



## Technology Services

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	Scott Jung,	Applications Project Manager
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	Alan D. Holt	Database Manager
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	Carly Premo Melo,	Manager, Voice, Office and Web Services
	Susan Joyce Roy	Manager, User Services
	James V. Schiavone	Network Manager

**FY07 Operating Budget (Actual):** \$1,063,604

The Technology Services mission is to:

- Develop and maintain efficient, cost-effective information, telephony and network communications systems for the Town of Framingham;
- Assure their successful utilization and enhance productivity by providing the necessary up-time and support services to its customer base;
- Uphold the Town by-law as it relates to Technology (Section 17); and
- Provide excellence in Public Service consistent with the Town's Customer Service Policy.

Technology Services had its first staffing increase this year since 2001 adding 1 fulltime equivalent (Technical Services Coordinator) for a department total of 8 FTE including the Director. The added staff has enable the department to reorganize and take on new projects related to the implementation and ongoing support of a voice over the Internet (VOIP) phone system throughout town and the makeover of the Town's official website [www.FraminghamMA.gov](http://www.FraminghamMA.gov)

Expectations among internal users continue to grow by leaps and bounds as an increasingly computer savvy user base sees opportunities in implementing new department-specific applications and productivity enhancements. In addition, the external user base, non-existent a few years ago, sees benefit in a virtual town hall capable of providing both information and services via the town website on a twenty four hour, seven day a week basis. The number of requests for postings continues to escalate particularly at Town Meeting time with the dissemination of background materials via the web.

Over the years, the Technology Services budget as a % of the general fund budget has held steadily at 1% until two years ago when it shrunk to .6% and again this year when it dropped to .55% of which .05% is related to DPW water and sewer projects for which the general fund is reimbursed by the enterprise funds.

The Division supports 391 users (119 in Town Hall and 272 across 32 other municipal locations) and an additional 172 School financial users along with 315 PCs and 90 laptops and a diversity of applications and requirements. Response time and customer service goals demand quick turnaround that is increasingly difficult to deliver and painfully frustrating for dedicated staff. In 2007, efforts were made to better document service delivery including turnaround times through new Help Desk software; to evaluate outsourcing through a few specific projects and to take advantage of volunteer services to rollout an XP operating system upgrade to replace substandard PCs (less than 1GHZ) and reduce end-user support calls related to performance and reliability.

Analyses of six months of Help Desk data against a 2007 study by Computer Economics cited a median ratio of about 188 users to 1 FTE as an acceptable level of Help Desk support. The Technology Services department has .5 FTE supporting 391 users and 415 desktops with the other 50% spent on systems administration, town meeting support, new user training and projects such as the XP upgrade and Virus protection. In the survey, 375 users per 1 FTE fell into the 75<sup>th</sup> percentile and equated to decreasing levels of user productivity.

The study also noted a paradigm shift in which increasing numbers of employees are being issued both a desktop and a field laptop or a laptop with docking station that can be used as a desktop or taken in to the field. This trend is also seen in Framingham where field access to applications continues to grow as a way to increase both productivity and customer service. Over 90 users in areas such as DPW, Police, Fire, Engineering and the Health Department are taking laptops into the field and expecting wireless access to the office desktop to

access data, permits and infrastructure maps needed to expedite resolution of a problem or to document an inspection or schedule a follow-up at the job site.

Teleworking is another paradigm shift in progress as more and more workers see not only the advantages to working from home including off-hours support but also in being prepared for emergency operations. At the annual MA e-government conference in December, a tabletop exercise revolved around pandemic planning and the ability to telework during a sustained crisis was considered essential to protect employees and at the same time maintain services.

The Technology Services division is organized by program and budget into 7 service areas. The reports for each of the service are provided below.

### **Application Services** **Scott Jung, Manager**

Application Services is responsible for the ongoing support of the Town's financial and management information systems supporting both School and Town. Supported systems include: Accounting, Budgeting, General Ledger, Requisitions and Purchase Orders, Accounts Payables, Human Resources Payroll and Personnel, Tax and Utility Billing and Collections. There are a total of 172 users of the Munis system: 75 Town and 97 School users.

Some accomplishments within Applications Services during 2007 include the installation of a higher capacity server with network accessible storage to support growth to the Town's financial systems; conversion to a more robust, open source Linux operating system; and an upgrade to the

latest version (6.2e) of the application software provided by MUNIS, our municipal software vendor. The enhanced functionality provides improved management reporting capabilities particularly for the School Department's grants and revolving funds and end of year reporting. The new version also contains enhancements to system security, utility and tax billing, accounting and budgeting and a new client upgrade. A customization in progress will streamline and automate the production of the Town Meeting operating budget book saving many hours of time and effort.

Since the upgrade there has been no downtime on the server. Prior to the upgrade, the old server crashed or malfunctioned due to hardware or operating system problems 6 times during the year. The new hardware also supports four new Munis applications to be rolled out starting in the Spring of 2008. They include: Content Management, Applicant Tracking, Employee On-line and General Department Billing. The Content Management System will enhance the archiving and retention of MUNIS output consistent with retention requirements outlined by the state's Public Records law as well as the integration of paper and electronic documents. Applicant Tracking and MUNIS Employee On-line are web-based applications that enable applicants to apply for positions via the web and employees to access and update their personal data; check accrual balances and submit leave requests or enroll in benefit programs during open enrollment periods from home. The first general billing application will be Human Resource billing for non-contributory health insurance.

The hardware upgrade enables the recycling of the old hardware to the Town "hot site" backup location in the Main Library and the reconfiguration of the old server with identical operating system and software to

the new so that in the event of a hardware malfunction, the old system is capable of immediately taking over and running the production environment until the "live" system is repaired and operational again.

Significant effort was also spent in 2007 working with Human Resources and the Police Department to automate and implement in Munis the federal Fair Labor Standards Act (FLSA) for overtime for the Police Patrolman's union, including retroactive calculations.

New ad-hoc reporting software, Crystal Reports VII, has also been loaded with new features ready to be tested that enhance security and make the distribution of developed reports easier to save so that end-users can run them themselves with user-defined parameters and specified timeframes. This will especially help principals and School responsibility centers to run their own reports as needed and to manage their budgets without having to call the School Business Office.

The MUNIS User conference was held in Boston this year and provided an opportunity to meet with the vendors that partner with MUNIS as well as other users from cities and towns across the country to learn what new initiatives are taking place. Over the two days of the well-attended conference, numerous seminars and roundtables were offered to learn about new features and to offer suggestions for future development.

### **Database Services**

#### **Alan D. Holt, Manager**

Database Services is responsible for the programming and development of on-line databases and applications of a

corporate nature. Most notable are the property database that includes permits, licenses and inspections and the extension of that database for web inquiry. 11 new Permits and License types were created in 2007 in support of the Building Department, Zoning Board, Fire Department and Public Works. A new Certificate of Occupancy was created for the Building Department; a 26½-F Carbon Monoxide certificate for the Fire Department and a Zoning Board (Amendment). Working with the Public Works department, 8 different types of Street Opening, Public Way Obstruction, and Sidewalk Repair permits were developed to enhance these permitting operations.

Assistance was provided to the upgrade of the MUNIS system including the integration of a SAN iSCSI storage solution into the new server to improve performance and reliability, lower hardware costs and support an offsite data mirror for the municipal database. Also implemented were new disk-to-disk and disk-to-tape backup and archive solutions that have decreased backup times and improved the time to restore the database if necessary.

A major version upgrade (from v6 to v7) of the Town's Laserfiche Document Archive was completed with the new software installed on all client PC's and the website. SAN-accessible disk space was configured as the medium for long term archival storage of streaming video media files, providing a cost effective solution for expanding the storage limits. A new software enhancement to the web interface is also in progress to streamline the search and browse capabilities for the on-line public archive as well as to display the most recent postings.

Several updates were made to the Town Website at the request of users including automating the posting of department and Moderator maintained directories for Town Meeting Members, Boards and

Commissions, Elected and Appointed Officials, and Standing Committees.

Database Services participated in the evaluation and vendor selection of a Web Content Management System in 2007 to replace the static methods for web page design and maintenance of the Town's current website as well as in the selection, installation, and configuration of a network-wide web-based Help Desk system that incorporates asset and user inventories and project tracking. Extensive customizations were completed including the integration of users with Windows active directory. Assets were imported from the legacy system and the first major version upgrade performed.

A Board of Health Field Inspections application was completed and rolled out in 2007. The application is a combination wireless/wired/stand-alone application for tracking Food Service inspections. All inspectors now have access to the entire history of inspections as well as the Board of Health permit history from the field.

An archival solution for 6 years (1995 – 2001) of general, revenue and expenditure ledgers; vendor payment and payroll check histories and payroll distribution data was developed and data from the retired Pentamation System was archived to the Laserfiche document management system. The financial data is fully indexed for searching across years and the Human Resource data can report by employee and year. The completion of this project enables the obsolescence and retirement of the legacy hardware system.

## Network Services

### James V. Schiavone, Network Mgr.

Network Services plans, configures and maintains all Town of Framingham hardware along with the institutional network that connects all town buildings. The most important ongoing responsibility is to make all systems accessible to all users during all work hours. This mandate includes public safety and emergency operations with its 24 hour per day 7 day per week requirements. This year was again a stellar year for achieving that goal as outlined by the following statistics particularly since this is the responsibility of a one person operation.

#### Network Statistics 2007

A 9's reliability performance goal was met for all 30 networked building on the fiber network again this year. The only down time was during an after hours operating system upgrade on the core switch, a Cisco Catalyst 6500 located at Town Hall. 99.5% uptime was provided on all network servers and the network remained virus free in 2007, despite many attempts to infiltrate.

During the year, an off-hours upgrade to the latest version of Cisco's Inter-network Operating System (IOS) software was completed along with upgrades of two 8 port fiber blades to two 16 port fiber blades for added capacity.

Two new locations were added to the fiber network: the branch Library in Saxonville and the Doeskin water station. An underground point to point fiber connection from Town Hall to Police HQ was also added with the help of DPW to provide redundancy between these two critical areas.

5 new IP cameras and 5 new wireless Access Points were installed for Public Safety purposes and enable the Patrol Division to write and submit reports from their cruisers.

9 new and 6 replacement servers were installed. Of the 9 new servers installed in 2007, 4 are virtual servers.

The Domain Name Server (DNS) and the Dynamic Host Configuration Protocol (DHCP) servers were moved to new servers and a back-up Active Directory Global catalog was set up that is also serving as a DHCP and DNS server for the domain to provide redundancy.

All users and their mail were migrated over to a new Exchange 2003 mail server. A Verisign security certificate was also installed for the Outlook web access portal.

All networking equipment at 11 off-site locations was replaced for the Cisco IP phone install. IP telephones have been installed at 20 of the 30 live locations in the Town.

75% of all the data that was stored on aging file servers was migrated this year to our Network Appliance storage area network (SAN). Along with the data migration, network shares were created to isolate all GIS data and user logon scripts had to be changed to utilize third party shareware to map users drive and printers. The remaining 25% will be migrated in 2008.

Network Services has attended many meetings with DPW, wireless vendors and Internet Service Providers in an ongoing planning and evaluation study for field wireless access to town systems developing detailed maps of all Town of Framingham assets and arranging site visits to evaluate backhaul to town buildings.

The Framingham Police department received a grant in conjunction with

Lowell and Lynn for a multi-location criminal analysis system and the assistance of Network Services was requested to setup the hardware which included a server and stand alone backup unit for Framingham. The grant replaced three PCs used in the third floor intelligence unit and supplied the roll call room with a projector and Smartboard.

**Public Safety Kenneth L. Harper, Public Safety Systems Administrator**

The Public Safety Systems Administrator provides technical support and end-user training for all Public Safety systems (Police and Fire) in the Town of Framingham and the Emergency Operations Center when open.

A major hardware and software upgrade for Police and Fire Dispatch and Police Records was funded by a Town Meeting capital appropriation replacing 14 year old DEC Alpha servers with HP Servers running Linux operating systems. The upgrade which included the latest release of public safety software provided by Keystone commenced in July and was completed in August significantly increasing performance. Not only were there no major problems with this upgrade but due to careful testing and planning, Police dispatch was down for only 30 minutes during the cutover while Fire dispatch was down for 10. The redundancy built into the system enabled Police to dispatch off the Fire system and vice versa during the cutovers. The new software gives the departments greater reporting and file management than before along with new functionality. A new content management system enhances productivity by integrating the attachment of digital files such as accident reconstruction diagrams and crime scene photographs to reports.

Along with new laptops, the new system provides faster inquiry and enhanced reporting from the cruisers by providing the

capability to write and submit reports from strategically placed wireless access points.

The Police Department also requested a complete change in their Booking process in 2007 that included the addition of 7 new forms along with a new setup for outside agencies that print without the Framingham Police Department logos. A new E911 system was also configured, installed and tested.

The Fire Department uses software called Firehouse for their reporting system that includes electronic submission of reports to the state Fire Marshall's office for MFIRS compliance. A new Firehouse upgrade to Release 7 was installed, tested and put into production. The release incorporates a new alarm billing system and required a completely new interface that has been written and is ready for testing by the Fire Department in January.

All PCs in all fire stations were upgraded and installed with all necessary software. The stations can now do their reports and updates to Firehouse in half the time it used to take. The voice recording hardware at Fire Dispatch was replaced with new equipment and software from Nice, the company that bought the Dictaphone voice recording division. This is the same equipment used by the state for their E911 installations.

**User Services**

**Susan Joyce Roy, Manager**

User Services provides end-user Help Desk support, set-up and training, email, Internet, Windows and applications' systems administration; peripheral troubleshooting, hardware

and software inventory maintenance, policy and licensed software audits. User Services is also responsible for PC, printer and software upgrades, daily backups; Town Meeting equipment and presentation assistance. In 2007, this one person division supported 315 PCs and 90 laptops with 391 users, including 55 new users.

New Help Desk software was evaluated, selected and implemented in 2007 that provides better management, escalation, reporting and benchmarking of Help Desk calls. The software, installed in July, also enables users to log and track their own service calls and has already streamlined our Help Desk operation and improved our ability to respond and close requests. The new software in conjunction with remote access software facilitates resolution by saving the time it takes to make a trip to the desktop and has facilitated our ability to work on a town-wide XP operating system upgrade. The management reporting capability is facilitating not only reporting but the identification of opportunities for further refinement, staffing and improvement.

The Technology Services Help Desk answered 1370 Help Desk calls of which 766 were resolved on the same day (215 were resolved remotely using Dameware). However, the number of calls resolved the same day decreased from 2006, the result of a major project to upgrade all PC operating systems to Windows XP which required onsite, manual, individual installation/upgrade of each unit.

User Services also provides support for Town Meeting by assisting with Powerpoint presentations, training presenters in the use of equipment and staying through the start of each meeting to ensure equipment readiness. In addition to attendance at the annual Town Meeting, User Services assisted with 104 town meeting presentations over a

total of 23 nights during the course of the year.

Technology Services raised the PC standard for minimum processor speed as a result of performance testing during the XP upgrade from the previous minimum standard of 500 MHZ to at least 1 GHZ. (92 PCs were swapped/replaced including 67 sub-standard PCs) in conjunction with the change in standard. In addition, 216 PCs were configured and installed of which 57 were new PCs.

Irene Dunne volunteered her services through December to Technology Services and was extremely helpful in assisting with the XP upgrade as well as other user services tasks. In addition, an outside vendor was hired to assist in the XP upgrade for some off-site locations such as DPW. This added the responsibility and time to oversee and supervise the project to the workload, including coordination, scheduling and installation of equipment delivery, the actual installations and supervision of staff. As of December 67% of the Town's PCs had been upgraded, a daunting task with or without the extra help. A special thank you goes to all who assisted and continue to assist to ensure a successful outcome of this project.

### **Voice, Web and Office Services Carly Premo, Manager**

Voice, Web and Office Services is responsible for the Technology Services department's administration and finance including budget and payroll as well as Voice and Web services. In late Fall 2007, Nancy Lomas transferred to the department from the Library in the new position of Technical Services Coordinator. Nancy's technical and accounting background and experiences

enabled her to quickly and efficiently take over the administration and finance of the department completing the FY 2009 capital and operating budgets; assisting departments with quotes and order requests; posting web materials and thereby enabling two major initiatives to move forward that of the completion phase of the multi-year Town IP phone installation and the selection of a new web Content Management System.

### **Voice Services**

In 2007, Voice Services continued the implementation of the town-wide Voice over the Internet (VOIP) phone system in conjunction with the Network Manager. The system provides cost benefit by using the Town's fiber institutional network for "no charge" calls between departments even if at different locations in Town; enabling the cancellation of 52 Centrex phone lines to date; providing enhanced voice mail and auto-attendant features and more cost-effective state contract rates for outside network, local and long distance services.

IP telephony was installed at 4 Police locations: Police Headquarters; Animal Control; the Pelham Police Housing office and the Muster field Police housing office; 5 Fire locations: Fire Headquarters; Concord Street Fire; Fire Dispatch and the Fire Stations at Water Street and Watson Place; the McAuliffe branch Library in Saxonville and 6 DPW pumping stations on the network. Only the Main Library and two DPW locations: the Henry St. garage and the Mt. Wayte Recycling Center remain to be done in the first quarter of 2008.

To complete the 2007 phase, users were interviewed on the station design and 244 VOIP telephones were set up and installed along with 186 users and voicemail boxes. Department auto-attendants were set up and recorded and end user training provided.

### **Web Services**

After developing a request for proposal, going out to bid and evaluating multiple vendors, including software by Novus and the open-source Joomla, CivicPlus was chosen as our web Content Management vendor and a makeover of the Town's website initiated. The funding for the content management system (CMS) and the conversion of the existing site was appropriated by Town Meeting in April. The re-design phase is currently underway with an ambitious "go-live" goal of April, 2008.

CivicPlus was chosen for its understanding of the municipal marketplace and its commitment to ongoing development of applicable new modules and features. Founded 12 years ago, CivicPlus currently has over 340 cities, towns, schools and county governments. The new web-based application is intended to promote better design, navigation and search capabilities to make it easier to find content on our ever-expanding site as well as to make it easier for department webmasters to create and post materials, news, alerts and frequently asked questions (FAQS) as well as maintain multiple calendars of meetings and events.

The following statistics are testament to the value of the Town of Framingham website. In 2007 there were 544,114 page views from 145,329 visitors from 116 countries.

In preparation for conversion to the new system, subwebs were created for the Town Clerk, Planning Board, Planning Department, Human Resources and Media Services to enable the departments to post their own information including backup materials for town meeting. In addition 709 postings of new materials/updates were

made to the website by Web Services, a decrease directly related to the increase in departments that are set up to post their own information to the web.

Ongoing support and development also included the development of a new front-end to the Laserfiche document archive to be rolled out in 2008 that will provide easier browse and search capabilities to web users of the public archive for minutes and town meeting materials; the creation of folders and posted or converted minutes for 36 boards, commissions and committees; the continued use of the Town list-serve for email notification to Town residents and subscribers; training of additional departments (Selectmen and Planning Board) to send out notices on their own; and the installation of new software to more accurately track web statistics for the upcoming year. (A dramatic increase in page views was noted when this software was installed due to the fact that our previous web tracking software did not include permit and property inquiries in its statistics count.)

In closing, I extend congratulations to Ken Harper who received a Customer Service Award at the Employee Recognition dinner in October for his support of Public Safety (Police, Fire and the Emergency Operations Center) over the years and in particular for his planning and expertise that minimized down-time when these systems were upgraded in August. I would also like to welcome Nancy Lomas who joined the department as Technical Services Coordinator in November and give a special thank you to Irene Dunne who volunteered in the department from July through December and was instrumental in our ability to make progress toward upgrading all PCs in town to the Windows XP operating system. Her assistance minimized the cost of the upgrade by enabling the project to be done in-house; minimizes ongoing support costs through uniformity and maximizes

productivity of our financial users with an improved user interface. Last but not least, I would like to thank each member of the staff for their contributions again this year. The accomplishments of this small but incredibly talented and dedicated staff continue to place the Town of Framingham in the forefront as a technology leader among Massachusetts communities.

Respectfully submitted,



Director, Technology Services