

Information Technology Department
TOWN OF COHASSET
41 HIGHLAND AVENUE
COHASSET, MA 02025
TEL: 781-383-4100



Ron P Menard
Cohasset Chief Information Officer
rmenard@cohassetma.org

January 19, 2021

RE: Five Year Technology Recap

To: Town Manager, Boards & Committees

Greetings:

This 2020 Technology Recap is designed to supply you with some historical perspective and the specific concerns and or considerations you must be aware of when reviewing Technology decisions for the next 2 plus years. This update includes the financial implications tied to the Technology refresh we are proposing to roll out in the next two years.

In 2015 Cohasset had a siloed approach to technology, essentially every department or site maintained their own systems and related services. Duplicate servers, phone systems, ISP connectivity, reliance on individual Centrex lines were all part of the solution being leveraged.

With duplication in systems, duplication in cost and duplication of labor was also realized. Systems were unmanageable, unsecured, and limited in the capacity to meet each departments' needs reliably. Diverse needs across the entire Town required a deep dive and review into how to bring these unmanageable solutions into a cohesive integrated solution that could be managed by a central IT department, with the skillset to manage most of the Technologies adopted inhouse.

With Capital and Operating budgets reviewed, Cohasset began to build a plan to update and integrate the disparate systems into one efficient service delivery solution. Through this process, research, the development of a Master Technology Plan ensued, and Cohasset, after vetting the proposed solutions, including looking at Total Cost of Ownership (TCO), and Return of Investment (ROI), allocated approximately one million dollars to upgrade and consolidate systems.

Through the next eighteen months, Cohasset installed a Municipal Wide Area Fiber Network, Town Wide Telephony solution, Server Virtualization platform, updated Firewalls and filters and new ISP connectivity with enough bandwidth to meet all department goals.

Cohasset Public Schools tasked the CIO with ensuring the infrastructure would be sufficient to support the Digital Learning goals the School committee and Digital Learning subcommittee had laid out as core to their curriculum plan. District wide Wireless upgrades were designed and installed so the investment in student devices would function as required. BYOD students in Cohasset Middle High School also had very specific needs and additional network configurations would be implemented to ensure their success as well.

Staff to support Technology and Digital Learning was also a key component to the success for the schools and staff mandates by DESI followed. In 2015, a Technologist position was identified by the Digital Learning sub-committee as a key factor in the success of teachers in the district. One FTE technologist in the Elementary schools was funded, with a single PTE technologist in the Middle High school being funded intermittently. IT Staff included a CIO, DCIO, Systems Administrator, Database Administrator, and a Technical Support Specialist position. Together these five positions would support all the infrastructure and curriculum goals, as well as the departments goals and strategic plans developed.

The School would leverage Google Education, a platform that our IT team integrated with our on-premises systems and the existing Office 365 platform. Single Sign-on, Password Recovery Portals and other enhancements made the students and teachers ability to work less cumbersome and more seamless in obtaining access than ever before.

School initiatives to increase support for enhanced security was also critical. These security initiatives came in the form of district wide Surveillance systems, new Sign-on systems for guests, allowing staff to verify visitor status, while reviewing their information against a centrally maintained criminal database. Additionally, new and upgraded centrally managed building security systems were adopted across all schools and many municipal departments. HID badges were issued to staff, and staff were supplied only the needed access designed to meet their department needs.

As part of the Digital Learning team and ensuing discussions, the CIO and Deputy CIO helped guide teachers and administrators in use of technologies. Devices used by many staff included Windows XP, Windows 7, MacBook's, Chromebooks and iPads in certain situations. After significant work, the devices across the entire Town were documented and inventoried for purposes of developing a 5–7-year device replacement schedule. As operating systems became obsolete and no longer supported by manufactures, upgrades to the newest Windows 10 was completed in 2019.

Chrome books and iPads tied to the Digital Learning model have been successfully deployed over the past five years and a refresh of those devices is now being considered as part of the FY22 Capital request submitted by the schools. These devices are critical to digital learning in the classroom and especially relevant during the COVID pandemic era where these devices were also utilized by staff and students in a remote fashion. Digital cameras were also purchased through Capital budget submittals and deployed district wide to enhance teaching tools and student learning.

MCAS testing, something once done with paper, has now taken on a fully electronic testing profile. This DOE State testing requirement includes testing infrastructure and devices prior to actual MCAS test being administered to students. Backend servers, connectivity, Wi-Fi, and Software configurations are all part of the elaborate pre-test process. Proctors in each school, working with the Deputy CIO, have made this a great success. With more testing now mandated and scheduled for grades 3-12, its imperative district devices are available to meet this daunting MCAS testing schedule.

Other key solutions had also been reviewed and adopted. These included a Pixellot solution that included the installation of hardware and software to track sports activities while on the Athletic field or in the High School gym. Automated camera capture and tracking of player actions would feed a cloud-based server that parents and other public interest groups could leverage to watch games. Advertisement space and or Subscriptions could be sold as an added benefit, and advertising for local businesses was also promoted as part of the solution. Dedicated bandwidth and network resources were also carved out to ensure a successful stream would occur while games were played.

Municipal business system adoptions had been in limbo until the CIO came onboard in 2015. At that time capital funding had been allocated to build an electronic solution to improve business service delivery. Electronic Permitting was the goal, supplying a business portal so contractors and residents could apply for building and other types of permits while online. Eliminating trips to the Town Hall or other locations while interacting with multiple departments was a significant benefit to recapturing labor hours and re-applying that labor to other tasks.

While deploying the Electronic Permitting system is ongoing, additional efforts to increase Cohasset's online services offering continued with an Electronic Document Management solution. The Document Management solution would allow for paper documents to be scanned to digital files, stored, and shared on the new EDM Public Portal found on the Town's website.

The Town's Website would also undergo a transformation with a new provider, supplying a new design and enhanced service modules to meet our digital delivery efforts. Additional adoptions included a new Student Information System (Aspen) which would allow all parents and students access to their information as well as communicate with faculty on all student matters via an Online Portal.

In all communities there are service areas that must be met. First Responder systems in Cohasset is one area that requires dedicated resources and at times, specialty solutions to meet specific needs. The IT department teamed with the Police and Fire Chiefs, working in collaboration with each other to ensure critical systems and communications remain functional and funded. The South Shore Regional Emergency Communications Center is part of this collaboration team, with CIO and DCIO working hand in hand with the SSREC's vendors to supply CPD and CFD with the solutions needed and the "5 Nines" of reliability required with any First Responder system.

With the level of integration found in our systems, we have been able to reduce the costs of technologies due to the fact we utilize the same service delivery platform across the entire Town where possible. Camera Surveillance systems is an example. Wi-Fi deployments for Education, Electronic payments, vendor/public access, and the single manufacture management interface are key to providing cost effective solutions that work.

Communications has been another initiative across the town, increasing transparency using solutions found in each department. Solutions include Blackboard Connect, Constant Contact, Code Red, Aspen SIS, MyPD, Civic Plus and many other solutions have made communicating with the public real-time events. More recently the Town has been leveraging Facebook and other Social Media platforms to present live broadcast of School Committee meetings, Select Board, and other committee meetings. Streaming these has been instrumental in supplying real-time information to our patrons and in some cases, allowing for synchronous communications.

The COVID Pandemic in 2020 caught many communities by surprise in their ability to service constituents needs amidst a period when face to face interactions was no longer possible. Service delivery was a challenge while we ensured our workforce could meet business and educational demands on the fly.

The Town of Cohasset was able to shift our delivery model in many cases successfully, whether it be providing for remote education for students or supplying other municipal services previously done in person. Except for needing additional End User devices and some VPN accounts so users could work remotely, we were able to continue our delivery of education and municipal services due to the backbone and solid infrastructure Cohasset had built in previous years.

Flexibility was a key component to our success in 2020. Systems that were designed to change on the fly, were in fact a huge advantage to meeting the 2020 obstacles tied to COVID. Virtual servers, VoIP Telephony were just two key systems that were able to be tailored to the needs to manage COVID. VPN's, adequate connectivity and up to date Firewalls all proved to be instrumental in meeting the needs of all departments servicing the public.

As the CIO and Deputy CIO make efforts to move Cohasset yet further along in obtaining many of their future goals, the recent Master Technology Plan completed in 2019, supplies Cohasset with insights to make informed future decisions. The Master Technology plan looks to the future adoptions of technologies with the mindset to ensuring any technologies considered, meet department goals while ensuring sustainability is rooted in the equation for success. With future FCC E-rate submittals and recovery of up to 40% of our capital outlay in the past, we expect to incorporate grants and E-rate to reduce the financial burden of future adoptions. Past funds recovered or allocated through state grants and E-rate are upwards of \$200,000 over the last four years.

We have performed numerous exercises in the last 18-24 months, including systems and process review, datacenter applicability and viability, and cloud-based service delivery platforms review, to ID costs savings while adding flexibility to the available options Cohasset will leverage going forward. Tying these current tasks to where department goals transect, are key to our initiative of building the 2023 Technology road map for all departments. Formal and informal conversations are occurring with department managers to extract departmental long-term goals and short terms needs. These dialogs are essential to ensure Technologies adopted are beneficial to our constituents needs.

Maintaining Silo systems in 2015 was un-manageable. That Silo approach lacked any cost-effective approach and it supplied cost overruns in the form of labor hours, renewal's, SLA agreements and many other costs associated with the management of those dissimilar solutions.

The Technology department was designed in 2015 to be a central resource for all departments to utilize in their quests to provide excellent services. Going forward and tied to the proposed Technology refresh, in concert with other strategic plans developed, we plan to capitalize on a cloud-based platform that will allow us to capture some additional bandwidth in the form of labor hours.

Through the proposed Master Technology plan, we expect to capture labor hours tied to Virtual server administration, while reducing the footprint of the infrastructure we will manage inhouse. Once we achieve the migration to the cloud in the scheduled timelines developed, we expect to also capture upwards of over \$200,000 over five years. This cost savings is the result of moving from an "On-Premises -Always On" model to a "Cloud-Based-Metered Use" model where resources are only used as needed. Calculations based on reduced power consumption, consolidated CPU and processing resources, reductions in server management and the electricity saved when not being utilized are strong factors when considering costs to run systems and offer services.

Budgets will shift, minimal Capital funding will be leveraged to manage the ongoing computing solution during the annual and/or during the five-year capital refresh basis. Instead, Operational funding will need to be secured to purchase these services and the Service Level Agreements (SLA) that are associated with system management.

Currently there are three IT Budgets, one for school Technology, one for municipal Technology and the Central Infrastructure budget that are all managed by the CIO. All three budgets work in conjunction with each other, ensuring all departments and the Town Wide Infrastructure is funded properly. Reductions or loss of controls in any of these budgets create potential gaps in our ability to support systems and ultimately End User needs.

In the Fall of 2020, as we do each year, we begin to develop a budget plan for the new fiscal year. This year we are looking back over a difficult year to determine where the funding needs are, for the following fiscal year. With a Pandemic that required funding to change the way we delivered services and communicated, the FY22 budget is purported to be different from other years. Solutions that were adopted as “Stop Gap” solutions may very well be required in the new fiscal year. Changing the face of business needs, and the associated funding to meet those new methods to deliver services is being reviewed closely. Delivery of optimal services can only be achieved if we identify the services required and appropriate the funds to support those services. With additional hardware and software, like Zoom licensing, we can expect to see some changes in priorities and what is funded in the FY22 IT budgets.

Security, Access, Data Management, Bandwidth are just some of the components funded through these budgets. Other items include training, device replacements, consumables and specialty items like hardware and software we needed during the pandemic to manage services for students and staff across the Town.

With these budgets in place, and the allocation of funds needed, Cohasset will align its Technologies to ensure the entire Town has the resources needed to travel well into 2026 and beyond. Please feel free to reach out to me regarding the strategic technology planning, the budgets that are needed going forward and a review of key IT staff to ensure Cohasset is supported in a manner necessary. Together, we can ensure Cohasset will maintain our excellent reputation and the high level of service delivery it has come to be known for.

Respectfully,

Ron P Menard
Cohasset CIO