



Photo Credit: Flickr – Neal Wellons

EXECUTIVE SUMMARY

The City of New Bedford adopted the Business Continuity best practice in November of 2015 as part of a Community Compact agreement signed with the Baker-Polito Administration. New Bedford's IT Department partnered with the Office of Municipal and School Technology (OMST) at MassIT to develop a Business Continuity Plan and leveraged a Community Compact grant to procure the services of Comm-Tract to redesign the City's fiber municipal area network (FMAN) so it's more resilient against failure. The City chose the Business Continuity best practice in part because it supports another ongoing City project to install a robust backup and recovery infrastructure which will help the City guard against data loss.

Community Profile

The City of New Bedford is located in southeastern Massachusetts in Bristol County. Historically known as "The Whaling City" as the world's top whaling port in the 19th century, New Bedford is now known not only as the top fishing port in America but is also home to a growing scene of restaurants and shops, a vibrant arts community, and the steadily improving New Bedford Public Schools system.

Population is 95,072 residents*

Annual Budget is \$361M (FY 2018)

Median Household Income is \$37,574*

*U.S. Census Bureau

In partnership between:

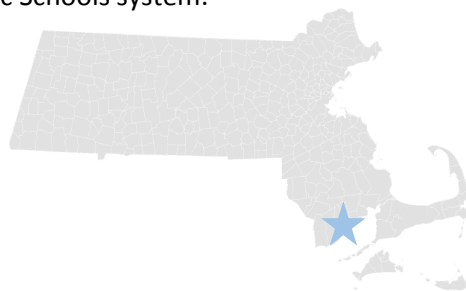




Photo Credit: Flickr – Phil Marcelino

BACKGROUND

The City of New Bedford “must be prepared for the unexpected,” wrote New Bedford Mayor Jon Mitchell in his 2018 Budget letter, referencing the need for a strong reserve of City funds. This same mindset applies to vital information technology infrastructure in a city like New Bedford. As technology becomes more integrated in municipal operations, efforts must be made to secure this technology against failure, especially any technology which serves mission critical-services like public safety.

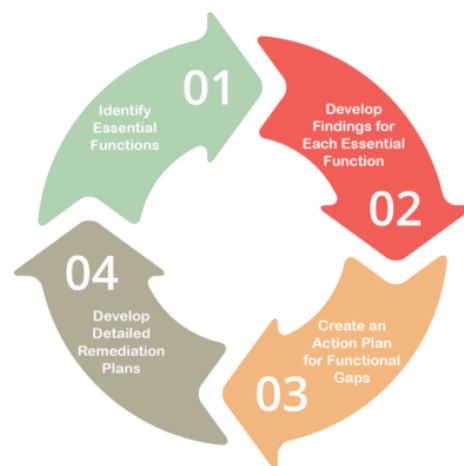
The City clearly has these goals in mind, as their technology projects reflect the need to prepare for the unexpected. These projects include upgrades to VoIP¹ in City buildings along with the installation of a robust backup and recovery infrastructure that will allow for the copying and archiving of data for restoration purposes after a data loss event. This infrastructure will also allow for the retrieval of data that exceeds the statutorily required retention period.

New Bedford’s decision to choose the Business Continuity best practice as part of their Community Compact further reflects this commitment to securing City resources.

PROJECT PROCESS

New Bedford’s Business Impact Analysis (BIA) Overview

The first step of the process was performing a Business Impact Analysis



¹ Voice Over Internet Protocol, telephone service which uses the Internet instead of standard copper phone lines.

(BIA) for the City. The BIA process consists of four steps: (1) Identify Essential Functions, (2) Develop Findings for Each Essential Function, (3) Create an Action Plan for Functional Gaps, and lastly (4) Develop Detailed Remediation Plans. These four steps were repeated, cyclically, until the findings were complete and documented in a BIA master document.

Step 1: Identify Essential Functions

In this first step, Maria Pina-Rocha – New Bedford’s IT Director - partnered with City departments to document essential functions (EF) which residents heavily depend upon. Following that, recovery time objectives (RTOs) were identified. An RTO is the maximum outage timeframe an organization can tolerate. In addition to RTO’s, recovery point objectives (RPO) were also documented. An RPO is the maximum amount of data that can be lost before it becomes unmanageable to reconstruct.

A table of New Bedford’s departments and their essential functions is below:

DEPARTMENT	ESSENTIAL FUNCTIONS
Assessor’s Office	Administration, Inspections, Valuations
Auditor’s Office	Auditing, Budget Execution, Financial Reporting
Office of the Chief Financial Officer	Financial Oversight, Enterprise Planning, Performance Management
City Clerk’s Office	Licenses, Vital Records
City Council Office	Administration and Finance, City Operations, Constituent Services
Clerk of Committees Office	Administration and Finance, Staff Support
Community Services	Fiscal and Administrative Support, Consumer Aid Programs, Neighborhood and Community Outreach, Senior Services, Youth and Community Programs
Elections Commission	Administration, Elections, Local Street Census, Redistricting
Emergency Medical Services	Pre-hospital care, Police Department Special Response Team, Summer Medical Bicycle Team
Environment Stewardship	Brownfields Development, Conservation Commission, Environmental Response
Facilities and Fleet Management	Administration, Facilities Management, Fleet Management, Solid Waste, Recycling Services

Fire Department	Administration Division, Fire Alarm Division, Fire Prevention Bureau, Fire Suppression Division, Marine Unit, Training Division
Health Department	Environmental Health, Health and Wellness Promotion, Municipal Marine Lab Testing, Public Health Nursing, Behavioral Health (Substance Abuse and Mental Illness) Prevention and Services
Inspectional Services	Administration, Compliance, Inspectors, Weights and Measures
Labor Relations	Recruitment, Policy Enforcement and Compliance, Employee Relations, Compensation and Benefits, Personnel Record Keeping, Training and Development
New Bedford Free Public Library	Branch Services, Information Services, Special Collections, Circulation and Youth Services
Licensing Department	Compliance, Issuance
Management Information Systems	Business Applications, Communications, Departmental Support, Email, End-User Computing, Infrastructure/Security, Website Development and Maintenance
Mayor's Office	Constituent Services, Operational Direction, Policy Guidance
Planning Department	Historic Preservation, Permitting, Planning Board Support
Police Department	Administrative/Training Division, Animal Control Division, Communication Division, Central Records Bureau, Criminal Investigative Division, Family Services Division, Firearms Bureau, Identification Bureau, Management Information System Division, Police Analyst, Intel Officer, Organized Crime Intelligence Bureau (OCIB), Port Security Division, Division of Professional Standards, Traffic Division, Training Division, Tactical Patrol Force (TPF), Special Reaction Team (SRT), Crisis Negotiations Team (CNT)
Public Infrastructure	Cemetery Division, Customer Service and Administration Division, Energy Division, Engineering Division, Highway Division, Park Maintenance and Forestry Division
Purchasing	Bid/Contracts, Material Distribution, Switchboard

Parks, Recreation, and Beaches	Administration and Finance, Events, Facilities, Summer Recreation, Supportive Recreation
Solicitor's Office	Legal Services, Labor Relations, Insurance Policies, Ordinances, Real Property, Requests for Records, Subrogation Collection, Training City Departments
Tourism and Marketing	Marketing & Advertising, New Bedford Seaport Cultural District, Waterfront Visitor Center
Traffic Commission	Administration and Finance, Parking Enforcement
Treasurer's Office	Collection, Tax Title, Treasury
Veterans' Affairs	Chapter 115 Financial Aid, Veteran Parades
Buttonwood Park Zoo	Animal Care, Education and Learning, Grounds and Facilities, Guest Services
New Bedford Airport	Administration, Operations and Maintenance
Downtown Parking Enterprise Fund	Administration and Finance, Maintenance, Parking Enforcement
Wastewater Enterprise Fund	Collection System Division, Customer Services and Administration Division, Pump Station Division
Water Enterprise Fund	Customer Service and Administration Division, Dams Division, Water Distribution Division, Water Treatment Division

Step 2: Develop Findings for each Essential Function

New Bedford's IT department identified potential gaps for the essential functions identified in the previous step, for example the design of the City's FMAN.

DEPARTMENT	ESSENTIAL FUNCTIONS	GAP IDENTIFIED	GAP FINDING
Management Information Systems	Business Applications, Communications, Departmental Support, Email, End-User Computing, Infrastructure/Security, Website Development and Maintenance	Design of the City's FMAN.	The design of the City's FMAN relies on City Hall as the center of the City's network, creating a central point of potential failure.

Step 3: Create Action Plan for Gap Findings

New Bedford's IT Department then created an action plan to address the gap identified in the previous step.

DEPARTMENT	ESSENTIAL FUNCTIONS	GAP IDENTIFIED	GAP FINDING	ACTION PLAN
Management Information Systems	Business Applications, Communications, Departmental Support, Email, End-User Computing, Infrastructure/Security, Website Development and Maintenance	Design of the City's FMAN.	The design of the City's FMAN relies on City Hall as the center of the City's network, creating a central point of potential failure.	The City will hire a third party to redesign the FMAN to eliminate a central point of potential failure.

Step 4: Develop Detailed Remediation Plans

In order to fully understand and develop detailed remediation plans for the gaps identified, New Bedford distributed a survey (attached as Appendix A) to its departments to gather more information about their state of readiness in case an unexpected event impacts the City, like a theoretical fire in City Hall. The survey included questions like: "How often is your data backed up?" and "What paper files do you maintain and where are they stored?" Leveraging information gathered in this survey, the City performed a detailed Disaster Recovery analysis of each department and completed a report outlining the state of each department. The City will use this document as it develops detailed remediation plans and builds a larger, comprehensive Business Continuity plan for the entire city.

New Bedford's FMAN Redesign Overview

The City leveraged a Community Compact grant to retain the services of Comm-tract, a network communications solutions company, to assist the City with the redesign of the FMAN and connection of additional City and school buildings to the network. The statement of work tasked Comm-tract with redesigning the topology of the FMAN from a "star" design which placed City Hall at the center of the network to a physically diverse "ring" design which eliminates the central point of potential failure. The project would be completed in three phases:

Phase 1: Install Downtown Ring and Connect City Buildings

- Connect 11 downtown municipal buildings immediately
- Connect 14 downtown municipal buildings in the near future

Phase 2: Expand Downtown Ring to Include More City Buildings

- Connect 30 more municipal buildings

Phase 3: Expand Downtown Ring to Include New Bedford Public Schools

- Connect 25 school buildings

Comm-tract submitted their initial proposal and documentation to the City in the spring of 2017. These documents will be used as the City prepares to budget for the implementation of this project in the near future.

RECOMMENDATIONS AND CONCLUSION

MassIT recommends that New Bedford continue to push forward with their Business Continuity planning work, as it will be instrumental in keeping vital services functioning smoothly if an adverse event impacts the City. Equally important is their work with Comm-tract redesigning, modernizing, and expanding the FMAN, as high speed internet connectivity is critical to providing the level of services that New Bedford's citizens expect. The FMAN work will also positively impact New Bedford Public Schools and their students, allowing the City to deliver a high quality education and prepare a new generation of New Bedford's citizens for the workforce. The unexpected is never an easy thing to plan for, but New Bedford's efforts will surely position the City well for success in the future.

"Citizens rely upon their local government to meet so many critical needs, from educating their children to providing clean drinking water to keeping them safe from harm. I believe it is our duty as public officials to ensure that we can continue to provide these essential services even in the wake of a natural or manmade disaster, and to do so with as little disruption as possible. The Community Compact grant for our Business Continuity Plan allows us to evaluate our current facilities, systems, and processes, identify flaws and gaps, and make the appropriate adjustments to increase the likelihood that we can maintain operations at an acceptable level."



Mayor Jon Mitchell
City of New Bedford