Town of Wilton

Information Technology Risk Assessment
Findings and Recommendations
Final Report
September 2012
I. Town of Wilton – Risk Assessment

PROJECT OVERVIEW

Blum Shapiro Consulting, LLC (“BlumShapiro”) performed an IT Risk Assessment for the Town of Wilton (the “Town”). As part of this project, BlumShapiro met with personnel from the Town of Wilton’s Public Library, Public Schools and Town to discuss and independently assess the current technology environment within these entities as it relates to business continuity and security exposures to operational needs. In addition, BlumShapiro reviewed system inventories and system vulnerability assessments provided by the three entities to identify potential improvements for the use and implementation of technologies.

OBJECTIVES

The Objectives of this review were as follows:

1. Develop an inventory of potential risks based on the Town of Wilton’s IT infrastructure and other related areas, including access to information assets.
2. Review documented policies, procedures and protocols related to the Town’s IT operations.
3. Develop a logical vulnerability and threat assessment of the various risk areas identified.
4. Identify mitigating controls associated within each risk area.
5. Review and evaluate critical IT areas including but not limited to the following:
   a. Data backup and recovery
   b. Disaster recovery and business continuity
   c. Security configurations for hardware and software on laptops, workstations, and servers
   d. Security configurations for network devices
   e. Security and access controls for application software
   f. Maintenance, monitoring, and analysis of malware defenses
6. Review and evaluate the BVH report as it relates to IT infrastructure risks
7. Develop findings and recommendations for the Town’s management team.
The report is broken into the follow sections:

A. Overview
   1. Goals/objectives of the Town of Wilton’s Information Technology Infrastructure
   2. General Observations

B. Risk Rating Definition

C. Summary of Operational Risks

D. IT Risk Assessment

E. Summary of BVH Report

F. Findings

G. Recommendations

H. Appendix A – Cloud Computing

I. Appendix B – IT Risks Assessments –Software Inventory List
A. **Overview**

1. **Goals/Objectives of the Town of Wilton’s Information Technology Infrastructure:**

   - To create an environment for the Town, School District and Library that would allow each entity and the community as a whole to continue to operate in the event of a disaster.
   - To have the Town, School District and Library’s electronic information be stored securely at all times.
   - To have the Town, School District and Library’s electronic information accessible at all times.
   - To ensure sensitive/private information within the Town, School District and Library is limited to appropriate personnel.

2. **General Observations**

   After careful analysis of the information provided and interviews with the departmental personnel, BlumShapiro noted the following general observations for the School District, Library and Town:

   **School District:**

   - Number of Servers: 17
   - Number of Backup Devices: 2
   - Number of Storage / Virtual Machines: None
   - Number of Uninterruptible Power Supply (UPS): All servers are connected to a UPS
   - Number of Computers connected to the network: 1,600
   - Total disk space for backup: less than 3TB
   - Number of IT personnel: 3
   - Documented Information Technology Policies and Procedures: Yes
   - Documented Disaster Recovery Plan: No
   - Tested Disaster Recovery Plan: No
   - Generator capabilities: Only selected areas of the school have backup generator power
CURRENT FIBER CONNECTIVITY AT THE SCHOOL DISTRICT:
- The High School is the central repository for all servers and telecommunication equipment for the School District.
- The School District has the Connecticut Education Network (CEN) as their ISP.
- The School District has a 36-strand connecting to Cider Mill, Middlebrook and Comstock Community Center.
  - The School District provides 12 strands of single mode fiber, each, to the Cider Mill and Middlebrook schools.
  - The School District provides 12 strands of multi-mode fiber, Comstock Community Center.
  - The School District provides 2 strands of single mode fiber to Miller Driscoll School (no conduit used).

LIBRARY:

Number of Servers: **12**
Numbers of Network Attached Storage Devices: **1**
Number of Uninterruptible Power Supply (UPS): **All servers are connected to a UPS**
Number of Computers connected to the network: **154**
Number of IT personnel: **3**
Total disk space for backup: **511 GB**
Documented Information Technology Policies and Procedures: **Yes**
Documented Disaster Recovery Plan: **No**
Tested Disaster Recovery Plan: **No**
Generator capabilities: A generator is only used for the water pump system and is not available for the technology infrastructure.

CURRENT FIBER CONNECTIVITY AT THE LIBRARY:
- The library has 12 fibers (6 pairs) of multi-mode fiber in the building. There are no external fiber connections.
**TOWN:**
Number of Servers: 8  
Number of Backup Devices: 3  
Numbers of Storage / Virtual Machines: 48  
Number of Uninterruptible Power Supply (UPS): All servers are connected to a UPS  
Number of Computers connected to the network: 122  
Total disk space for backup: 1,442 GB per week  
Number of IT personnel: 1 Full time and two .5 part-time FTEs  
Documented Information Technology Policies and Procedures: Yes  
Documented Disaster Recovery Plan: No  
Tested Disaster Recovery Plan: No  
Generator capabilities: There are generators at the Town-Hall, Police and Firehouse

**CURRENT FIBER CONNECTIVITY AT THE TOWN HALL:**
- The Town has fiber connectivity within the Town Hall complex that connects Town Hall to Police, Fire Departments and the Annex.  
- There is a T/1 connection between Town Hall and Comstock Community Center.  
- Currently there is a failover capability using VMware software between the Town Hall and Police Department building using the current fiber connection.  
- The Town has implemented a virtual server environment with a fail-over standby set of servers located at the Comstock Community Center.  
- The Town has implemented VMware servers and SAN at the Comstock Community Center.  
- A Siris backup device is configured to backup all Town servers.  
  - This technology solution takes data directly from the respective server and creates virtual machines (VMs) every time a backup occurs.  
- A Siris backup device is also configured at the Comstock Community Center.  
- Both Siris devices are backed up to the cloud and can run virtualized servers in either an on-site or off-site (Datto's Secure Cloud) environment.  
- The Town could utilize Siris via fiber connection to have Town server backups be performed at an off-site location (Library or School District) and in the event of a disaster could virtualize a server(s) at that location.
B. **Risk Rating Definition**

To assist in evaluating the risk of each observation, a rating system is applied to assess the level of threat to the integrity, availability, and confidentiality of the three entities information systems. These ratings are defined as:

1. **High** – The identified deficiency may expose the organization to significant risks, including: compromise of confidential information, regulatory violation or criticism, damage to reputation, diminished operational capacity and/or loss of capital. Deficiencies should be addressed immediately.

2. **Moderate** – The specifically identified deficiency may not be critical or serious by itself, but could indicate a missing control or a weakness in an existing control that should be addressed in the normal course of business.

3. **Low** – Best practices recommendation without system security control impact. Management should analyze the costs and benefits of implementing this recommendation and determine an appropriate course of action within a reasonable period of time.
C. **SUMMARY OF OPERATIONAL RISKS:**

As part of the IT risk assessment process, BlumShapiro identified a number of potential IT weaknesses that could expose the School District, Library and/or Town to significant risks. In particular, these weaknesses include:

- Backups not being taken off-site and stored securely
- Inability to quickly recover in the event of loss of equipment
- Inability to quickly recover in the event of a significant power disruption/outage
- Limited infrastructure connecting the three entities together
- Lack of a coordinated “game plan” to recover from a significant event

We evaluated a number of potential risks (process, financial, and security) based on the critical operational areas of the three entities. In the event of a disaster the three (3) core entities of the Town of Wilton, would be unable to perform many of their day-to-day tasks. Our definition of a disaster is a significant event (fire, storm, etc.) that creates a loss of power for an extended period of time, loss or damage to one or more servers, inaccessibility to access one or more buildings and loss of internet connectivity.
Critical operation may include, but not limited to, the following:

**SCHOOL DISTRICT:**

<table>
<thead>
<tr>
<th>Risk Area</th>
<th>Overall Risk Rating</th>
<th>Risk Focus Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Retention</td>
<td>High</td>
<td>● Process and financial risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to store, access or retrieve electronic information</td>
</tr>
<tr>
<td>Student Attendance</td>
<td>Moderate/High</td>
<td>● Process, financial and security risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to track student attendance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Risk to students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Insurance risk</td>
</tr>
<tr>
<td>Student Records</td>
<td>Moderate/High</td>
<td>● Process and financial risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Academic information</td>
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<tr>
<td></td>
<td></td>
<td>▪ Inability to generate student report cards</td>
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<td></td>
<td></td>
<td>▪ Unable to provide request information to other users</td>
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<tr>
<td></td>
<td></td>
<td>(colleges, etc.)</td>
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<tr>
<td></td>
<td></td>
<td>▪ Inability to generate student College/University transcripts</td>
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<tr>
<td></td>
<td></td>
<td>▪ Loss of records</td>
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<tr>
<td></td>
<td></td>
<td>o Medical Records Student health risk</td>
</tr>
<tr>
<td>Teacher Attendance/Substitute</td>
<td>Moderate/High</td>
<td>● Process, security and financial risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Unattended classes filled with students</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Failure to maintain appropriate payroll records</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to secure substitutes to cover classes</td>
</tr>
<tr>
<td>Classes</td>
<td>Moderate</td>
<td>● Process risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to provide students with on-line classroom materials</td>
</tr>
<tr>
<td>Communications</td>
<td>High</td>
<td>● Process and security risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to communicate with parents, students, bus company, etc.</td>
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<tr>
<td></td>
<td></td>
<td>o Unable to notify parents of problems – early dismissal, etc.</td>
</tr>
</tbody>
</table>
## TOWN:

<table>
<thead>
<tr>
<th>Risk Area</th>
<th>Overall Risk Rating</th>
<th>Risk Focus Areas</th>
</tr>
</thead>
</table>
| Town Public Safety   | High                | • Process and security risk  
|                      |                     |   o Inability to effectively dispatch emergency personnel  
|                      |                     |   o Public Safety Personnel do not have access to required information regarding locations, suspects, environment  
|                      |                     |   o Personnel unable to effectively communicate with one another  |
| Assessor             | Moderate            | • Process and financial risk  
|                      |                     |   o Inability to assess property values  
|                      |                     |   o Inability to create a mill rate for the Town  |
| Revenue Collection   | High                | • Financial risk  
|                      |                     |   o Inability to process Tax collection bills  
|                      |                     |   o Inability to collect money needed to operate Town  
|                      |                     |   o Loss of financial records to prove accounts receivable information  
|                      |                     |   o Inability to maintain required financial records  |
| Payroll Processing   | High                | • Process, financial, and security risk  
|                      |                     |   o Inability to pay employees can result in:  
|                      |                     |     ▪ Labor violations  
|                      |                     |     ▪ Fines  
|                      |                     |     ▪ IRS penalties  
|                      |                     |     ▪ Needed employees refusing to work (police, fire, etc…)  
|                      |                     |   o Loss of financial records  |
| Billing              | High                | • Process and financial risk  
<p>|                      |                     |   o Inability to generate bills impacts cash flow  |</p>
<table>
<thead>
<tr>
<th>Risk Area</th>
<th>Overall Risk Rating</th>
<th>Risk Focus Areas</th>
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</thead>
<tbody>
<tr>
<td>Procurement</td>
<td>Moderate</td>
<td>• Process risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Unable to procure needed services and supplies</td>
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<td></td>
<td></td>
<td>o Inability to provide third party services</td>
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<tr>
<td></td>
<td></td>
<td>▪ Trash pickup</td>
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<td></td>
<td></td>
<td>▪ Snow plowing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ EMT</td>
</tr>
<tr>
<td>Financial Management</td>
<td>Moderate</td>
<td>• Process and financial risks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Unable to monitor Town’s financial resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to ensure Town is in compliance with legal spending authority</td>
</tr>
<tr>
<td>Communications</td>
<td>High</td>
<td>• Operational and security risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to communicate with residents</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Unable to notify residents of emergencies</td>
</tr>
</tbody>
</table>
LIBRARY:

<table>
<thead>
<tr>
<th>Risk Area</th>
<th>Overall Risk Rating</th>
<th>Risk Focus Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Services</td>
<td>Moderate</td>
<td>• Operational and financial risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Library services become unavailable to residents</td>
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<tr>
<td></td>
<td></td>
<td>▪ Internet access</td>
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<td></td>
<td></td>
<td>▪ On-line research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ On-site research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Training classes</td>
</tr>
<tr>
<td>Payment Processing</td>
<td>High</td>
<td>• Operational and financial risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to collect revenues</td>
</tr>
<tr>
<td>Record keeping</td>
<td>High</td>
<td>• Operational and financial risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to determine who owes the library money</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to identify where books are located</td>
</tr>
<tr>
<td>Asset Management</td>
<td>Moderate</td>
<td>• Operational and financial risk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o Inability to track books through the library</td>
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<tr>
<td></td>
<td></td>
<td>management system can result in lost/missing books</td>
</tr>
</tbody>
</table>

D. **IT RISK ASSESSMENT**

BlumShapiro performed an IT Risk Assessment for the Town of Wilton, School District and Library. The purpose of the IT Risk Assessment was to evaluate the various information systems (software applications) based on the nature of their function, the criticality of data they support, and the sensitivity of data they store, transmit, or protect. During the IT Risk Assessment, BlumShapiro identified critical applications for all three (3) entities. Appendix B – IT Risk Assessment provides a detailed breakdown of the risks associated with the various software applications.
E. **SUMMARY OF BVH REPORT**

BVH performed a fiber optic infrastructure assessment to ensure the Wilton community has full network redundancy through the main downtown areas of the town, in order to reach as many town buildings with a high-speed fiber optic network. In addition to network redundancy, BVH considered data restoration in the event of a disaster for the Town, School District and Library. BVH provided the following options to the Town of Wilton:

**OPTION 1** – Consists of all new Fiber and is fully redundant

- Three (3) core nodes (Library, School District and Town Hall) will have the proper infrastructure (proper physical space, electrical power, backup power, equipment cooling, security) for the redundant fiber path to function
- Each school will have two (2) fiber connections (a primary and a secondary) for failover protection
  - Each school will have two (2) paths to two (2) different core nodes for redundancies
- A dedicated fiber connection for data between the Library, Town Hall and School District to accommodate off-site backup for the Library
- Fiber design will have enough bandwidth capability to replicate data for disaster recovery operation

**OPTION 2** – Consists of new primary node fiber and reusing the existing School District laterals between the School District and Cider Mill School and Middlebrook School. This option is also fully redundant, but does not utilize the same number of fiber strands that are in option 1 since the existing laterals contain only 12 fiber strands to each location

- Implementation, data redundancy and fail-over connectivity will have to be considered for all schools.
- Each school will have two (2) paths to two (2) different core nodes
- A dedicated fiber connection for data between the library, Town Hall and School District to accommodate off-site backup for the library.
- Fiber design will have enough bandwidth capability to replicate data for disaster recovery operation

**OPTION 3** - Consists of new primary node fiber and reuse of existing School District laterals to schools. This option is redundant for the primary nodes, but is not redundant to the secondary sites. This option does not allow future growth and does not provide the required redundancies since it does not install the conduits required during a time frame that would be cost savings to the project, and is not practical to consider.
KEY BENEFITS OF IMPLEMENTING FIBER

- Fiber provides significant flexibility to maintain multiple business continuity sites (operational centers) throughout the Town of Wilton.
  - Option 1 provides the most flexibility due to the inherent redundancies created in the fiber infrastructure.
- Fiber between the core areas (Town, School District and Library) promotes integrated solutions throughout the Wilton community.
  - Unifies the current “islands” (Town, School District and Library).
  - Provides and promotes the ability to share services: software and hardware solutions.
- Option 1 provides a solid infrastructure to allow fault tolerance and business continuity for the Town, School District and Library.
- Option 1 can be easily reconfigured to handle almost any disaster.
  - Fiber redundancies reduce the risk of any type of network outage.
  - Fiber is a resilient, high speed transport solution for all data types including Video and Voice Over IP (voice).
  - Promotes fast, efficient and secure off-site storage.
  - Siris backup solution can be configured at any remote location (School District or Library) so virtualized servers could be regenerated quickly and efficiently.
  - With the implementation of VMware within the Library and School District (VMotion-high availability) servers would be always available.
- Implementation of option 1 promotes the best redundancy within the Town of Wilton.
- Implementation of option 1 mitigates many of the risks previously outlined in this report.
- Implementation of option 1 improves connectivity and performance for all three entities.
F. FINDINGS

Based on the analysis of collective information and discussions with the Wilton’s Town, School District and Library IT personnel, BlumShapiro noted the following findings:

1. **THE TOWN, SCHOOL DISTRICT AND LIBRARY DO NOT HAVE A DOCUMENTED DISASTER RECOVERY PLAN (RISK: HIGH)**

The Town, School District and Library do not have documented plans to ensure the quick and orderly recovery of business operations in the event of an emergency. Although staff may have a reasonable idea of what is required to restore critical business systems in a timely fashion, it will be difficult to ensure all aspects of the organization’s network are addressed during a time of crisis. A documented plan will provide both the organization with the information necessary to ensure all activities are addressed, required hardware and software are identified and appropriated, and task responsibilities assigned to appropriate key personnel.

A documented Disaster Recovery Plan should be developed to provide a “roadmap” of key activities and responsibilities for staff in the event of an emergency. This plan should include, at a minimum:

a. Prioritization of systems for recovery
b. Assignment of staff roles and responsibilities
c. Inventory of systems and data maintained on the various servers
d. Hardware, operating system and application configuration data
e. Vendor contacts for mission critical systems
f. Location of backup media and software
g. Potential off-site recovery locations
2. **THE TOWN, SCHOOL DISTRICT AND LIBRARY OF WILTON DO NOT HAVE A BUSINESS IMPACT ANALYSIS (RISK: HIGH)**

   The Town, School District and Library of Wilton do not have a Business Impact Analysis (BIA). A Business Impact Analysis is a process of determining the impact on the Town should a potential loss identified by the risk analysis actually occur. The BIA should quantify, where possible, the loss impact from both a business interruption (number of days) and financial standpoint. The BIA will help the Town, School District and Library to adequately prioritize recovery of operational functions or provide detail recovery timeline and procedures for critical business processes and functions. The lack of clear, documented priorities will prevent the entities from restoring the most important processes and respective dependencies first and from setting expectations through the organization.

3. **THE TOWN, SCHOOL DISTRICT AND LIBRARY DO NOT REGULARLY TEST BACKUP DATA (RISK: MODERATE)**

   The Town, School District and Library do not periodically attempt to restore a test file from random backed up file to ensure that the entire backup and recovery process functions as anticipated. As a result, in the event of an emergency, the Town, School District or Library may not be able to restore critical files when needed most.

4. **THE TOWN, SCHOOL DISTRICT AND LIBRARY DO NOT HAVE CAPACITY AND/OR COMPREHENSIVE STRATEGY TO STORE INFORMATION ASSETS OFF-SITE (RISK: MODERATE)**

   The Town, School District and Library maintain and store a significant amount of electronic information (Wilton’s information assets). In total, the combined data storage requirement of the three entities is approximately 4.5 Terabytes of information (990 million pages). Although each entity performs a data backup on a nightly basis, there is no comprehensive strategy to store data for all entities. Due to the volume of data required to be backed up, using wireless or a Cloud solution could cause long term operational and performance issues. A wireless solution does not have the capacity/bandwidth to handle the data backup requirements. A Cloud solution requires high speed Internet access and line capacity. In the event of a disaster, Internet access might not be available. Fiber is the most reliable solution and provides for significant capacity for all data backup requirements.
SCHOOL DISTRICT

5. **THE SCHOOL DISTRICT LACKS AN OFFSITE BACKUP STORAGE (RISK: HIGH)**

The School District’s data backups are stored in the server room and are not taken off-site. Should the School District office become inaccessible due to a fire or other catastrophic emergency, it would be difficult for the School District to recover the most recent data in an efficient and timely fashion. Backups should be moved to a secure off-site storage location where nightly backup data can be maintained along with other key software and documentation. This off-site location should provide the necessary protection for the School District’s data, including limited access and storage in a fireproof container, and be accessible to at least two of the School District's staff in the event of an emergency.

6. **THE SCHOOL DISTRICT DOES NOT HAVE THE ABILITY TO BE OPERATIONAL IN THE EVENT OF A DISASTER (RISK: HIGH)**

In the event of a disaster, the School District will not be operational in an efficient or expedited manner since IT personnel will not have access to a backup facility. Multiple schools may be affected as all schools’ network connectivity is centrally managed at the School District’s High School location. The inability to operate may put students in potential risks as schools cannot account for all students’ attendances or location, obtain students’ medical records, or have the student’s parents contact information.
G. Recommendations

Based on the IT and operational risks identified in this report, BlumShapiro has the following recommendations.

1. To ensure that the Town of Wilton will be able to operate in the event of a disaster and to mitigate significant risks, BlumShapiro recommends that the Town of Wilton implements Option 1 of the fiber infrastructure proposed by BVH. In addition to continuous operation, the network redundancy will also allow efficient data backup at all three (3) core locations – the School District, Library and Town Hall.

As part of this effort, the Town should, whenever possible, install conduit in order to connect the various locations together via fiber. This will help to protect and secure the fiber throughout the various School District, Town and Library locations.

2. The Town, School District and Library need to develop and implement a BIA within the Disaster Recovery Plan (DRP) to identify and prioritize critical business processes and their respective dependencies. Targeted restoration timeframes should be developed so that critical processes can be restored within expectations set by the individual departments.

3. Develop and implement a comprehensive Disaster Recovery Plan for the Town, School District Library. A documented Disaster Recovery Plan should be developed to provide a “roadmap” of key activities and responsibilities for staff in the event of an emergency. This plan should include, at a minimum:

   a. Prioritization of systems for recovery
   b. Assignment of staff roles and responsibilities
   c. Inventory of systems and data maintained on the various servers
   d. Hardware, operating system and application configuration data
   e. Vendor contacts for mission critical systems
   f. Location of backup media and software
   g. Potential off-site recovery locations

Once developed, this plan should be tested on a regularly scheduled basis to confirm that procedures are still applicable to the current technology environment. We also recommend that a copy of the plan be maintained off-site with the system backup software and the daily and/or monthly backup tapes to ensure all key elements are available and accessible.
4. The Town, School District and Library should introduce into its backup procedure a regular, monthly/quarterly test of the backup data. Staff should attempt to recover a test data file from a randomly selected backup file. This will allow the respective organization to confirm that the process and backup solution is working as required and will function properly when needed.

5. The School District must introduce procedures that will mitigate the current risks to data by moving backup tapes to a secure off-site location on a daily basis. The Board of Education should identify a secure off-site storage location where nightly backup data can be maintained along with other key software and documentation. This off-site location should provide the necessary protection for the School District’s data, including limited access and storage in a fireproof container, and be accessible to at least two of the School District's staff in the event of an emergency.

6. Assuming the implementation of fiber, the Town should store the backup data of the various entities at different site locations. Implementing Town-wide fiber will help to insure that all data backups are spread at different locations throughout the Town, helping to protect all critical information assets and reducing risks.

7. Once fiber is implemented throughout Wilton, the Town could utilize Siris via fiber connection to have Town server backups be performed at an off-site location (Library or School District) and in the event of a disaster could virtualize a server(s) at that location.

8. Again, assuming the implementation of fiber, the Town of Wilton should consider implementing VMware throughout the Town so the Library (in the short term) can be used as a central business continuity center. This will significantly reduce operational risks and provide a means for the Town to operate under significant emergency situations.
APPENDIX A – CLOUD COMPUTING AND INTERNET BASED BACKUP/BUSINESS CONTINUITY

By definition, Cloud Computing is the use of computing resources (hardware and software) that are delivered as a service over the Internet. Although the cloud may offer many benefits, there are a number of considerations that the Town of Wilton should understand along with their associated risks. Availability, Security, privacy and control are some of the most common concerns associated with cloud computing. Specifically, the Town of Wilton should note the following Cloud computing risks:

1. The Cloud is inaccessible without an internet connection. In the event of a power outage, all services provided by the cloud (data backup and/or virtual servers) would not be accessible by the Town, School District and Library.

2. Control over the Cloud data and/or hosting company. If the Cloud solution provider goes out of business and/or equipment is confiscated due to legal action, the Town, School District or Library’s information would now be a part of an investigation and will not be available. Depending on the circumstances, it may be months or years before the Town, School District or Library would have access to this information.

3. The Cloud service may not be secure. Since the Town, School District or Library can access the cloud through multiple public access points, there is a concern of security breach by compromised password, and/or data breached by a general server attack.
1. **APPENDIX B –IT RISK ASSESSMENT – SOFTWARE INVENTORY LIST**
### Town of Wilton IT Risk Assessment Project - Software Risk Assessment

<table>
<thead>
<tr>
<th>Location(s)</th>
<th>Application / System</th>
<th>Software / Hardware</th>
<th>Description</th>
<th>Hosted</th>
<th>Risk</th>
<th>Controls</th>
<th>Responses Plan</th>
<th>Risk Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town</td>
<td>Logos</td>
<td>Software</td>
<td>use for business analytics, community development suite (permits, planning, licensing, inspection), eSuite (employee and citizen access), financial management suite, payroll and human resources suite.</td>
<td>Hosted in-house - Vmware server</td>
<td>1. Power outage 2. Building disaster i.e. fire, 3. Back up data destroyed 4. Data corruption 5. Unauthorized user</td>
<td>Back up to Datto everyday</td>
<td>1. Move Vmware and SAN to remote site. 2. Move Town Hall Datto Siris backup and recovery application to a more remote site. 3. Restore from backup.</td>
<td>High</td>
</tr>
<tr>
<td>Town</td>
<td>Vision 7 CAMA</td>
<td>Software</td>
<td>Process appraisal, the information is then passed to the assessment module of QDS.</td>
<td>Hosted in-house - Vmware server</td>
<td>1. Power outage 2. Building disaster i.e. fire, 3. Back up data destroyed 4. Data corruption 5. Unauthorized user</td>
<td>Back up to Datto on weekdays</td>
<td>1. Move Vmware and SAN to remote site. 2. Move Town Hall Datto Siris backup and recovery application to a more remote site. 3. Restore from backup.</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

The table above outlines various locations and applications within the Town of Wilton, detailing the software used, hardware description, and associated risks. Each entry specifies the hosted environment, potential risks, and corresponding controls and response plans, categorized by risk rate.
<table>
<thead>
<tr>
<th>Location(s)</th>
<th>Application / System</th>
<th>Software / Hardware</th>
<th>Description</th>
<th>Hosted</th>
<th>Risk</th>
<th>Controls</th>
<th>Responses Plan</th>
<th>Risk Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Town</td>
<td>ADP</td>
<td>Software</td>
<td>Payroll</td>
<td>Cloud- Based</td>
<td>1. Power outage 2. Building disaster i.e. fire, 3. Back up data destroyed 4. Data corruption 5. Unauthorized user</td>
<td>Managed by vendor</td>
<td>1. Move Vmware and SAN to remote site. 2. Move Town Hall Datto Siris backup and recovery application to a more remote site. 3. Restore from backup.</td>
<td>Low/Moderate</td>
</tr>
<tr>
<td>Town</td>
<td>Class</td>
<td>Software</td>
<td>Credit Card payment</td>
<td>Hosted at vendor</td>
<td>1. Power outage 2. Building disaster i.e. fire, 3. Back up data destroyed 4. Data corruption 5. Unauthorized user</td>
<td>Windows Backup everyday</td>
<td>1. Move Vmware and SAN to remote site. 2. Move Town Hall Datto Siris backup and recovery application to a more remote site. 3. Restore from backup.</td>
<td>Low/Moderate</td>
</tr>
<tr>
<td>Town</td>
<td>ACS</td>
<td>Software</td>
<td>Land records and vital records</td>
<td>Hosted by vendor</td>
<td>1. Power outage 2. Building disaster i.e. fire, 3. Back up data destroyed 4. Data corruption 5. Unauthorized user</td>
<td>Managed by vendor</td>
<td>1. Move Vmware and SAN to remote site. 2. Move Town Hall Datto Siris backup and recovery application to a more remote site. 3. Restore from backup.</td>
<td>Moderate</td>
</tr>
<tr>
<td>Town</td>
<td>ArcGIS</td>
<td>Software</td>
<td>Holds serial photography and digitized parcel maps</td>
<td>Hosted in-house - Vmware</td>
<td>1. Power outage 2. Building disaster i.e. fire, 3. Back up data destroyed 4. Data corruption 5. Unauthorized user</td>
<td>Back up to Datto every day</td>
<td>1. Move Vmware and SAN to remote site. 2. Move Town Hall Datto Siris backup and recovery application to a more remote site. 3. Restore from backup.</td>
<td>Moderate</td>
</tr>
<tr>
<td>Town</td>
<td>Microsoft Exchange 2010</td>
<td>Software</td>
<td>Email</td>
<td>Hosted in-house - Vmware server</td>
<td>1. Power outage 2. Building disaster i.e. fire, 3. Back up data destroyed 4. Data corruption 5. Unauthorized user</td>
<td>Back up to Datto every day</td>
<td>1. Move Vmware and SAN to remote site. 2. Move Town Hall Datto Siris backup and recovery application to a more remote site. 3. Restore from backup.</td>
<td>High</td>
</tr>
</tbody>
</table>
# Town of Wilton IT Risk Assessment Project - Software Risk Assessment

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<tr>
<th>Location(s)</th>
<th>Application / System</th>
<th>Software / Hardware</th>
<th>Description</th>
<th>Hosted</th>
<th>Risk</th>
<th>Controls</th>
<th>Responses Plan</th>
<th>Risk Rate</th>
</tr>
</thead>
</table>
| Town        | LogMein               | Software            | Remote access for both employees and consultant                              | On workstations         | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | N/A                                                                      | 1. MoveVmware andSAN to remote site.  
2. Move Town Hall DattoSiris backup and recovery application to a more remote site.  
3. Restore from backup.                                                      | Moderate                |
| Town        | NexGen                | Software            | Public safety communications system                                          | Hosted in-house - Vmware server and vendor | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | Back up to Datto everyday and also at vendor’s location                      | 1. MoveVmware andSAN to remote site.  
2. Move Town Hall Datto Siris backup and recovery application to a more remote site.  
3. Restore from backup.                                                      | High                   |
| Town        | StorageCraft          | Software            | Backup workstations                                                          | on workstations         | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | N/A                                                                      | 1. MoveVmware andSAN to remote site.  
2. Move Town Hall DattoSiris backup and recovery application to a more remote site.  
3. Restore from backup.                                                      | Moderate                |
| Town        | MobileEyes            | Software            | Fire inspection software                                                     | Hosted in-house         | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | Back up to Datto on weekdays                                                 | 1. MoveVmware andSAN to remote site.  
2. Move Town Hall Datto Siris backup and recovery application to a more remote site.  
3. Restore from backup.                                                      | Moderate                |
| Town        | vmware                | Software            | servers                                                                      | In-house                | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | Back up to Datto on weekdays                                                 | 1. MoveVmware andSAN to remote site.  
2. Move Town Hall Datto Siris backup and recovery application to a more remote site.  
3. Restore from backup.                                                      | High                   |
| Town        | NetMotion             | Software            | Public safety communications system                                           | Hosted by vendor        | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | Back up to Datto on weekdays                                                 | 1. MoveVmware andSAN to remote site.  
2. Move Town Hall Datto Siris backup and recovery application to a more remote site.  
3. Restore from backup.                                                      | Moderate                |
## Town of Wilton IT Risk Assessment Project - Software Risk Assessment

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<th>Controls</th>
<th>Responses Plan</th>
<th>Risk Rate</th>
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</thead>
<tbody>
<tr>
<td>School</td>
<td>Central Office Personnel</td>
<td>Software</td>
<td>Staff and faculty information management</td>
<td>Hosted in-house - Dorothy</td>
<td>1. Power outage</td>
<td>Full back is completed everyday.</td>
<td>None</td>
<td>High</td>
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<td>2. Building disaster i.e. fire,</td>
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<td>5. Unauthorized user</td>
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<tr>
<td>School</td>
<td>PowerSchool</td>
<td>Software</td>
<td>Student information system</td>
<td>Hosted in-house - PSDB</td>
<td>1. Power outage</td>
<td>Full back is completed everyday.</td>
<td>None</td>
<td>High</td>
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<td>5. Unauthorized user</td>
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<tr>
<td>School</td>
<td>BudgetSense / INFINITI Vision</td>
<td>Software</td>
<td>Financial System and HR System</td>
<td>Hosted in-house - Bsense</td>
<td>1. Power outage</td>
<td>Full back is completed everyday.</td>
<td>None</td>
<td>High</td>
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<td>5. Unauthorized user</td>
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<tr>
<td>School</td>
<td>CafeEnterprise</td>
<td>Software</td>
<td>School meals application software</td>
<td>Hosted in-house -</td>
<td>1. Power outage</td>
<td>Full back is completed everyday.</td>
<td>None</td>
<td>Moderate</td>
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<td>5. Unauthorized user</td>
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<tr>
<td>School</td>
<td>HelpStar</td>
<td>Software</td>
<td>Help desk technology</td>
<td>Hosted in-house -</td>
<td>1. Power outage</td>
<td>Full back is completed everyday.</td>
<td>None</td>
<td>Low</td>
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<td>5. Unauthorized user</td>
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<tr>
<td>School</td>
<td>Destiny Library</td>
<td>Software</td>
<td>Library Resource Management</td>
<td>Hosted in-house - OSSUS</td>
<td>1. Power outage</td>
<td>Full back is completed everyday.</td>
<td>None</td>
<td>Low</td>
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<td>Location(s)</td>
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</tbody>
</table>
| Library     | Polaristar           | Software            | Catalog System | Hosted in-house | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | Back up to Datto everyday | 1. Restore from backup. | High        |
| Library     | Sage fundraising     | Software            | Fundraising software | Hosted in-house | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | Back up to Datto everyday | 1. Restore from backup. | High        |
| Library     | Quick Books          | Software            | Financial System | Hosted in-house | 1. Power outage  
2. Building disaster i.e. fire,  
3. Back up data destroyed  
4. Data corruption  
5. Unauthorized user | Back up to Datto everyday | 1. Restore from backup. | High        |