



Town of Danvers

IT Strategy Implementation

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ETOSS | Executive Office of Technology Services & Security



Image: Pope's Landing¹

Introduction

The Town of Danvers is located in Essex County on the northeastern coast of Massachusetts. With a population of 26,493 residents and median household income of \$79,913², Danvers is primarily a residential community with an array of open spaces and recreational activities. In addition to residencies, Danvers also has numerous businesses and schools that they serve. The Town has proactively been working to expand their IT capacity to keep up with the demands of their increasingly technology savvy constituency. In February of 2016, Danvers completed a high-level review of their technology environment. Shortly after, in May of 2016, the Town signed a Community Compact agreement and received grant funding to implement additional technology best practices. This report provides a high-level summary of the Town's most recent IT initiatives and the processes used to achieve them.

¹ Doug Kerr. "Pope's Landing – Danvers, Massachusetts." *Flickr*. Creative Commons ([CC BY-SA 2.0](https://creativecommons.org/licenses/by-sa/2.0/)). Accessed on June 12, 2018. <https://bit.ly/2t267s9>

² "Community Facts." *US Census Bureau. American FactFinder*. Accessed on June 12, 2018. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

Project Process

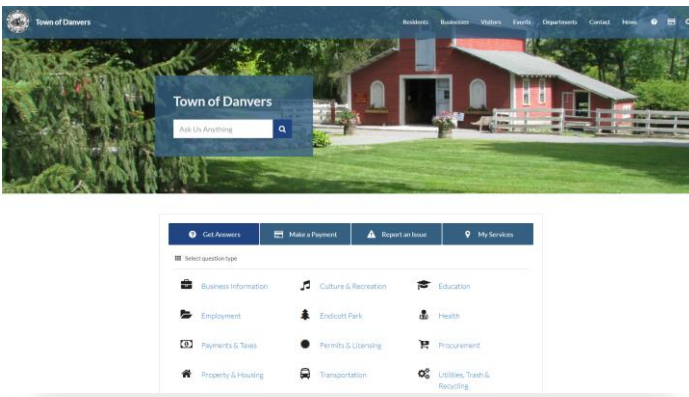
HIGH-LEVEL IT REVIEW

In February of 2016, the Town of Danvers hired the Collins Center for Public Management to perform a High-Level Information Technology Review. The Collins Center reviewed the Town's background material, developed an inventory of current systems and resources, conducted interviews of key staff, and developed a high-level report summarizing the IT review. The report provides an informed view of the Town's functional requirements and covers various considerations for Danvers to take into account when developing their strategy for IT enhancement. The report contained the following:

- Findings and recommendations
- A strategy for Danvers to take as part of its effort to enhance IT as a critical function in the delivery of Town services
- Prioritized actions Danvers should take with respect to the objectives that are consistent with Danvers' vision
- Short-range and longer-term actions that Danvers should take to strengthen its performance

MUNICIPAL WEBSITE

In addition to their IT review, the Town of Danvers also recently revamped their municipal website and migrated to a ProudCity³ platform. The Town's former website was outdated and underutilized. Today, Danvers.gov⁴ is an attractive, well-organized, and easier to navigate site that empowers citizens and staff to find the resources they need in much less time.



Screenshot: www.Danvers.Gov
(Taken on June 13, 2018)

³ ProudCity – The platform for digital government. <https://proudcity.com/>

⁴ The Town of Danvers Official Website. <https://www.danversma.gov/>

5-YEAR STRATEGIC ASSESSMENT

In late 2017, the Town of Danvers worked with ePlus Technology to produce a 5-year strategic Assessment report. For security reasons, the original report is not available for public consumption; however, this section gives an overview of ePlus’ strategic planning process and their approach to the assessment. The 5-year assessment report is broken down into 3 parts: An Executive Summary, Assessment Analytics, and Support Status. The table below provides details about each section:

Section	Topics Covered	
Executive Summary	<ul style="list-style-type: none"> • Introduction • Assessment Summary • Infrastructure • Network • Compute and Storage • Virtualization 	<ul style="list-style-type: none"> • Security • Organization • Disaster Recovery and Replication • Five Year Strategic Plan
Assessment Analytics	<ul style="list-style-type: none"> • Infrastructure <ul style="list-style-type: none"> ○ Switch Infrastructure ○ Wireless infrastructure ○ Infrastructure Support ○ Network considerations 	<ul style="list-style-type: none"> • Network <ul style="list-style-type: none"> ○ Wide Area Network • Compute/Virtualization <ul style="list-style-type: none"> ○ Compute ○ Virtualization
Support Status	<ul style="list-style-type: none"> • Infrastructure End of Support Device List 	<ul style="list-style-type: none"> • Compute EoS Device List

Initially, ePlus performed a discovery process which consisted of several technical assessments, including an assessment from RISC Networks, a performance measurement focused on computer assets, a VM snapshot of the virtual environment, and a high-level analysis of the compute and storage platform. The goal of these assessments was to create an accurate baseline of Danvers’ current environment, identify the key gaps between the current and future state of the environment, and establish short and long-term objectives for the Town. The information uncovered during this process provided transparency into the current state of IT operations and served as the baseline and foundational inventory for ePlus’ analysis. The assessments focused on the following key areas of Danvers’ environment:

Area	Discovery Process
Infrastructure	<ul style="list-style-type: none"> • Comprehensive device measurement with respect to EoL, EoS, and current software version levels • Operating health of the devices, are they performing at or above their capabilities, errors and other conditions impacting effectiveness • General performance statistics measuring utilization levels by device across the environment • Opportunities for consolidation, adjustments in design for LAN, VPN and security that supports a consistent and effective operating model • Opportunities for operating efficiencies with regard to the management of infrastructure devices
Compute and Storage	<ul style="list-style-type: none"> • Capabilities to provide support for data center modernization and/or consolidation • Operating status of the servers, performance capabilities, errors and other conditions potentially impacting performance • General performance statistics measuring utilization levels by server across the environment • The status of these devices with respect to End of Life (EoL), End of Support (EoS) and current software version levels 02/2018 Page 5 Town of Danvers • Opportunities for consolidation and retirement of server assets as appropriate • Provide advice on hardware modifications or improvements allowing for IT agility and long-term planning • Provide advice on software and system modifications to allow for quicker recovery times
Wide Area Network (WAN)	<ul style="list-style-type: none"> • Comprehensive measurement of these devices with respect to EoL, EoS, and current software version levels • Operating health of the devices, are they performing at or above their capabilities, errors and other conditions impacting effectiveness

	<ul style="list-style-type: none"> • General performance statistics measuring utilization levels by device across the environment • Opportunities for consolidation, adjustments in design and potential retirement of infrastructure assets as appropriate • Opportunities for operating efficiencies with regard to the management of network devices
<p style="text-align: center;">Disaster Recovery and Data Protection</p>	<ul style="list-style-type: none"> • Review of existing data backup and recovery methodologies currently in place within the town of Danvers data center • Review of current Appasure backup process and provide recommendations around gaps and enhancements • Review of existing replication technologies, capabilities and procedures to insure ability to support the required site-to-site replication of data for both recovery and for the proper support of a shared services (regionalization) environment • Provide foundational analysis to improve the town of Danvers’s disaster recovery plan and insure it can be successfully implemented when needed

In addition to performing technical assessments for Danvers, ePlus also provided guidance the Town around the development of their 5-year strategic IT plan. They provided a framework of best practices to help them improve efficiency and realize their short and longer-term goals, while taking into account any technology gaps or objectives mentioned by Danvers’ staff. The process is broken down into 4 phases:

Phases	Description
1. Planning	This first phase has a duration of 6 months, and is intended to lay the groundwork and establish specific objectives for the entire strategic plan. Its primary goal is research and decision making, which will fuel the phases that come after it. In addition, there are elements of tactical actions that will provide some immediate benefits, and clean up some issues identified in the assessment portion of the engagement.
2. Foundation	The second phase has a duration of 18 months, and is focused on rebuilding the foundational components of core technology platforms and critical processes. Key objectives of this phase will be to rebuild key infrastructure and establish foundational processes required to move toward a standardized IT operating framework. Processes such as lifecycle planning, asset management, license management and compliance are prime examples. Consolidation of assets and applications is also a part of this phase, as well as executing a restructured IT organization.
3. Optimization	This phase has a duration of 18 months, and is focused on delivering operating efficiencies and advanced solutions. This phase has a number of prerequisite steps from the first two phases that need to be completed before phase II tasks can begin. Wireless network refresh is an example where foundational tasks need to be completed before the wireless project can commence. Mobility, advanced replication, next generation disk are tasks scheduled to be tackled in this phase.
4. Maintain	This last phase also has a duration of 18 months, and will focus on fine tuning IT operations to take full advantage of the previous strategic initiatives. This is the maturing phase where everything should begin to come together and expected benefits realized. Standards should be common place, lifecycle and capacity planning should be ingrained in fundamental IT operations, and organizational maturity should be gaining momentum. Technology decision making will be a collaborative activity that is both centralized and efficient. The next major infrastructure upgrade will be a large portion of this phase as the next LAN refresh will happen here.

Conclusion

In their approach to the Community Compact IT best practice, the Town of Danvers emphasized the importance of having strong foundational data and actionable goals. The 5-year strategic IT assessment empowers Danvers to make immediate tactical improvements to their IT environment and make sound determinations for improving operational effectiveness. The Town has demonstrated their commitment to their Community Compact best practice by seeking to better understand and improve their IT infrastructure. Today, they are better-prepared to make strategic decisions around technology and effective IT investments that will make the Town's environment more secure, efficient, and reliable.