

## Kathy Spofford

---

**From:** James Kreidler <jkreibler@townsend.ma.us>  
**Sent:** Friday, May 25, 2018 9:59 AM  
**To:** 'Kathy Spofford'  
**Subject:** FW: Townsend- 2018 Capital Bond Bill Request  
**Attachments:** TOWNSEND CAPITAL BOND BILL REQUEST-2018.pdf

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**From:** James Kreidler [mailto:jkreibler@townsend.ma.us]  
**Sent:** Tuesday, February 06, 2018 11:35 AM  
**To:** 'dean.tran@masenate.gov'  
**Cc:** Carolyn Smart; 'Mark Mercurio'  
**Subject:** Townsend- 2018 Capital Bond Bill Request

Dear Senator Tran,

Thank you kindly for reaching out to inquire of the town's facilities capital needs.

I am attaching a brief project narrative and estimated budget to recommission the historic Hart Free Library right in our downtown municipal campus.

If you have any additional questions or if I should provide additional information please do not hesitate to let me know.

Once again, the people of Townsend thank you for your efforts.

Regards,

Jim

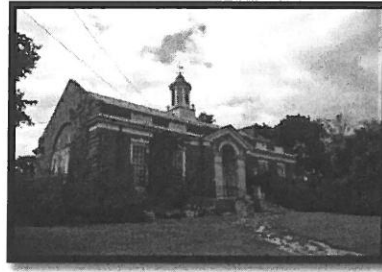
James M. Kreidler  
Town Administrator  
Town of Townsend  
272 Main Street  
Townsend, MA 01469  
(978) 597-1700  
[jkreibler@townsend.ma.us](mailto:jkreibler@townsend.ma.us)

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**TOWN** TOWNSEND

**PROJECT** HART FREE LIBRARY BUILDING  
276 MAIN STREET  
TOWNSEND, MA



**NARRATIVE** The Hart Free Library is a 4,600 sf brick building which was built in 1928. It has been decommissioned since 2008. The building is structurally sound. It will require mechanical upgrades, ADA access and energy code compliance work. The town's plan for the space is twofold. The basement level will serve as climate controlled archive space for town records. The main floor will be a public access television studio and community meeting space.

**ESTIMATED PROJECT COSTS**

|                 |              |
|-----------------|--------------|
| ADA Compliance  | \$80,000.00  |
| HVAC            | \$50,000.00  |
| Plumbing        | \$50,000.00  |
| Electrical      | \$50,000.00  |
| Interior Finish | \$40,000.00  |
| Insulation      | \$25,000.00  |
| Window Inserts  | \$25,000.00  |
| Flooring        | \$20,000.00  |
|                 | <hr/>        |
|                 | \$340,000.00 |
| Contingency 10% | \$34,000.00  |
|                 | <hr/>        |
|                 | \$374,000.00 |

**CAPITAL BOND BILL REQUEST**

**\$374,000.00**

## Kathy Spofford

---

**From:** James Kreidler <jkreidler@townsend.ma.us>  
**Sent:** Friday, May 25, 2018 9:59 AM  
**To:** 'Kathy Spofford'  
**Subject:** FW: Townsend- Community Compact IT Grant Application  
**Attachments:** The Town of Townsend It Grant Community Compact.pdf; Town of Townsend - IT Assessment.pdf; Townsend Network cost details 02-12-18.pdf

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**From:** James Kreidler [mailto:jkreidler@townsend.ma.us]  
**Sent:** Monday, February 12, 2018 3:12 PM  
**To:** 'dean.tran@masenate.gov'; 'Sheila.Harrington@mahouse.gov'  
**Cc:** James M. Kreidler (jkreidler@townsend.ma.us); Carolyn Smart  
**Subject:** Townsend- Community Compact IT Grant Application

Dear Representative Harrington and Senator Tran:

I am reaching out on behalf of the Town of Townsend, MA regarding our recently submitted Commonwealth Compact IT Grant.

Just today I finalized and submitted the online grant application. I am attaching a narrative copy of the information included in the application, a copy of the IT Assessment we had performed by an outside IT consultant within the past year as well as a copy of the detailed scope of the proposed project.

As a Compact community we are eligible for this \$200,000.00 grant with no match required. The details of the program may be found at the link provided below.

<https://www.mass.gov/community-compact-it-grant-program>

I am writing seeking your assistance in this matter. If there is any support that you can offer in this project, be it verbal or in writing to the Office of Community Compact, the citizens of the town of Townsend would be eternally grateful.

Please advise if I can provide any additional information to help you in considering my request of assistance.

With Kind Regards,

Jim

James M. Kreidler  
Town Administrator  
Town of Townsend  
272 Main Street  
Townsend, MA 01469  
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[jkreidler@townsend.ma.us](mailto:jkreidler@townsend.ma.us)

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Virus-free. [www.avg.com](http://www.avg.com)

**1. Purpose: Describe the Proposed Project, Describe the Purpose of the Grant, Describe the Capital Assets Needed, Describe the Project Objectives, Describe the Challenges this Project Would Address:**

The Town recognizes the need to engage in a comprehensive refresh of its technology infrastructure. Based on the age and configuration challenges of the current network environment, the Town recognizes the urgency to begin the process of re-engineering and replacing its IT environment to meet its current basic and evolving business requirements.

The Town of Townsend has several security, hardware, software and backup related issues. The purpose of this project is to address the following IT related issues and concerns:

- The current domain server has reached end of lifecycle and is unsupported by the manufacturer.
- The custom-built PCs, which are used as servers, do not meet minimum standards requirement to run the Town application software.
- The main file server and mail server backups have not been taken properly and certain times have failed to take full backups due to disk space limitation.
- The backup state of the server at the water department is failing due to limited disk space.
- Backups, when they can be done, are being stored on non-redundant USB hard drives.
- Remote Desktop is being exposed directly to the internet through the firewall.
- Remote access should be accomplished via a secure, encrypted connection. There have been several incidents at other organizations recently where a machine exposed to the internet has provided the entry point for a ransomware infection.
- If the Town was to be infected with a ransomware, we have no faith that the current data set or infrastructure could be recovered.
- No central management or notifications of workstations that could potentially be infected with malware due to the use of a free antivirus solution across the environment.
- A wired Ethernet network at the Town Hall, connected via a set of older network switches.
  - The switches do not provide enough ports or Power over Ethernet capabilities to support the connection of a new IP phone system being planned for the Town offices.
- A Comcast cable Internet connection, shared using a Linux-based firewall running on a dedicated PC.
  - The single Internet connection means that there is no redundancy in the event of a cable outage.

- The outdated single firewall is also a potential point of failure without redundancy.
- A main server, running Windows Server 2008 and providing file sharing and domain control functions for the office network.
  - This server, built on entry-level hardware, lacks hot-pluggable hard drives and power supplies, meaning that repairs can involve several hours of downtime.
  - Windows Server 2008 will not be supported beyond 2020; this means important security updates and other patches will no longer be supplied by Microsoft.
- An email server, running Linux, and servicing approximately 100 mailboxes.
  - This machine is running on desktop PC hardware without redundant drives, putting email at risk of loss and downtime in the event the single drive fails.
  - The current email server software is not supported.
  - The Town is not using a spam filtering service, so there is no protection against receiving unwanted messages including malware. Spam can also clutter the server's drive with useless data.
- Backups of the servers performed using Windows Backup (for the Windows server) and a file copy script (for the Linux server) with the backed up data going to an external hard drive.
  - The current backup solution is hard to monitor and requires frequent intervention to ensure the servers are consistently backed up.
  - Restoring information in the event of a loss would be time-consuming and require many manual steps, with the potential for hours to days of downtime.
  - Backups are not being saved at a secure off-site location, providing inadequate protection from fire or other disasters.
- Much of the environment is running on a UNIX platform and requires very specialized skillsets to manage and maintain.

## 2. Benefits:

The Town recognizes the significant benefit to the re-engineering and installation of a new IT infrastructure in Townsend. The most significant benefits of such a project would be:

- Preserve and protect the town's digital infrastructure and data; move away from LINUX, new servers provide redundancy, back up that in addition to efficiency which will allow compliance with public records law.

- Implementing a consistent, centrally managed antivirus solution to protect all Town servers, desktops, and laptops and to provide updates against newly discovered threats.
- Providing high-quality wireless Internet access throughout the Town Hall, with a separate secure network for staff and Internet-only connection for guests.
- Establishing Virtual Private Network (VPN) links to the Water, Highway and Fire Department buildings while allowing for a future expansion of the network and phone systems to these locations.
- Enabling the Town employees to remotely access their work environment securely through VPN. Employee will be able to provide their duties all the time from anywhere, hence during severe weather conditions.
- Build, setup, and deploy a new robust modern virtual server infrastructure that will replace the physical server technology that has reached life span.
- Consolidate town-wide networks with domain server technology. This will allow a more secure, agile network environment.

#### **Cost Impact and Sustainability Plan:**

- Any additional cost for maintaining and operating this infrastructure will be absorbed by the town through the IT department budget. All on-going duties will be carried out and performed by the IT department.

#### **Measures of Success:**

- This initiative will allow the town network to be interconnected with other town buildings, including the town hall, highway department, water department, library, senior center/council on aging, and cemetery & parks department.
- Centrally management network that improve collaboration across departments and reduces the risk of business disruption.

#### **Project Budget:**

- See attached detailed budget estimate.

#### **Project Timeline:**

- Each component is a critical building block in the creation of a completely revamped technology infrastructure. As there are dependencies between some of the projects, they are presented in order of priority in the process. This roadmap document has been developed as a summary and preliminary guide to a smooth transition toward the full implementation of a dynamic, scalable, flexible re-engineered IT platform that will sustain the Town's needs for at least 7 years with minimal maintenance costs. This the project will start once the grant is awarded and will be completed no later than May 2018.

- The town will benefit and Implement technology to improve transparency across Town government and buildings, below are the areas of improvement:

1. Replacement of an aging file server to store Town files.
2. A more stable email server solution supporting up to 100 users.
3. SAN storage that will improve the town backup and file sharing.
4. Virus protection software for servers and workstations.
5. Implementation of local and off-site data backups to protect Town information.
6. A secure, highly available firewall to secure the network and improve Internet access.
7. Network switches capable of supporting a new IP phone system.
8. Virtual Private Network connections between Town buildings.
9. Ability for Town staff to securely access the office network from home.
10. Improved, more secure wireless network coverage in the Town Hall.
11. Upgrade switching infrastructure to enable technology consolidation.



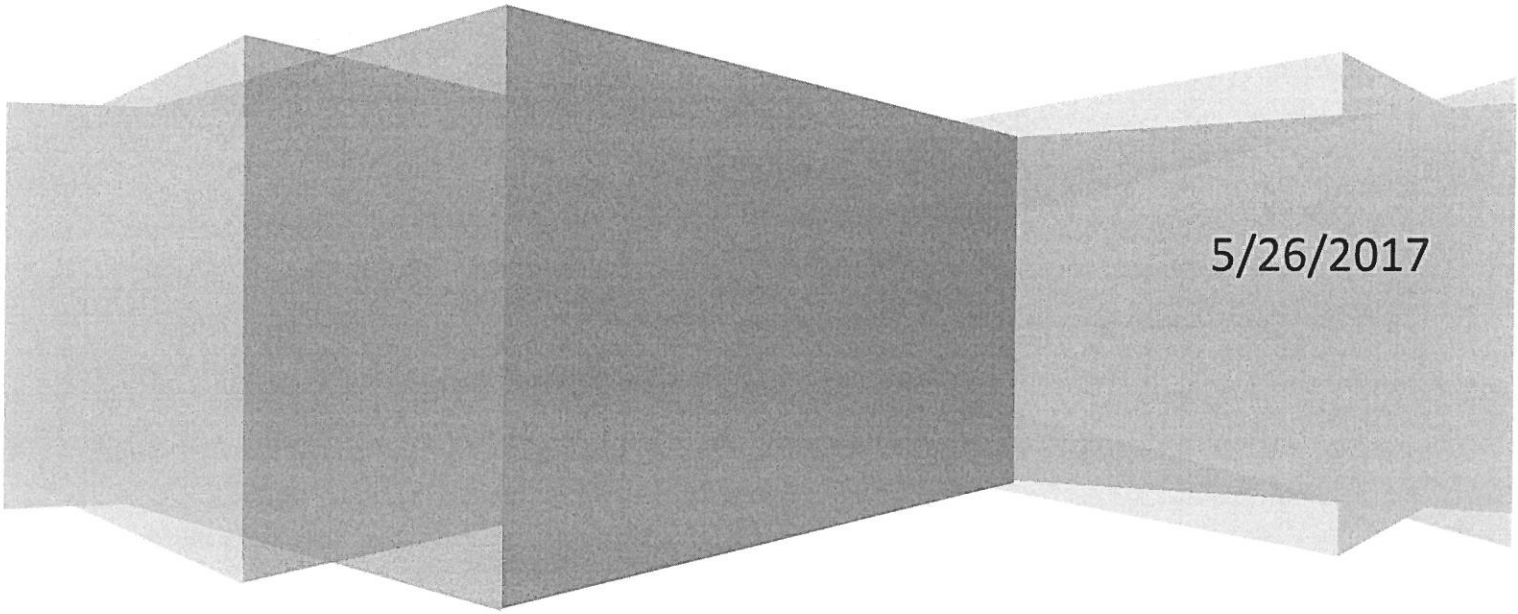


**SERVING THE TECHNOLOGY NEEDS OF NEW ENGLAND SINCE 1988**

# **IT Assessment**

**Town of Townsend**

**Completed by: Bill Galeckas**

A large, 3D geometric graphic at the bottom of the page, consisting of several interconnected rectangular blocks of varying heights and depths, creating a complex, angular shape. The blocks are rendered in shades of gray with soft shadows, giving them a three-dimensional appearance.

**5/26/2017**

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## SECTION 1 - OVERVIEW

This is an IT Assessment document from AKUITY Technologies, for Town of Townsend. Its purpose is to summarize the existing IT Infrastructure with the organization's business needs in mind, and make recommendations for possible changes to the environment, to improve performance, security, and manageability. The IT Assessment is not intended to be an all-encompassing evaluation of organization problems or issues, but meant to provide a technology roadmap for the customer.

### 1.1 THE AKUITY APPROACH

AKUITY believes that success is achieved by building partnerships with clients and employees based on dedication, loyalty, and mutual respect. These qualities, along with our business practices and the overall effectiveness of our solutions continue to drive our success and establish us as a leading solutions provider in our industry.

### 1.2 OBJECTIVES

To review of the existing network and server infrastructure taking into account the organization's business needs and objectives as they relate to technology, and make recommendations based on those findings with emphasis on the following:

- Server infrastructure
- Environment (Active Directory)
- Network infrastructure
- Wireless infrastructure
- Security infrastructure
- Data Protection (Backup)
- Email infrastructure

### 1.3 EXECUTIVE SUMMARY

The Town of Townsend has several security, hardware, and backup related issues. Issues of greatest concern are as follows (in no particular order):

- Most of the servers are unsupported, custom-built PCs that have no built-in redundancy.
- The OEM servers in the environment are also unsupported and almost all have a lack of redundant hardware.
- Much of the environment is running on a Unix platform and requires very specialized skillsets to manage and maintain.
- Backups on the main file server have been failing for a week.
- It is unknown if the mail server is backing up successfully.
- The backup state of the server at the water department is undetermined.
- Backups are being stored on non-redundant USB hard drives.
- Remote Desktop is being exposed directly to the internet through the firewall.
  - Remote access should be accomplished via a secure, encrypted connection. There have been several incidents at other organizations recently where a machine exposed to the internet has provided the entry point for a ransomware infection. If the Town was to be infected with ransomware, I have no faith that the current data set or infrastructure could be recovered.
- No central management or notifications of workstations that could potentially be infected with malware due to the use of a free antivirus solution across the environment.

The following pages contain a comprehensive review of the infrastructure as well an itemized listing of findings with the explanations and recommended resolutions.

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## SECTION 2 - SITE DOCUMENTATION

The Town of Townsend has four locations that were part of this assessment. Town Hall is located at 272 Main St, the Library and Senior Center is at 12 Dudley Rd, the Highway Department is at 177 Main St, and the Water Department is at 520 Main St. These sites are all connected to Town Hall via Site-to-Site VPN tunnels in a “hub and spoke” topology.

Town Hall has a Telco/Electrical closet that contains the demarcation point for the internet, the main switching for the building, and a backup FreeBSD system that acts as a firewall/router.

The IT office contains the remaining server hardware. The equipment provided by the State of Massachusetts for the election commission is located in the Clerk’s office. Several small workgroup switches are scattered throughout the building.

The Library and Senior Center has an MDF where both the internet and CWMARS demarcation points are located as well as both FreeBSD systems acting as firewalls/routers, the Library’s domain controller/file server, and the PC that controls the building’s HVAC, lighting, and security systems. Two Cisco switches are also located in this area.

The IDF contains more Library Cisco switching, the CWMARS router and switch, and the security cameras’ equipment.

The Water Department has a FreeBSD system that acts as a local file server and firewall/router and a workgroup switch.

The Highway Department has a FreeBSD system that acts as a local file server and firewall/router and a workgroup switch.

### 2.1 SERVER INFRASTRUCTURE

At Town Hall, the server infrastructure is made up entirely of physical servers. There are 6 servers: Five custom-built “black boxes” and a HP ProLiant DL320e Gen 8 server.

The Library and Senior Center has 3 servers: a Dell PowerEdge 2650, a Dell PowerEdge 2950, and an ASUS custom-built “black-box.” Additionally, there’s a Dell Optiplex 740 workstation.

The Water Department and Highway Department each have one HP/Compaq workstation acting as a server.

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Server details are in the following table:

| Hostname                         | Location                          | OS                         | IP Address | Notes   |
|----------------------------------|-----------------------------------|----------------------------|------------|---|
| <b>THDC01</b>                    | Town Hall – IT Office             | Windows 2012 R2 Essentials |            | Domain Controller (townsend.local); File Server; Print Server   |
| <b>NEWPATRIOT</b>                | Town Hall – IT Office             | Windows 2003               |            | Patriot (Assessor's software)   |
| <b>MAIL</b>                      | Town Hall – IT Office             | FreeBSD                    |            | Mail server (townsend.ma.us)  |
| <b>KATHYGW</b>                   | Town Hall – IT Office             | FreeBSD                    |            | Firewall/Router between "State" network in Clerk's office and LAN; Supposed to allow VNC access from Clerk's "state" PC to the Clerk's "town" PC, but this doesn't work. Likely that this is unnecessary. |
| <b>FIREWALL</b>                  | Town Hall – IT Office             | FreeBSD                    |            | Firewall; Router; Central VPN hub; DNS  |
| <b>NEWDNS</b>                    | Town Hall – Telco/Electrical Room | FreeBSD                    |            | Backup Firewall; Router; DHCP server; DNS; Also used to facilitate new map imports for the Patriot software, which is used by the Assessor's Office.  |
| <b>LIBRARYCOMCAST</b>            | Library – MDF                     | FreeBSD                    |            | Unknown – No credentials; Likely firewall/router  |
| <b>LIBRARYROUTER</b>             | Library – MDF                     | FreeBSD                    |            | DHCP server; Unknown – No credentials   |
| <b>SERVER</b>                    | Library – MDF                     | Windows 2008 Std SP 2      |            | Domain Controller (townsendlibrary.org); File Server  |
| <b>FM-MARKPC</b>                 | Library – MDF                     | Windows 7                  |            | HVAC system; Lighting system; Security system   |
| <b>WATERSERVER</b>               | Water Dept                        | FreeBSD                    |            | Unknown – No credentials; Likely File Server  |
| <b>??? (Highway Dept Server)</b> | Highway Dept                      | FreeBSD                    |            | Unknown – No credentials; Likely firewall/router, DNS server  |

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## 2.2 ENVIRONMENT

The Microsoft Windows environment is running a mix of server OSs (1 x Server 2012 R2 Essentials, 1 x 2008 Standard SP 2, 1 x 2003 SP 2, and 1 x Windows 7).

The Active Directory domain at Town Hall (townsend.local) has 1 Domain Controller (THDC01). DC1 holds all of the FSMO roles. The Forest and Domain functional levels are both Windows Server 2012 R2. User accounts are separated into their own Organizational Unit, but Computer accounts are all in the default “Computers” folder. DHCP is run from NEWDNS.

The Active Directory at the Library and Senior Center (townsendlibrary.org) has 1 Domain Controller (SERVER). SERVER holds all the FSMO roles. The Forest and Domain functional levels are both Windows Server 2008. User accounts are in the default “Users” folder and most Computer accounts are in the default “Computers” folder, but there are a few Computer accounts sorted into individual Organizational units. DHCP is run from LIBRARYROUTER. Despite the domain, the workstations at the Library are not joined to it and function in a Workgroup.

## 2.3 NETWORK

At Town Hall, The network topology uses a linear design, with unmanaged Netgear and SMC switches. There are several small workgroup Netgear switches in the environment. The network is a single Layer 2 segment, but there are several Layer 3 networks running on it.

There is a single subnet each at the Library and Senior Center, the Highway Department, and the Water Department. The library has 5x Cisco 2950 24-port switches in a linear topology, while the Highway and Water Departments have a single workgroup switch each.

| PURPOSE                         | LOCATION                  | SUBNET |
|---------------------------------|---------------------------|--------|
| LAN                             | Town Hall                 |        |
| DHCP Clients (Wired & Wireless) | Town Hall                 |        |
| State Network (Clerk's Office)  | Town Hall                 |        |
| Wireless Router Management      | Town Hall                 |        |
| ? (On firewalls & Admin PC)     | Town Hall                 |        |
| ? (On NEWDNS & Admin PC)        | Town Hall                 |        |
| ? (On Admin PC)                 | Town Hall                 |        |
| LAN                             | Library and Senior Center |        |
| LAN                             | Highway Department        |        |
| LAN                             | Water Department          |        |

Please see the included “Network\_Diagram” for a detailed network diagram.

## 2.4 WIRELESS

The wireless network at Town Hall uses a Linksys Smart WiFi WRT 1900 AC (in the Assessor's Office ceiling) and a Netgear AC1750 (in the Selectmen's Office). The SSID “TOWNSEND” provides wireless access to the LAN.

The Highway and Water Departments each have Netgear AC1750 routers that broadcast the SSIDs “HighwayDept” and “WaterDept,” respectively. These networks are bridged to the LAN at each location.

The Library and Senior Center has 5 access points: One Netgear wireless router, one Cisco-Linksys router, and three Ubiquiti APs. There is likely a software wireless controller located on a system on the premises, but we were unable to locate it.

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## 2.5 SECURITY

The internal networks at each location is protected from the Internet by a custom-built FreeBSD system acting as a firewall and router. Public IP Addresses are listed in the following table.

| PURPOSE                   | LOCATION                  | IP ADDRESS |
|---------------------------|---------------------------|------------|
| Default WAN IP            | Town Hall                 |            |
| Backup Firewall Public IP | Town Hall                 |            |
| Mail Server Public IP     | Town Hall                 |            |
| Default WAN IP            | Highway Department        |            |
| Default WAN IP            | Water Department          |            |
| Default WAN IP            | Library and Senior Center |            |

**NOTE:** Additional IPs may be in use at the Highway and Water Departments, and at the Library and Senior Center. I was unable to log into these devices.

AVG Free is used on many of the Windows workstations. AVG Business and Avira were installed on NEWPATRIOT and SERVER, but the licenses expired years ago.

Windows Updates are configured individually on each system. Supported Windows servers were up to date.

## 2.6 DATA PROTECTION

THDC01 is scheduled to use the built-in Windows Server Backup utility to an external USB hard drive nightly. That backup has failed for the past week.

NEWPATRIOT uses the built-in ntbackup utility to a share on THDC01. This appears to keep a daily backup of the server for a rolling three-day period.

MAIL is reported to back up to an external USB hard drive. I was unable to confirm this.

SERVER is scheduled to use the built-in Windows Server Backup utility to an external USB hard drive nightly.

## 2.7 EMAIL

The Town of Townsend uses a FreeBSD-based on-premises mail server.

It is unclear where the Library and Senior Center email is handled.

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### SECTION 3 - FINDINGS

The following is a list of Findings discovered during the data collection phase of the assessment. Findings may range from simple recommendations for improvement to critical issues that should be addressed as soon as possible. For each Finding we have provided a description of the problem, why it is a risk, and a brief description of how it might be remediated. Each Finding also contains a rating for Severity of the issue, estimated Cost to resolve and whether Downtime would be expected to implement the resolution. The High, Medium and Low ratings are purely subjective and relative only to the other Findings on the list.

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# FINDINGS

## Finding 1 Single Domain Controller

Severity

High

Cost

Medium

Downtime

No

Risk Downtime

Remediation Domain Controllers should be deployed in pairs to protect against a single failure

## Finding 2 Network Cabling in Town Hall Meeting Room is unstructured

Severity

Medium

Cost

High

Downtime

Yes

Risk Confusion, Downtime

Remediation Have professional structured cabling installed

## Finding 3 THDC01 has non-hot swappable HDDs and Non-Redundant Power supplies

Severity

Medium

Cost

High

Downtime

Yes

Risk Downtime

Remediation Replace server with a model that has Redundant power and hot-swappable drives

## Finding 4 Most servers are unsupported custom-built boxes

Severity

High

Cost

High

Downtime

Yes

Risk Downtime

Remediation Migrate servers and services to new, supported hardware

## Finding 5 Windows Updates not configured on THDC01

Severity

High

Cost

Low

Downtime

Yes

Risk Security, Downtime

Remediation Enable and schedule regular Windows Updates

**Finding 6 THDC01 backups have been failing for a week**

|          |      |      |      |          |     |
|----------|------|------|------|----------|-----|
| Severity | High | Cost | High | Downtime | Yes |
|----------|------|------|------|----------|-----|

**Risk** Downtime, Data Loss

**Remediation** Replace Windows Backup to External USB drive with an Enterprise Solution

**Finding 7 No UPS for Firewall, Mail Server, Clerk's Router, and Assessor's GIS server**

|          |      |      |     |          |     |
|----------|------|------|-----|----------|-----|
| Severity | High | Cost | Low | Downtime | Yes |
|----------|------|------|-----|----------|-----|

**Risk** Downtime, Data Corruption

**Remediation** All servers should be on a UPS, even though the outlet is supplied with an emergency generator

**Finding 8 No AV on THDC01**

|          |      |      |        |          |     |
|----------|------|------|--------|----------|-----|
| Severity | High | Cost | Medium | Downtime | Yes |
|----------|------|------|--------|----------|-----|

**Risk** Downtime, Data Loss

**Remediation** Purchase and install centrally managed AV on servers

**Finding 9 Workstations use AVG Free**

|          |      |      |        |          |     |
|----------|------|------|--------|----------|-----|
| Severity | High | Cost | Medium | Downtime | Yes |
|----------|------|------|--------|----------|-----|

**Risk** Security, Data Loss

**Remediation** Purchase and install centrally managed AV for workstations

**Finding 10 NEWPATRIOT is Windows 2003 server, which is EOL**

|          |      |      |      |          |     |
|----------|------|------|------|----------|-----|
| Severity | High | Cost | High | Downtime | Yes |
|----------|------|------|------|----------|-----|

**Risk** Security

**Remediation** Migrate application to new, supported hardware

**Finding 11 Servers are piled on top of one another and chassis are open**

|          |     |      |     |          |     |
|----------|-----|------|-----|----------|-----|
| Severity | Low | Cost | Low | Downtime | Yes |
|----------|-----|------|-----|----------|-----|

**Risk** Downtime

**Remediation** Organize servers, clearly labelling with server names and Ips

**Finding 12 Running several Layer 3 networks on a single Layer 2 network segment**

|          |        |      |      |          |     |
|----------|--------|------|------|----------|-----|
| Severity | Medium | Cost | High | Downtime | Yes |
|----------|--------|------|------|----------|-----|

**Risk** Performance, Confusion

**Remediation** Install managed switches and install VLANs where appropriate

**Finding 13 Several systems have RDP exposed to the network**

|          |      |      |        |          |     |
|----------|------|------|--------|----------|-----|
| Severity | High | Cost | Medium | Downtime | Yes |
|----------|------|------|--------|----------|-----|

**Risk** Security, Downtime, Data Loss

**Remediation** A secure remote access solution should be put in place

**Finding 14 Several workgroup switches used in environment**

|          |      |      |      |          |     |
|----------|------|------|------|----------|-----|
| Severity | High | Cost | High | Downtime | Yes |
|----------|------|------|------|----------|-----|

**Risk** Performance, Security

**Remediation** Enterprise-grade managed switching should be installed where appropriate

**Finding 15 No documentation**

|          |      |      |        |          |    |
|----------|------|------|--------|----------|----|
| Severity | High | Cost | Medium | Downtime | No |
|----------|------|------|--------|----------|----|

**Risk** Security, Downtime, Confusion

**Remediation** Environment should be documented and passwords should be stored securely

**Finding 16 AVG on NEWPATRIOT is expired**

|          |      |      |        |          |     |
|----------|------|------|--------|----------|-----|
| Severity | High | Cost | Medium | Downtime | Yes |
|----------|------|------|--------|----------|-----|

**Risk** Security, Data Loss

**Remediation** Purchase and install centrally managed AV on servers

**Finding 17 Backup status for MAIL and NEWPATRIOT unknown**

|          |      |      |      |          |     |
|----------|------|------|------|----------|-----|
| Severity | High | Cost | High | Downtime | Yes |
|----------|------|------|------|----------|-----|

**Risk** Data Loss

**Remediation** Purchase and install an Enterprise-grade, automated backup solution

**Finding 18 Avira on SERVER.townsendlibrary.org expired in 2012**

|          |      |      |        |          |     |
|----------|------|------|--------|----------|-----|
| Severity | High | Cost | Medium | Downtime | Yes |
|----------|------|------|--------|----------|-----|

**Risk** Security, Data Loss

**Remediation** Purchase and install centrally managed AV on servers

**Finding 19 Library workstations are all members of a workgroup, instead of a domain**

|          |        |      |        |          |     |
|----------|--------|------|--------|----------|-----|
| Severity | Medium | Cost | Medium | Downtime | Yes |
|----------|--------|------|--------|----------|-----|

**Risk** Security

**Remediation** Workstations in a domain environment should be joined to the domain

**Finding 20 Library server hardware is all well past EOL**

|          |      |      |      |          |     |
|----------|------|------|------|----------|-----|
| Severity | High | Cost | High | Downtime | Yes |
|----------|------|------|------|----------|-----|

**Risk** Downtime, Data Loss

**Remediation** Migrate servers and services to new, supported hardware

**Finding 21 Telnet and HTTP enabled on switches and weak passwords**

|          |        |      |     |          |    |
|----------|--------|------|-----|----------|----|
| Severity | Medium | Cost | Low | Downtime | No |
|----------|--------|------|-----|----------|----|

**Risk** Security

**Remediation** Passwords should be strong and access should be restricted to SSH and HTTPS

**Finding 22 DNS is configured incorrectly on THDC01**

|          |     |      |     |          |    |
|----------|-----|------|-----|----------|----|
| Severity | Low | Cost | Low | Downtime | No |
|----------|-----|------|-----|----------|----|

**Risk** Performance

**Remediation** Domain Controllers should be configured to look at themselves, and also should have forwarders configured in DNS

**Finding 23 No SPF record configured for townsend.ma.us****Severity****Low****Cost****Low****Downtime****No****Risk** Communication Issues**Remediation** SPF records should be created to prevent emails being marked as SPAM incorrectly**Finding 24 SERVER.townsendlibrary.org only has one power supply plugged in****Severity****Medium****Cost****Low****Downtime****No****Risk** Downtime, Data Loss**Remediation** Redundant power supplies should be used if available**Finding 25 Unix platform requires very specialized skillsets to manage and maintain****Severity****High****Cost****High****Downtime****Yes****Risk** Downtime, Data Loss**Remediation** Unix training, or services need to be moved to a more commonly supported platform**Finding 26 A loop exists in the Library/Senior Center network****Severity****Low****Cost****Low****Downtime****No****Risk** Downtime, Performance**Remediation** Risk is mitigated by STP on switching, but the reason for this loop is unknown



**Town of Townsend**  
**New Network cost pricing**

| <u>Line</u> | <u>Qty</u> | <u>Description</u>  | <u>Unit Amount</u> | <u>Ext. Amount</u> |
|-------------|------------|---|--------------------|--------------------|
| 1           | 1          | <b><u>Storage</u></b>   |                    |                    |
| 2           | 1          | Dell SCv2020 (SAN)  | \$23,870.00        | \$23,870.00        |
| 3           |            | SCv2020 iSCSI   |                    |                    |
| 4           |            | 6Gb Mini-SAS to Mini-SAS Cable, 0.6M, Qty 2                                   |                    |                    |
| 5           |            | 1Gb iSCSI Dual Controller   |                    |                    |
| 6           |            | SCv20x0 SCOS Base License   |                    |                    |
| 7           |            | SCv20x0 SSN License   |                    |                    |
| 8           |            | SCv20x0 Local Data Protection License   |                    |                    |
| 9           |            | SC2020 Regulatory Label   |                    |                    |
| 10          |            | Redundant Power Supply, 580W  |                    |                    |
| 11          |            | 5-15P to C13, 10 amp, 6 feet wall plug Power Cord                             |                    |                    |
| 12          |            | 5-15P to C13, 10 amp, 6 feet wall plug Power Cord                             |                    |                    |
| 13          |            | Rack Rails  |                    |                    |
| 14          |            | SCv2000/SCv2020 Bezel   |                    |                    |
| 15          |            | Dell SCv2020 Shipping   |                    |                    |
| 16          |            | US Order  |                    |                    |
| 17          |            | Dell Hardware Limited Warranty Initial Year                                   |                    |                    |
| 18          |            | Dell Hardware Limited Warranty Extended Year(s)                               |                    |                    |
| 19          |            | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service                 |                    |                    |
| 20          |            | with Emergency Dispatch, Initial Year   |                    |                    |
| 21          |            | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with            |                    |                    |
| 22          |            | Emergency Dispatch, 2 Year Extended   |                    |                    |
| 23          |            | ProSupport Plus: 7x24 HW/SW Tech Support and Assistance, 3 Year               |                    |                    |
| 24          |            | Thank you for choosing Dell ProSupport Plus. For tech support, visit          |                    |                    |
| 25          |            | <a href="http://www.dell.com/contactdell">http://www.dell.com/contactdell</a> |                    |                    |
| 26          |            | Installation by Certified Channel Partner                                     |                    |                    |
| 27          |            | (10) Dell 600GB, SAS, 10K 2.5", HDD   |                    |                    |
| 28          |            | (14) Hard Drive Filler 2.5in, single blank                                    |                    |                    |
| 29          |            |   |                    |                    |
| 30          |            |   |                    |                    |
| 31          |            | <b>Sub Total</b>  |                    | <b>\$23,870.00</b> |
| 32          |            |   |                    |                    |
| 33          | 2          | <b><u>Servers</u></b>   |                    |                    |
| 34          | 3          | Dell PowerEdge R640   | \$10,895.00        | \$32,685.00        |
| 35          |            | PowerEdge R640 Server   |                    |                    |
| 36          |            | PowerEdge R640 Motherboard  |                    |                    |
| 37          |            | Trusted Platform Module   |                    |                    |
| 38          |            | 2.5 Chassis with up to 8 Hard Drives and 3PCIe slots                          |                    |                    |
| 39          |            | PowerEdge R640 Shipping   |                    |                    |
| 40          |            | PowerEdge R640 x8 Drive Shipping Material                                     |                    |                    |

| Line | Qty | Description   | Unit Amount | Ext. Amount |
|------|-----|---|-------------|-------------|
| 41   |     | Intel Xeon Bronze 3104 1.7G, 6C/6T, 9.6GT/s 2UPI, 8M Cache, No Turbo,         |             |             |
| 42   |     | HT (85W) DDR4-2133  |             |             |
| 43   |     | Intel Xeon Bronze 3104 1.7G, 6C/6T, 9.6GT/s 2UPI, 8M Cache, No Turbo,         |             |             |
| 44   |     | HT (85W) DDR4-2133  |             |             |
| 45   |     | DIMM Blanks for System with 2 Processors                                      |             |             |
| 46   |     | Standard 1U Heatsink  |             |             |
| 47   |     | Standard 1U Heatsink  |             |             |
| 48   |     | 2666MT/s RDIMMs   |             |             |
| 49   |     | Performance Optimized   |             |             |
| 50   |     | Unconfigured RAID   |             |             |
| 51   |     | HBA330 12Gb SAS Controller, Minicard  |             |             |
| 52   |     | No Operating System   |             |             |
| 53   |     | No Media Required   |             |             |
| 54   |     | iDRAC9,Enterprise   |             |             |
| 55   |     | OpenManage Essentials, Server Configuration Management                        |             |             |
| 56   |     | iDRAC Group Manager, Enabled  |             |             |
| 57   |     | iDRAC,Factory Generated Password  |             |             |
| 58   |     | Riser Config 2, 3x16 LP   |             |             |
| 59   |     | Intel Ethernet i350 QP 1Gb Network Daughter Card                              |             |             |
| 60   |     | IDSDM and Combo Card Reader   |             |             |
| 61   |     | Redundant SD Cards Enabled  |             |             |
| 62   |     | 32GB microSDHC/SDXC Card  |             |             |
| 63   |     | 32GB microSDHC/SDXC Card  |             |             |
| 64   |     | No Internal Optical Drive for x4 and x8 HDD Chassis                           |             |             |
| 65   |     | 8 Standard Fans for R640  |             |             |
| 66   |     | Dual, Hot-plug, Redundant Power Supply (1+1), 1100W                           |             |             |
| 67   |     | Standard Bezel  |             |             |
| 68   |     | Dell EMC Luggage Tag  |             |             |
| 69   |     | No Quick Sync   |             |             |
| 70   |     | Power Saving Dell Active Power Controller                                     |             |             |
| 70   |     | Energy Star   |             |             |
| 71   |     | ReadyRails Sliding Rails With Cable Management Arm                            |             |             |
| 72   |     | No Systems Documentation, No OpenManage DVD Kit                               |             |             |
| 73   |     | VMware ESXi 6.5 NFI   |             |             |
| 74   |     | US Order  |             |             |
| 75   |     | Dell Hardware Limited Warranty Plus On-Site Service                           |             |             |
| 76   |     | ProSupport Plus: Next Business Day On-Site Service After Problem              |             |             |
| 77   |     | Diagnosis, 3 Years  |             |             |
| 78   |     | ProSupport Plus: 7x24 HW/SW Technical Support and Assistance, 3 Years         |             |             |
| 79   |     | Thank you for choosing Dell ProSupport Plus. For tech support, visit          |             |             |
| 80   |     | <a href="http://www.dell.com/contactdell">http://www.dell.com/contactdell</a> |             |             |
| 81   |     | On-Site Installation Declined   |             |             |
| 82   |     | (6) 16GB RDIMM, 2666MT/s, Dual Rank   |             |             |
| 83   |     | 120GB SSD SATA Boot 6Gbps 512n 2.5in Hot-plug Drive, 1 DWPD, 219 TWB          |             |             |
| 84   |     | (2) NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power        |             |             |
| 85   |     |   |             |             |

| <u>Line</u> | <u>Qty</u> | <u>Description</u>  | <u>Unit Amount</u> | <u>Ext. Amount</u> |
|-------------|------------|---|--------------------|--------------------|
| 41          |            | Intel Xeon Bronze 3104 1.7G, 6C/6T, 9.6GT/s 2UPI, 8M Cache, No Turbo,         |                    |                    |
| 42          |            | HT (85W) DDR4-2133  |                    |                    |
| 43          |            | Intel Xeon Bronze 3104 1.7G, 6C/6T, 9.6GT/s 2UPI, 8M Cache, No Turbo,         |                    |                    |
| 44          |            | HT (85W) DDR4-2133  |                    |                    |
| 45          |            | DIMM Blanks for System with 2 Processors                                      |                    |                    |
| 46          |            | Standard 1U Heatsink  |                    |                    |
| 47          |            | Standard 1U Heatsink  |                    |                    |
| 48          |            | 2666MT/s RDIMMs   |                    |                    |
| 49          |            | Performance Optimized   |                    |                    |
| 50          |            | Unconfigured RAID   |                    |                    |
| 51          |            | HBA330 12Gb SAS Controller, Minicard  |                    |                    |
| 52          |            | No Operating System   |                    |                    |
| 53          |            | No Media Required   |                    |                    |
| 54          |            | iDRAC9,Enterprise   |                    |                    |
| 55          |            | OpenManage Essentials, Server Configuration Management                        |                    |                    |
| 56          |            | iDRAC Group Manager, Enabled  |                    |                    |
| 57          |            | iDRAC,Factory Generated Password  |                    |                    |
| 58          |            | Riser Config 2, 3x16 LP   |                    |                    |
| 59          |            | Intel Ethernet i350 QP 1Gb Network Daughter Card                              |                    |                    |
| 60          |            | IDSDM and Combo Card Reader   |                    |                    |
| 61          |            | Redundant SD Cards Enabled  |                    |                    |
| 62          |            | 32GB microSDHC/SDXC Card  |                    |                    |
| 63          |            | 32GB microSDHC/SDXC Card  |                    |                    |
| 64          |            | No Internal Optical Drive for x4 and x8 HDD Chassis                           |                    |                    |
| 65          |            | 8 Standard Fans for R640  |                    |                    |
| 66          |            | Dual, Hot-plug, Redundant Power Supply (1+1), 1100W                           |                    |                    |
| 67          |            | Standard Bezel  |                    |                    |
| 68          |            | Dell EMC Luggage Tag  |                    |                    |
| 69          |            | No Quick Sync   |                    |                    |
| 70          |            | Power Saving Dell Active Power Controller                                     |                    |                    |
| 70          |            | Energy Star   |                    |                    |
| 71          |            | ReadyRails Sliding Rails With Cable Management Arm                            |                    |                    |
| 72          |            | No Systems Documentation, No OpenManage DVD Kit                               |                    |                    |
| 73          |            | VMware ESXi 6.5 NFI   |                    |                    |
| 74          |            | US Order  |                    |                    |
| 75          |            | Dell Hardware Limited Warranty Plus On-Site Service                           |                    |                    |
| 76          |            | ProSupport Plus: Next Business Day On-Site Service After Problem              |                    |                    |
| 77          |            | Diagnosis, 3 Years  |                    |                    |
| 78          |            | ProSupport Plus: 7x24 HW/SW Technical Support and Assistance, 3 Years         |                    |                    |
| 79          |            | Thank you for choosing Dell ProSupport Plus. For tech support, visit          |                    |                    |
| 80          |            | <a href="http://www.dell.com/contactdell">http://www.dell.com/contactdell</a> |                    |                    |
| 81          |            | On-Site Installation Declined   |                    |                    |
| 82          |            | (6) 16GB RDIMM, 2666MT/s, Dual Rank   |                    |                    |
| 83          |            | 120GB SSD SATA Boot 6Gbps 512n 2.5in Hot-plug Drive, 1 DWPD, 219 TWB          |                    |                    |
| 84          |            | (2) NEMA 5-15P to C13 Wall Plug, 125 Volt, 15 AMP, 10 Feet (3m), Power        |                    |                    |
| 85          |            |   |                    |                    |



| <u>Line</u> | <u>Qty</u> | <u>Description</u>  | <u>Unit Amount</u> | <u>Ext. Amount</u> |
|-------------|------------|---|--------------------|--------------------|
| 86          |            | Broadcom 5719 QP 1Gb Network Interface Card, Low Profile Cord.                |                    |                    |
| 87          |            | <b>Sub Total</b>  |                    | <b>\$32,685.00</b> |
| 88          |            |   |                    |                    |
| 89          | 3          | <b><u>Network Switches</u></b>  |                    |                    |
| 90          | 3          | N3024   | \$5,577.00         | \$16,731.00        |
| 91          |            | Dell Networking N3024, L3 ,24x1GbE, 2xCombo, 2x10GbE SFP+ fixed               |                    |                    |
| 92          |            | ports, Stacking, IO to PSU airflow, 1x AC PSU                                 |                    |                    |
| 93          |            | Power Supply, 200w, Hot Swap, with V-Lock, adds redundancy to                 |                    |                    |
| 94          |            | non-POE N3000 series switches   |                    |                    |
| 95          |            | Dell Networking N2000/3000 Series User Guide                                  |                    |                    |
| 96          |            | US Order  |                    |                    |
| 97          |            | Dell Education Services - Dell Campus Networking - No Training Selected       |                    |                    |
| 98          |            | Thank you for choosing Dell ProSupport Plus. For tech support, visit          |                    |                    |
| 99          |            | <a href="http://www.dell.com/contactdell">http://www.dell.com/contactdell</a> |                    |                    |
| 100         |            | Dell Hardware Limited Warranty Initial Year                                   |                    |                    |
| 101         |            | Dell Hardware Limited Warranty Extended Year(s)                               |                    |                    |
| 102         |            | Lifetime Limited Hardware Warranty with Basic Hardware Service Next           |                    |                    |
| 103         |            | Business Day Parts Only on Your Network Switch                                |                    |                    |
| 104         |            | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with            |                    |                    |
| 105         |            | Emergency Dispatch, Initial Year  |                    |                    |
| 106         |            | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with            |                    |                    |
| 107         |            | Emergency Dispatch, 2 Year Extended   |                    |                    |
| 108         |            | ProSupport Plus: 7x24 HW/SW Tech Support and Assistance, 3Year                |                    |                    |
| 109         |            | On-Site Installation Declined   |                    |                    |
| 110         |            | Stacking Cable, for Dell Networking N2000/N3000/S3100 series switches         |                    |                    |
| 111         |            | (no cross-series stack), 0.5m   |                    |                    |
| 112         |            | (2) Power Cord, 125V, 15A, 10 Feet, NEMA 5-15/C13                             |                    |                    |
| 113         |            |   |                    |                    |
| 114         |            |   |                    |                    |
| 115         |            | <b>Sub Total</b>  |                    | <b>\$16,731.00</b> |
| 116         |            |   |                    |                    |
| 117         | 4          | <b><u>VMware</u></b>  |                    |                    |
| 118         | 1          | vSphere Essentials Plus   | \$9,868.00         | \$9,868.00         |
| 119         |            | VMware vSphere Essentials Plus  |                    |                    |
| 120         |            | US Order  |                    |                    |
| 121         |            | ProSupport for Software, VMware, Contract, 3 Years                            |                    |                    |
| 122         |            | Thank you for Your Order  |                    |                    |
| 123         |            | Thank you for Your Order  |                    |                    |
| 124         |            | VMware vSphere Essentials Plus, 6CPU, 3YR                                     |                    |                    |
| 125         |            | ProSupport for Software, VMware, vSphere Essentials Plus, 6 CPU, 3 Years      |                    |                    |
| 126         |            |   |                    |                    |
| 127         |            |   |                    |                    |
| 128         |            |   |                    |                    |
| 129         |            |   |                    |                    |
| 130         |            | <b>Sub Total</b>  |                    | <b>\$9,868.00</b>  |

| Line | Qty | Description   | Unit Amount | Ext. Amount        |
|------|-----|---|-------------|--------------------|
| 131  | 5   | <b><u>PoE Switches</u></b>  |             |                    |
| 132  | 3   | N3024P  | \$5,980.00  | \$17,940.00        |
| 133  |     | Dell Networking N3024P, L3, POE+, 24x 1GbE, 2xCombo, 2x 10GbE SFP+            |             |                    |
| 134  |     | fixed ports, Stacking, IO to PSU air, 1x 715w AC PSU                          |             |                    |
| 135  |     | Power Supply, 715w, Hot Swap, Required for more than 550 watts of             |             |                    |
| 136  |     | POE+, or for redundancy   |             |                    |
| 137  |     | Dell Networking N2000/3000 Series User Guide                                  |             |                    |
| 138  |     | US Order  |             |                    |
| 139  |     | Dell Education Services - Dell Campus Networking - No Training Selected       |             |                    |
| 140  |     | Thank you for choosing Dell ProSupport Plus. For tech support, visit          |             |                    |
| 141  |     | <a href="http://www.dell.com/contactdell">http://www.dell.com/contactdell</a> |             |                    |
| 142  |     | Dell Hardware Limited Warranty Initial Year                                   |             |                    |
| 143  |     | Dell Hardware Limited Warranty Extended Year(s)                               |             |                    |
| 144  |     | Lifetime Limited Hardware Warranty with Basic Hardware Service Next           |             |                    |
| 145  |     | Business Day Parts Only on Your Network Switch                                |             |                    |
| 146  |     | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with            |             |                    |
| 147  |     | Emergency Dispatch, Initial Year  |             |                    |
| 148  |     | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with            |             |                    |
| 149  |     | Emergency Dispatch, 2 Year Extended   |             |                    |
| 150  |     | ProSupport Plus: 7x24 HW/SW Tech Support and Assistance, 3Year                |             |                    |
| 151  |     | Stacking Cable, for Dell Networking N2000/N3000/S3100 series switches         |             |                    |
| 152  |     | (no cross-series stack), 0.5m   |             |                    |
| 153  |     | (2) Power Cord, 125V, 13A, 6 Feet, C15 to NEMA 5-15P                          |             |                    |
| 154  |     |   |             |                    |
| 155  |     |   |             |                    |
| 156  |     | <b>Sub Total</b>  |             | <b>\$17,940.00</b> |
| 157  | 6   | <b><u>FireWalls</u></b>   |             |                    |
| 158  | 2   | SonicWALL NSA 2650  | \$1,890.00  | \$3,780.00         |
| 159  | 2   | SonicWALL NSA 2650 High Availability  | \$1,478.00  | \$2,956.00         |
| 160  | 3   | SonicWALL TZ600   | \$1,309.00  | \$3,927.00         |
| 161  | 2   | SonicWALL Global Management System Standard Edition                           | \$1,308.00  | \$2,616.00         |
| 162  |     |   |             |                    |
| 163  |     |   |             |                    |
| 164  |     | <b>Sub Total</b>  |             | <b>\$13,279.00</b> |
| 165  | 7   | <b><u>Wireless Network</u></b>  |             |                    |
| 166  | 1   | RUCKUS WIRELESS : ZoneDirector 1200   | \$919.00    | \$919.00           |
| 167  | 6   | RUCKUS WIRELESS : ZoneFlex R510 dual  | \$659.00    | \$3,954.00         |
| 168  |     | band 802.11ac Wave 2 Indoor Access Point                                      |             |                    |
| 169  |     | <b>Sub Total</b>  |             | <b>\$4,873.00</b>  |
| 170  | 8   | <b><u>Software / SERVER LICENSING</u></b>                                     |             |                    |
| 171  | 25  | MicrosoftWindowsServerSTDCORE 2016 English                                    | \$88.00     | \$2,200.00         |
| 172  |     | Local Government OLP 2Licenses NoLevel CoreLic                                |             |                    |
| 173  | 100 | Microsoft Windows Server 2016 - License - 1 User CAL -                        | \$31.00     | \$3,100.00         |
|      |     | Volume, Local Government  |             |                    |
|      | 1   | Microsoft Exchange Server 2016 Standard - Lic.- 1 PC - Local Government       | \$565.00    | \$565.00           |

| <u>Line</u> | <u>Qty</u> | <u>Description</u>  | <u>Unit Amount</u> | <u>Ext. Amount</u> |
|-------------|------------|---|--------------------|--------------------|
| 131         | 5          | <b><u>PoE Switches</u></b>  |                    |                    |
| 132         | 3          | N3024P  | \$5,980.00         | \$17,940.00        |
| 133         |            | Dell Networking N3024P, L3, POE+, 24x 1GbE, 2xCombo, 2x 10GbE SFP+            |                    |                    |
| 134         |            | fixed ports, Stacking, IO to PSU air, 1x 715w AC PSU                          |                    |                    |
| 135         |            | Power Supply, 715w, Hot Swap, Required for more than 550 watts of             |                    |                    |
| 136         |            | POE+, or for redundancy   |                    |                    |
| 137         |            | Dell Networking N2000/3000 Series User Guide                                  |                    |                    |
| 138         |            | US Order  |                    |                    |
| 139         |            | Dell Education Services - Dell Campus Networking - No Training Selected       |                    |                    |
| 140         |            | Thank you for choosing Dell ProSupport Plus. For tech support, visit          |                    |                    |
| 141         |            | <a href="http://www.dell.com/contactdell">http://www.dell.com/contactdell</a> |                    |                    |
| 142         |            | Dell Hardware Limited Warranty Initial Year                                   |                    |                    |
| 143         |            | Dell Hardware Limited Warranty Extended Year(s)                               |                    |                    |
| 144         |            | Lifetime Limited Hardware Warranty with Basic Hardware Service Next           |                    |                    |
| 145         |            | Business Day Parts Only on Your Network Switch                                |                    |                    |
| 146         |            | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with            |                    |                    |
| 147         |            | Emergency Dispatch, Initial Year  |                    |                    |
| 148         |            | ProSupport Plus: Mission Critical 4-Hour 7x24 On-Site Service with            |                    |                    |
| 149         |            | Emergency Dispatch, 2 Year Extended   |                    |                    |
| 150         |            | ProSupport Plus: 7x24 HW/SW Tech Support and Assistance, 3Year                |                    |                    |
| 151         |            | Stacking Cable, for Dell Networking N2000/N3000/S3100 series switches         |                    |                    |
| 152         |            | (no cross-series stack), 0.5m   |                    |                    |
| 153         |            | (2) Power Cord, 125V, 13A, 6 Feet, C15 to NEMA 5-15P                          |                    |                    |
| 154         |            |   |                    |                    |
| 155         |            |   |                    |                    |
| 156         |            | <b>Sub Total</b>  |                    | <b>\$17,940.00</b> |
| 157         | 6          | <b><u>FireWalls</u></b>   |                    |                    |
| 158         | 2          | SonicWALL NSA 2650  | \$1,890.00         | \$3,780.00         |
| 159         | 2          | SonicWALL NSA 2650 High Availability  | \$1,478.00         | \$2,956.00         |
| 160         | 3          | SonicWALL TZ600   | \$1,309.00         | \$3,927.00         |
| 161         | 2          | SonicWALL Global Management System Standard Edition                           | \$1,308.00         | \$2,616.00         |
| 162         |            |   |                    |                    |
| 163         |            |   |                    |                    |
| 164         |            | <b>Sub Total</b>  |                    | <b>\$13,279.00</b> |
| 165         | 7          | <b><u>Wireless Network</u></b>  |                    |                    |
| 166         | 1          | RUCKUS WIRELESS : ZoneDirector 1200   | \$919.00           | \$919.00           |
| 167         | 6          | RUCKUS WIRELESS : ZoneFlex R510 dual  | \$659.00           | \$3,954.00         |
| 168         |            | band 802.11ac Wave 2 Indoor Access Point                                      |                    |                    |
| 169         |            | <b>Sub Total</b>  |                    | <b>\$4,873.00</b>  |
| 170         | 8          | <b><u>Software / SERVER LICENSING</u></b>                                     |                    |                    |
| 171         | 25         | MicrosoftWindowsServerSTDCORE 2016 English                                    | \$88.00            | \$2,200.00         |
| 172         |            | Local Government OLP 2Licenses NoLevel CoreLic                                |                    |                    |
| 173         | 100        | Microsoft Windows Server 2016 - License - 1 User CAL -                        | \$31.00            | \$3,100.00         |
|             |            | Volume, Local Government  |                    |                    |
|             | 1          | Microsoft Exchange Server 2016 Standard - Lic.- 1 PC - Local Government       | \$565.00           | \$565.00           |

| <u>Line</u> | <u>Qty</u> | <u>Description</u>   | <u>Unit Amount</u> | <u>Ext. Amount</u>  |
|-------------|------------|--|--------------------|---------------------|
|             |            | Local Government   |                    |                     |
| 100         |            | Microsoft Exchange 2016 Standard CAL-Lic.- 1 User CAL-Local Government                                     | \$70.00            | \$7,000.00          |
| 1           |            | SPAM FILTERING: Reflexion RADAR (Reflexion Archiving, Discovery and Recovery) – up to 80 mailboxes, annual | \$6,750.00         | \$6,750.00          |
| 1           |            | SSL CERTIFICATE FOR SECURE WEBMAIL:<br>SSL Unified Communications Certificate License                      | \$885.00           | \$885.00            |
| 100         |            | ANTIVIRUS: ESET Endpoint Antivirus   | \$38.00            | \$3,800.00          |
|             |            | <b>Sub Total</b>   |                    | <b>\$24,300.00</b>  |
| 9           |            | <b>DATA BACKUP AND RECOVERY APPLIANCES</b>   |                    |                     |
| 2           |            | Barracuda Backup Server 390 with 1yr Energize Updates  | \$3,059.00         | \$6,118.00          |
| 100         |            | ANTIVIRUS: ESET Endpoint Antivirus 3-Year  | \$38.00            | \$3,800.00          |
|             |            | <b>Sub Total</b>   |                    | <b>\$9,918.00</b>   |
| 271         |            | <b>ENGINEERING SERVICES &amp; LABOR</b>  | \$160.00           | \$43,360.00         |
|             |            | Windows Server Replacement (25 hours)  |                    |                     |
|             |            | Exchange Server 2016 Email Migration FROM Linux (100 hours)  |                    |                     |
|             |            | SAN Configuration and setup (25)   |                    |                     |
|             |            | Antivirus Installation (20 hours)  |                    |                     |
|             |            | Local Backups (20 hours)   |                    |                     |
|             |            | Firewalls, ISP and Virtual Private Networks (22 hours) 7   |                    |                     |
|             |            | Off-Site Backups (15 hours)  |                    |                     |
|             |            | Network Switch Upgrade (14 hours)  |                    |                     |
|             |            | Wireless Network Upgrade (10 hours)  |                    |                     |
|             |            | Hardware Installation (20 Hours)   |                    |                     |
|             |            | Total Hours 271.00   |                    | \$43,360.00         |
|             |            | <b>Sub Total</b>   |                    |                     |
|             |            |  |                    | <b>\$196,824.00</b> |
|             |            | <b>Grand Total</b>   |                    |                     |