# Ashby IT Assessment

March 30, 2020

## Overview

The purpose of the engagement was to assess the current use of information technology (IT) by the Town of Ashby, and to document upcoming IT needs for the town along with recommendations on how to proceed.

The following stakeholders were interviewed during the assessment:

- Administrative Assessor, Lois Raymond
- Board of Health, Rick Metcalf
- Collector, Kate Stacy
- Conservation Commission, Cathy Kristofferson
- Fire Chief, Mike Bussell
- Highway Department, Steve Beauregard
- Library Director, Tiffany Call
- Police Chief, Fred Alden
- Town Administrator, Bob Hanson
- Town Administrator Assistant, Jennifer Collins
- Town Clerk, Angela Jack
- Treasurer, Kate Stacy

In addition, the IT needs for the Council on Aging (Corey Harju) were reviewed using a recent survey document. The Town Accountant was not interviewed due to limited remaining tenure in the role, and the Cemetery Commissioner (Dan Harju) was not interviewed because he does not currently use any IT in his role as commissioner.

After completing the interviews, the current spend with the town's IT service provider, Guardian Information Technologies, Inc., was analyzed. A Strengths/Weaknesses/Opportunities/Threats (SWOT) analysis was performed and a set of recommendations prepared. All of these are documented in this report.

The consultant working on the project, Alan Ewald, is a citizen of Ashby who recently retired after working in the IT field for 35 years. His most recent position was as Vice President (VP), Enterprise Architecture and Development for a global communications company based in Boston with operations and data centers around the world. Prior to that he held roles as VP of Engineering, VP and General Manager, Chief Technology Officer, Principal Systems Architect, and Software Engineer.

# Interview Findings

The table below captures the most important findings from the interviews, along with the most important IT needs by department/board.

| Stakeholder | Key Findings | Key IT Needs |
|---|---|---|
| **Administrative Assessor** | New CAMA system is internet-based, and is sometimes slow to access.<br><br>Legacy CAMA system is still in use, but will be retired in the coming months.<br><br>Guardian service is poor. | A faster internet connection would be helpful. |
| **Board of Health** | Very limited use of the desktop computer for capturing meeting minutes and accessing the internet. | |
| **Collector** | Key applications are VADAR and Trusteer Rapport (security software) from Unibank.  All other applications, besides Office and Outlook, are internet-based.<br><br>Unipay solution is difficult to use, especially to match payments to charges. | Want all files & file folders as organized, all emails & subfolders as organized and all bookmarks with properties maintained. |

3

| Stakeholder | Key Findings | Key IT Needs |
|---|---|---|
| **Conservation Commission** | ConsComm WiFi router connected to local network in the town hall, protected by WPA2 key.<br><br>Uses Google Drive for managing electronic records. | Supported wireless access in the town hall, along with access to printer after hours.<br><br>Access to electronic files outside of the town hall.<br><br>Web-based/online permitting solution along with support for geographic/mapping data.<br><br>Don't want to use personal emails or online accounts for conducting town business. |
| **Council on Aging** | Requires professional version of Office in order to use Microsoft Publisher. Also use Adobe Acrobat Pro. | |
| **Fire Chief** | Poor, expensive service from Guardian.<br><br>Can't get email on smartphones or (sometimes) outside the town hall.<br><br>All sensitive data, including health records and incident reports, are managed in internet-based solution (ESO). | Web-based/online permitting solution, such as Viewpoint, to replace paper files.<br><br>Have a town IT manager responsible for budgeting and managing services, funded by cutting the costs of Guardian's services. |

4

| Stakeholder | Key Findings | Key IT Needs |
|---|---|---|
| **Highway Department** | Can't access email or data from highway barn, have to be in the town hall.<br><br>Have fuel pump monitoring software installed by Guardian at the highway barn, but can't access them from office in the town hall. | Access to email and data from outside the town hall.<br><br>WiFi in the trucks to allow use of laptop for marking highway structures with GPS and overlaying on maps.<br><br>To be able to communicate directly with police and fire by radio. |
| **Library Director** | There are 4 desktops used by staff, and 6 desktops that are public access on a separate network connection.<br><br>One of the staff desktops runs Office, and the other 3 are used to access CW-MARS online.<br><br>There are no backups being taken of the staff desktops.<br><br>There is no security or content filtering software on the public access computers. | Access to a color printer.<br><br>To be connected to the town hall for IT services and support.<br><br>Security and filtering software on the public access computers.<br><br>WiFi access for library patrons.<br><br>A town email address instead of the Gmail address currently used through CW-MARS. |

| Stakeholder | Key Findings | Key IT Needs |
| --- | --- | --- |
| **Police Chief** | There are two police department (PD) servers running in the town hall basement.  They house the department's record management system (RMS), along with other electronic files, primarily Office documents.<br><br>Had a rocky start with Guardian, but have been much happier recently.<br><br>The RMS (Pamet) will reach its end of life in 2021.<br><br>Regional dispatch will simplify IT needs, including the need for the e-911 server rack in the PD.<br><br>There are specific requirements for the desktops connected to the criminal justice information system (CJIS) in Boston, including the need for documented policies and procedures governing IT use. | There needs to be better physical security (ex. a server cage) for the PD servers in the basement of the town hall.<br><br>Select and implement a new RMS system.<br><br>Plan for IT requirements and build-out in the new public safety building.<br><br>Develop town policies and procedures governing IT, network use, and information security. |

| Stakeholder | Key Findings | Key IT Needs |
|---|---|---|
| **Town Administrator & Assistant** | Guardian has inexperienced staff and high turnover. | Lower and/or more predictable costs. |
| | Guardian does not have a standard rate sheet, and project costs are high. | Better compliance and regularity across departments and boards. |
| | Concerned about data security, ransom-ware attacks, backups, and archiving. | |
| | Concerned about use of social media on behalf of the town without proper controls and process in place to review content. | |
| **Town Clerk** | One desktop provided by the State, used for elections and registrations. | Access to email from home and on smartphone. |
| | Two desktops for general use running Office (including Access) and Outlook. | Ability to scan documents to a folder. |
| | | Ability/allowance to post meetings online. |
| | | Implement online permitting/licensing solution. |
| | | WiFi in town hall with public and private access. |
| | | Replace phone system with VOIP phones. |
| | | Online calendar and chat for all departments. |

7

| Stakeholder | Key Findings | Key IT Needs |
|---|---|---|
| **Treasurer** | Key applications are VADAR and Trusteer Rapport (security software) from Unibank. All other applications, besides Office and Outlook, are internet-based.<br><br>Unipay solution is difficult to use, especially to match payments to charges. | Want all files & file folders as organized, all emails & subfolders as organized and all bookmarks with properties maintained. |

# Guardian Cost Analysis

The table below captures a cost analysis of all Guardian invoices received in FY19, and in FY20 through 1/24/2020. The first part of the table captures recurring costs for services provided and invoiced on a quarterly basis. The second part of the table captures one-time costs.

| | FY19 (actuals) | FY20 (actuals as of 1/24/20) | FY20 (estimated) |
|---|---|---|---|
| **Recurring Costs** | | | |
| E-911 + dispatch | $ 2,700 | $ 1,800 | $ 2,687 |
| Email | $ 13,231 | $ 9,754 | $ 13,005 |
| Internet (.gov domain hosting) | | $ 400 | $ 400 |
| Network Security (managed firewall service) | $ 4,991 | $ 4,572 | $ 6,096 |
| System Security (managed anti-virus/anti-malware) | $ 1,560 | $ 1,236 | $ 1,648 |
| System Support (virtual IT services) | $ 41,420 | $ 33,252 | $ 44,336 |
| *Recurring Costs Total* | $ 63,902 | $ 51,014 | $ 68,172 |
| | | | |
| **FY19 Project Costs** | | | |
| TAX COLLETOR REQUEST TO NETWORK PRINTER | $ 351 | | |
| ORIGINAL QUOTE IS DATED 6/21/18 GQWQ1339 | $ 1,523 | | |
| <BLANK> | $ 300 | | |
| ATH01 PERFORMANCE ASSURANCE CHECK | $ 506 | | |
| SETUP CONFIGURE & DEPLY NEW NETWORK SWITCH | $ 922 | | |
| DESKTOP COMPUTERS (4) - PURCH & CONF | $ 7,884 | | |
| SETUP CONFIGURE & DEPLOY TECHNOLOGY SYSTEM FOR NEW FUEL PUMP | $ 1,988 | | |
| SERVER REPLACEMENT (PD03 BDC) | $ 11,162 | | |
| REPLACEMENT UPS SERVER (PD02) | $ 1,599 | | |
| OUTSTANDING CREDIT FOR GUARDIAN ERROR | $ (34) | | |
| | | | |
| **FY20 Project Costs** | | | |
| OFF HOURS REPAIRS. TICKET NO. 30282 | | $ 315 | |
| 7 NEW DESKTOP SYSTEMS DEPLOYED UPGRADES WIN 10 OFFICE 19 CONFIGURED | | $ 11,980 | |
| NEW BACKUP DOMAIN CONTROLLER | | $ 11,162 | |
| PURCH/DEPLMT: 4 DESKTOPS 1 LAPTOP | | $ 7,764 | |
| DESTRUCTION OF 10 TOWN HALL OLD COMPUTER HARD DRIVES | | $ 50 | |
| HARD DRIVE DESTRUCTION. 4 | | $ 20 | |
| T/H WIRELESS ACCESS POINT - HARDWARE | | $ 319 | |
| T/H WIRELESS ACCESS INSTAL & CONFIG | | $ 1,080 | |
| APD WIRELESS - RECONFIGURATION | | $ 101 | |
| *Project Costs Total* | $ 26,202 | $ 32,792 | $ 32,792 |
| | | | |
| **Guardian Total Costs** | $ 90,104 | $ 83,806 | $ 100,964 |

The rows highlighted in yellow represent areas of concern.

The email costs include the quarterly charges for email addresses, archiving, and for managing the Exchange server. For a comparable annual cost, the town could implement Office 365 for Government and receive a long list of functionality in addition to email such as Office (including Access & Publisher) and Outlook licenses for up to 5 devices per user, 1TB of personal data/file storage per user, unlimited shared "drives" via SharePoint online, video conferencing and chat, information security functionality, eDiscovery tools, and cloud PBX hosted in a Microsoft environment that is compliant with federal, state,

and local government security requirements.  For a full list of functionality, see the link in the Appendix below.

The system support costs ("virtual IT services") represents the majority of the recurring costs.  Of the approximately $40K per year charged for system support, $36K is for desktop support using the metric of $1.2K/year/desktop for 30 desktops.  This is based on invoice 15581 received from Guardian on 12/12/2019.  The desktop support does not include security software such as anti-virus or anti-malware, upgrades from Windows 7 to Windows 10, or managing a user's email.  These are all charged separately as either recurring or project costs. Presumably desktop support covers user support via a help desk and remote login, and possibly troubleshooting hardware issues.  At $1.2K/year/desktop, a user could throw away their current desktop and purchase a new one every year in order to address hardware problems!  In the author's professional opinion, the town is being grossly overcharged for desktop support.

The project costs for FY19 and FY20 that are highlighted in yellow represent hardware replacements and new hardware purchases.  Here again, these costs are very high given what hardware generally costs and the relatively straight-forward IT needs that the town has.

The table below breaks down the Guardian invoices by department for FY19 and FY20 (as of 1/24/20) based on the account that each invoice was charged to.

|  | FY19 (actuals) | FY20 (actuals as of 1/24/20) |
|---|---|---|
| **Recurring Costs** | | |
| Town Hall | $ 35,488 | $ 24,876 |
| Police Department | $ 26,720 | $ 20,225 |
| Fire Department | $ 1,443 | $ 3,156 |
| Highway Department | $ 251 | $ 2,757 |
| | | |
| **Project Costs** | | |
| Town Hall | $ 5,556 | $ 23,193 |
| Police Department | $ 20,646 | $ 9,599 |
| | | |
| **Totals** | $ 90,104 | $ 83,806 |

# SWOT Analysis

| Strengths | Weaknesses |
|---|---|
| Outside of the police department, the town's IT requirements are straight-forward. | The town is overpaying for the level of service that Guardian provides. This is particularly the case for the Virtual IT Services costs of $40K per year, and for the equipment replacement/upgrade project costs. |
| Department and board stakeholders appear ready to embrace changes in how IT is managed for the town. | There are no documented IT policies that govern the use of town IT resources including desktops, servers, networks, social media, and phone systems. |
| | Current backup and archive approach is a patchwork. |
| | The budgeting, planning, and management of IT assets and services for the town is not centralized. |
| | Sharing and communication of information between departments and boards is limited by the current IT infrastructure. |
| | Vendor management of Guardian is not centralized leading to unplanned costs, and a lack of control. |
| | ConsComm using personal Google account for managing town data. |

| Opportunities | Threats |
|---|---|
| Move on-premise solutions to the cloud by implementing Office 365 for Government, VADAR cloud, and (eventually) a cloud-based RMS for the PD. This will reduce costs, improve security and availability of services. | On-premise solutions (Exchange, File Server, VADAR, CAMA, PD RMS) are more vulnerable to security breaches. |
| Implement online permitting and licensing solution (Viewpoint or similar). | When the town hall closes, or is unavailable due to power outage, etc., then town government functions are compromised. |
| Expand/support use of AT&T First Net solution beyond the Fire Department | Having public access computers in the library without any security or filtering software is a liability for the town. |
| Consolidate/integrate phone systems to leverage VOIP, except where a landline connection is required. | The current lack of physical security for the servers in the town hall, particularly the PD RMS server, is a liability for the town. |
| Incorporate the library into the town's supported IT environment. | |

# Recommendations

| Priority | Recommendation | Estimated costs | Comments |
|---|---|---|---|
| H | Implement Office 365 Government G3 or G5. | $13K annually, plus impl. cost of $10K | One-time costs are for project management and migration of data. Replaces $13K annual cost to Guardian for email services. |
| H | Implement the cloud version of VADAR. | $7.5K annually | VADAR will perform the implementation at no cost to the town. There is an additional $2.5K per year on top of the current $5K fee for on-premise version. |
| L | Phase out legacy CAMA system | TBD, should be 0 | Don't continue to upgrade the legacy CAMA server while it is still in use. |
| H | Define IT policies for the town | $2K | One-time costs are for assist with documenting policies, and for legal review. |
| H | Replace RD RMS at EOL 2021 | TBD | A cloud system would be ideal to retire the PD servers. |
| M | Secure physical access to servers in Town Hall | $2K | Install cage around server rack. |
| H | Renegotiate Virtual IT Services agreement with Guardian, and require them to include a standard rate sheet for project costs (ex. hardware replacement) | TBD | Given a move to cloud services, there will be fewer devices to monitor and manage. Desktop monitoring and management accounted for $36K of the $40K spend per year. They appear to be double-charging for monitoring and managing the firewalls. Can they support and administer Office 365 for the town? This will take care of the majority of user requests about email, Office, file access, and shared folders once the migration to Office 365 is complete. |
| H | Upgrade Comcast connections at fire station, highway barn, and library | $1.2K annually | This would be on top of the existing costs for Comcast connections across all locations. |
| M | Implement online permitting/licensing solution (Viewpoint or similar) | TBD | Unable to get pricing information from the vendor before delivering report |
| H | Install security/filtering software on public access computers in town hall | $100 annually | |
| M | Move to dedicated fiber configuration with Comcast across all locations | TBD | Waiting for a quote from Comcast. This would remove the need to upgrade the Comcast connections at the firestation, highway barn, and library. It should be done with the new safety building. |
| M | Support WiFi within town hall | No additional cost | Replace ConsComm router with newly installed WiFi router in town hall. |
| L | Include library in IT support for the town | TBD | The additional annual cost for managing the four staff desktops should be minimal assuming a renegoiated Virtual IT Services agreement with Guardian, or an agreement with a new vendor. |

# Appendices

## Microsoft Office 365 Government Subscriptions

https://www.microsoft.com/en-us/microsoft-365/government/compare-office-365-government-plans

## VADAR Cloud Version

https://vadar.cloud/cloud/

The following information regarding the VADAR cloud was received from Frank Natale at VADAR Systems (Frank-Natale@vadarsystems.com):

> "Costs: there is an annual, per user cost (ie. every year) for our Cloud. These costs are in addition to the current software maintenance costs the town is paying. The reason for this is that we incur "hard costs" for every new Cloud user and the Cloud comes with all of the offerings and services listed above.
>
> Costs vary depending upon the number of users as we do receive discounts for multiple users. I am guessing that Ashby has probably 5 users of the system that would need access? If so, we offer out a discounted rate of $500-$600 per user per year for 5 accounts. There is no cost for the conversion to the cloud. We will convert, migrate and install your apps and also perform the setup and training at no additional charge. We will also pro-rate your first year so if you came aboard in April you would only be charged for 3 months this year (Apr – Jun) and then would be charged the full amount come July 1$^{st}$ for next year.
>
> Typically it takes a couple of weeks when clients give us the go ahead to move them to the cloud."

## Viewpoint Cloud

Viewpoint Cloud supports online permitting, licensing, and inspections.

https://www.viewpointcloud.com/products/

**13**