Information Technology Department
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The Information Technology Department performs a wide range of technical assistance for the City. Most of these efforts may go unnoticed as upgrades of hardware and software occur behind the scenes. However, as the City becomes more reliant on electronic media, minimizing downtime is extremely important. In addition to computer network management the Department also oversees the Geographic Information System (GIS) and the City's website

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The number of computers users on the network continues to grow and the number of service calls has increased. As more and more of our business processes are centered on computers, the need to get a broken computer back in service quickly and efficiently becomes more important. During the year a new IT employee was hired to help assist with service requests. The goal of delivering great technical help and customer service is evidenced by the core switching uptime which was over 99.9 during the year.

The Department continues to facilitate great communication between the general public and the City of Mishawaka. The City's website continues to be a wealth of information for citizens with new content added almost daily by our City web developer. There were over 215,000 visits to the City web site over the year. Facebook also continues to be a great communication tool with citizens offering a more real-time push of information to folks from road closures to tubing hill opening announcements on snowy days.

Information Technology Infrastructure

The integrity and health of the electronic infrastructure that allows for technology and communication services to be provided must be routinely reviewed and updated. The following are some of the projects that the Department implemented this year towards that goal.

The T1 connections that supplied our internet connection were replaced by moving to a Metronet fiber connection. The City realized a huge cost savings along with an increase in bandwidth. A private company now hosts our switching equipment that connects to the internet. A new internet provider was also able to offer significant bandwidth for a fraction of the cost of the T1 lines that were replaced. Because many computer applications now use an internet connection, the demand has increased for bandwidth within the City. Although internet usage will continue to rise, this change enables the City to be able to add more bandwidth at a reasonable cost. To protect the City's internal infrastructure from malicious attacks from the internet, a new firewall system was put into place. This new firewall consists of two units that run in high availability mode to

accommodate our need for an always available internet connection. The enterprise level solution is scaling very well to support the increasing load placed upon it.

Also during 2011 all of the underground fiber connections to City buildings were replaced with aerial fiber of the Mishawaka Utilities. Older fiber switches were changed-out from stand-alone fiber to copper converters with new switch gear. The new switch gear offers gigabit connection speeds at full duplex where the older equipment only offered 100 megabit, sometimes only at half duplex.

For a more agile and disaster resistant data center we now have most of the servers running in a cluster environment. This environment was made possible by connecting the City's physical servers via fiber channel. Live migrations of running virtual servers can now be accomplished without downtime. This allows for maintenance to be performed on the physical servers during traditional business hours. It also accommodates better load balancing of servers when they start peaking in utilization.

Growing data storage demands required the addition of a Storage Area Network (SAN) to the data center. Although the new SAN almost tripled our storage capacity, we are currently evaluating additional storage for 2012. As business processes move from traditional paper workflow to computerized processes, the City's storage needs will continue to increase at a accelerated rate. This also holds true for our data backup capacity for disaster recovery. We added another Continuous Data Protection (CDP) system for retaining more data. Unlike traditional tape backup, the CDP makes a copy of the data the moment the data is changed, instead of a nightly backup that will only capture the data once a day.

The Mitchell software which keeps records of vehicle fleet maintenance was upgraded to the latest version. This allows for maintenance records on the fire trucks being performed at Fire Station 3 to be accessed from that site.

Special Projects in 2011

New time clock software from was installed at many City and Utility sites. Old paper time card punches were replaced with biometric palm readers to punch in and out. The new software is web browser based so that special software is not required on individual computers to access the software. This makes future upgrades of the software server centralized and client device agnostic. Efficiencies in collection of punches could be a great cost benefit to the City.

The Department set up the computer lab at the Battell Center for the United Way tax assistance program. This was the second year for the program at the Battell Center. There is tremendous amount of community use of this computer lab.

City Financials were migrated from an IBM AS400 to a Microsoft .Net platform. This new software is browser based on the client side and allows for all upgrades to the system

to be performed on the server without need to install new software to every client. This new implementation resides on the new virtual servers.

Remote Access for the Police Department was implemented to accommodate offsite reporting. Previously officers, such as school resources officers, would have return to the Police Station to write their reports. With the ability to have remote access to the police records system they are able to log in at school. This has helped in reducing officer over-time. There are several other Divisions in the police department that are also using this offsite reporting ability.

The Department continued its efforts to eliminate inkjet printers from the City's inventory along with consolidating printers in various departments. Both of these efforts are a cost saving measure as printer ink continues to be an expensive consumable.

GIS

Updated aerial photography flown in November 2010 was put formats for use by all GIS users. This color aerial photography is high resolution and enhances our ability to view geographic features underneath GIS data layers. Approximately once a month, the city receives updated parcel data for all parcels in St. Joseph County. This GIS data shows updated parcel boundaries and contains the most up-to-date parcel owner information. This saves time and effort in various Departments such as Code Enforcement where the current owner is needed.

The GIS Department upgraded their GPS collection devices to Trimble GeoXH 6000 series. This device brings many enhancements to GPS data collection, one of the most important of which is real time decimeter accuracy. The Department continues to create monthly burglary and robbery maps and reports for the Police Department. Graphs illustrate the burglary trends by time. These maps and graphs have been helpful to the Neighborhood Watch Coordinators.

A database was created for Code Enforcement that keeps smoke detector records. Along with the database, a map was created that shows properties that have smoke detectors. The data includes date recorded, and landlord contact information.

The Sewer Department's digital video camera trucks for sewer line inspections were fully integrated into the citywide GIS database. The GIS map now includes the ability to click on sewer lines to get a history of inspections and to view any digital video taken in the selected sewer line segment. The Sewer Department camera truck crews were given a GPS unit so they can collect data for entry into our GIS software making our Sewer GIS more accurate. Two-way synchronization is enabled so that inspections be viewed from GIS maps and data can be updated by GIS editing work in-house on the Sewer GIS. The GPS points obtained for a manhole can be matched accurately with the symbol on the GPS map. This will be synchronized back into the Sewer GIS maps used in the camera trucks. All sewer video is stored on an internal server for access by user, and DVD copies of sewer video can be made for specific purposes.