	5	7	5	60.00	5.0	3.04%	\$19,437.01
Auditor	14	8	1	18	3	6	10	17	60.00	5.0	3.81%	\$25,078.41
City Council	2	1	0	14	0	11	6	0	20.00	0.0	2.03%	\$12,663.63
Civil Service	1	1	0	17	1	1	6	1	5.00	5.0	2.38%	\$14,771.29
Comp Serv *	7	6	0	8	1	4	7	28	400.00	5.0	4.58%	\$0.00
Dispatch	11	25	1	41	3	11	15	10	150.00	0.0	6.67%	\$43,949.65
Engineering	15	11	1	21	6	8	10	10	40.00	0.0	3.81%	\$25,390.41
Fire	27	39	1	36	8	66	13	19	150.00	10.0	7.52%	\$51,319.76
HRPC	6	8	0	18	2	7	9	6	5.00	0.0	2.76%	\$18,003.18
Income Tax	11	9	1	19	7	11	7	9	200.00	10.0	4.58%	\$29,740.69
Law Director	3	2	0	18	6	2	9	4	5.00	0.0	2.72%	\$17,090.08
Mayor	8	8	1	20	3	4	9	4	50.00	0.0	3.27%	\$21,370.00
Muni Court	53	44	2	28	19	32	13	34	70.00	25.0	7.73%	\$54,713.75
NEAT (Removed)	0	0	0	0	0	0	0	0	0.00	0.0	0.00%	\$0.00
Police	79	54	2	46	17	73	18	52	100.00	25.0	11.31%	\$79,142.81
PW - Cemetery	2	3	0	17	2	3	6	2	5.00	0.0	2.33%	\$14,699.70
PW - Recreation/CUBE	14	11	1	18	4	7	10	11	20.00	0.0	3.29%	\$22,158.23
PW - Streets	9	10	1	17	3	9	11	8	20.00	5.0	3.09%	\$20,540.60
PW - Traffic Lights	2	2	0	17	0	3	5	2	5.00	0.0	2.24%	\$14,087.00
HR Director	1	1	0	17	1	1	7	1	5.00	0.0	2.26%	\$14,066.36
Safety Dir	0	0	0	0	0	0	0	0	0.00	0.0	0.00%	\$0.00
Service Director	2	1	0	17	1	1	8	1	5.00	0.0	2.32%	\$14,478.83
Treasurer	1	1	0	17	0	1	4	1	2.00	0.0	2.13%	\$13,255.69
Water Billing	16	11	1	23	3	10	11	10	150.00	10.0	4.93%	\$32,323.48
Water Dist.	9	5	0	21	2	13	10	5	100.00	5.0	3.90%	\$24,962.86
Water Treatment	9	23	1	20	5	15	11	7	200.00	5.0	4.55%	\$30,585.21
WORC (Removed)	0	0	0	0	0	0	0	0	0.00	0.0	0.00%	\$0.00
WPC/Sewer Maint	12	15	1	17	5	19	13	10	90.00	0.0	3.67%	\$24,662.87
Zoning	5	3	0	18	3	3	8	3	30.00	30.0	3.64%	\$22,933.52
TOTALS *	323	306	16	541	106	326	243	280	1947.00	145.0	104.56%	\$681,445.00

2022 Computer Services Budget (Less Internet/Phone/Fax)		\$615,245.00
2022 Internet Charge		\$25,200.00
2022 Phone/Fax Charge		\$18,960.00
2022 Cloud Fax		\$2,040.00
TOTAL 2022 Computer Services Budget Request		\$661,445.00
2022 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		

