



Office of Municipal and  
School Technology

MassIT



## Getting IT Right

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*MassIT's mission is to drive the digital business of state government to meet the continually evolving needs of constituents, schools, businesses, and local government.*

# Strategy Considerations – Current State

- Where are we today?
- Are our building connected?
- Is there a recognition of the important role technology now plays in day to day operations?
- Do we how IT dollars are spent in departments across the organization?
- Have we, or are we prepared to make IT investment a priority?
- Have we developed a strong IT foundation, or are we getting distracted by the “cool stuff” without getting our house in order?



← *Are you here?*  
*Or are you here?* →



# Strategy Considerations - Organizational

- Regional Consolidation
  - Do you have in-house IT resources today?
  - How are your relationships with surrounding communities?
  - Is it sustainable?
  
- Municipal Consolidation
  - Are Town, School and Public Safety staff collaborative?
  - Do you have or are you an engaged executive sponsor?
  - What are the outcomes you're looking for?
  - Are you ready to deal with the overlapping and divergent needs of these different groups



## Strategy Consideration - Pace

- You can take a big bang approach, but you don't have to, incremental change is good too!
- How did you answer the previous questions?
  - What steps need to be taken encourage collaboration across departments?
  - How can we open the lines of communication with neighboring communities?
  - How are we going to wrap our arms around what we spend on IT as an organization?
  - Who will be our champion?
  - Have we defined our organizational priorities?



## Good

Data is consistently backed-up and backups are periodically tested



## Better

Data is backed-up to a different location in or near town, following generally accepted industry standards, and backups are periodically validated



## Best

Data is backed-up to a location at least 30 miles away that meets strong industry standards, backups are periodically validated and there are well defined service-level agreements.

MassIT recommends that reputable cloud solutions be considered for this purpose.



## What is "The Cloud"?

The practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

*-Oxford Dictionaries*



# The Cloud Computing Stack or Cloud Flavors

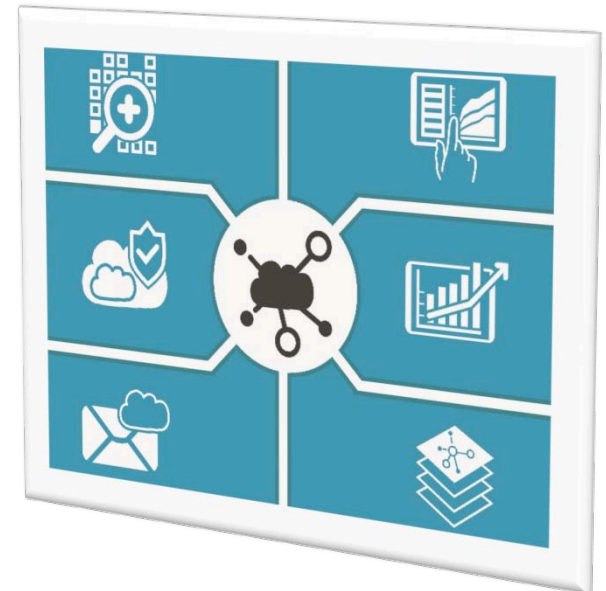
- Infrastructure as a Service (IaaS)
  - A way of delivering Cloud Computing infrastructure – servers, storage, network and operating systems – as an on-demand service. Rather than purchasing servers, software, datacenter space or network equipment, clients instead buy those resources as a fully outsourced service on demand. <sup>1</sup>
- Platform as a Service (PaaS)
  - A computing platform that allows the creation of web applications quickly and easily and without the complexity of buying and maintaining the software and infrastructure underneath it. <sup>1</sup>
- Software as a Service (SaaS)
  - A computing platform that allows applications to be delivered directly to the end-user, typically through a web browser.



1. Rackspace <https://support.rackspace.com/white-paper/understanding-the-cloud-computing-stack-saas-paas-iaas/>

# Even More Flavors!

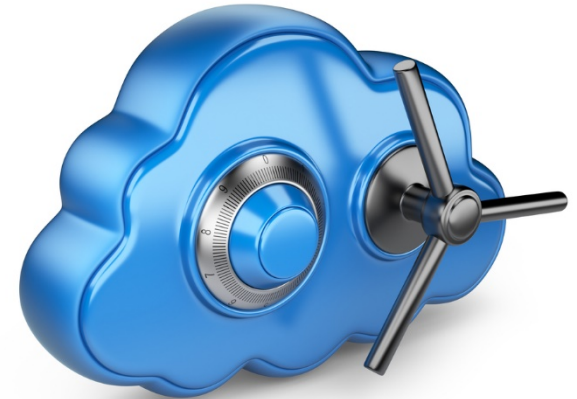
- Public Cloud
  - You are generally sharing resources with public and private parties. This model maximizes the economies of scale.
- Private Cloud
  - Similar to a public cloud offering, but the resources are dedicated to a single organization.
- Hybrid Cloud
  - Public and Private Cloud resources are connected.
- Virtualization
  - Creating virtual resources to better leverage technology infrastructure assets. Virtualization is typically fundamental to a cloud service – but also applies to internal resources not available over the internet.





# Cloud Considerations

- Do you know if you're in the cloud?
  - Email, Collaboration Tools, Social Media?
- Not all cloud services are created equal
  - It is a reputable, standards-based service, or is this cloud in someone's basement down the street?
- Datacenter security
  - Does the provider follow industry standard security practices?
- Datacenter Redundancy & Location
  - Does the provider backup your data to a secure geographically dispersed site, and where are these sites?
- Data Ownership and Retrieval
  - Are you the clear owner of your data, and how do you get it back if you end the relationship with the provider?



- Increasingly important as more and more essential functions move from paper and pen to computers.
- Basic cyber security begins by implementing minimum security standards across your entire network:
  - Consistent, enforced password policy with regular password changes
  - Licensed, updated anti-virus and anti-malware software
  - Written and enforced acceptable use policies for network usage
  - Written plan in place if a cyber security incident occurs
- Most important: employee cyber security awareness
  - Employees are front line protection against threats
  - Should know how to prevent and respond
  - Should exercise good “cyber hygiene”



# Cyber Security – What steps do we take?

- Count, Configure, Control, Patch, Repeat – Top 5 Priorities
- Municipal leaders should be able to answer these questions:
  - Do we know what is connected to our systems and networks?
  - Do we know what software is running on our systems and networks?
  - Are we continuously managing our systems using “known good” configurations?
  - Are we continuously looking for and managing “known bad” software?
  - Do we limit and track the people who have the administrative privileges to change, bypass, or over-ride our security settings?

Center for Internet Security:  
<https://www.cisecurity.org/>



# Data Standards

- Data standards can open opportunities to collaborate, integrate or analyze data with external organizations – but standards can also open opportunities for collaboration and analysis across departments within your organization.
- Parcels and Addressing
- Building & Land Development Specification (BLDS)
- Local Inspector Value-Entry Specification (LIVES)
- General Transit Feed Specification
- Open311 - GeoReport v2
- License Validation API

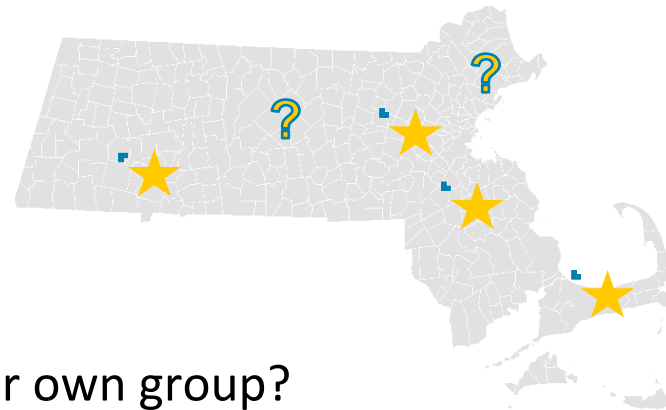


# HOW DO WE GET THERE?



# Regional IT Meetings

- We believe regional IT groups provide great value, we support their formation, and are happy to participate where we can add value.
- These groups typically meet regularly to discuss relevant municipal technology issues and collaboration opportunities.
- Current groups include:
  - Western Mass Regional IT Directors
  - South Shore Regional IT Directors
  - Barnstable County IT Directors
  - Metro West IT Directors (*New!*)
- Interested in participating or starting your own group?
  - Send an email to [omst@mass.gov](mailto:omst@mass.gov) and we can help.
- You can also check out the statewide Mass Government Information Systems Assoc. (MGISA) at [MGISA.org](http://MGISA.org)





# MULTI-STATE Information Sharing & Analysis Center™

- Network monitoring
- Early threat warning and advisories
- Mitigation and Incident Response
- Education Opportunities

<https://msisac.cisecurity.org>



## How can MassIT help?

The Office of Municipal and School Technology is focused on providing value for our cities, towns and school districts.

- Discuss Grant and Technical Assistance Opportunities
- Investigate Procurement Opportunities
- Provide Data and Recommend Standards
- Facilitate Collaboration





Governor Baker's first executive order created the Community Compact Cabinet to increase partnership between state and local government.

- Best Practices Program
- Efficiency and Regionalization Grant Program
- IT Grant Program



<http://www.mass.gov/ccc>

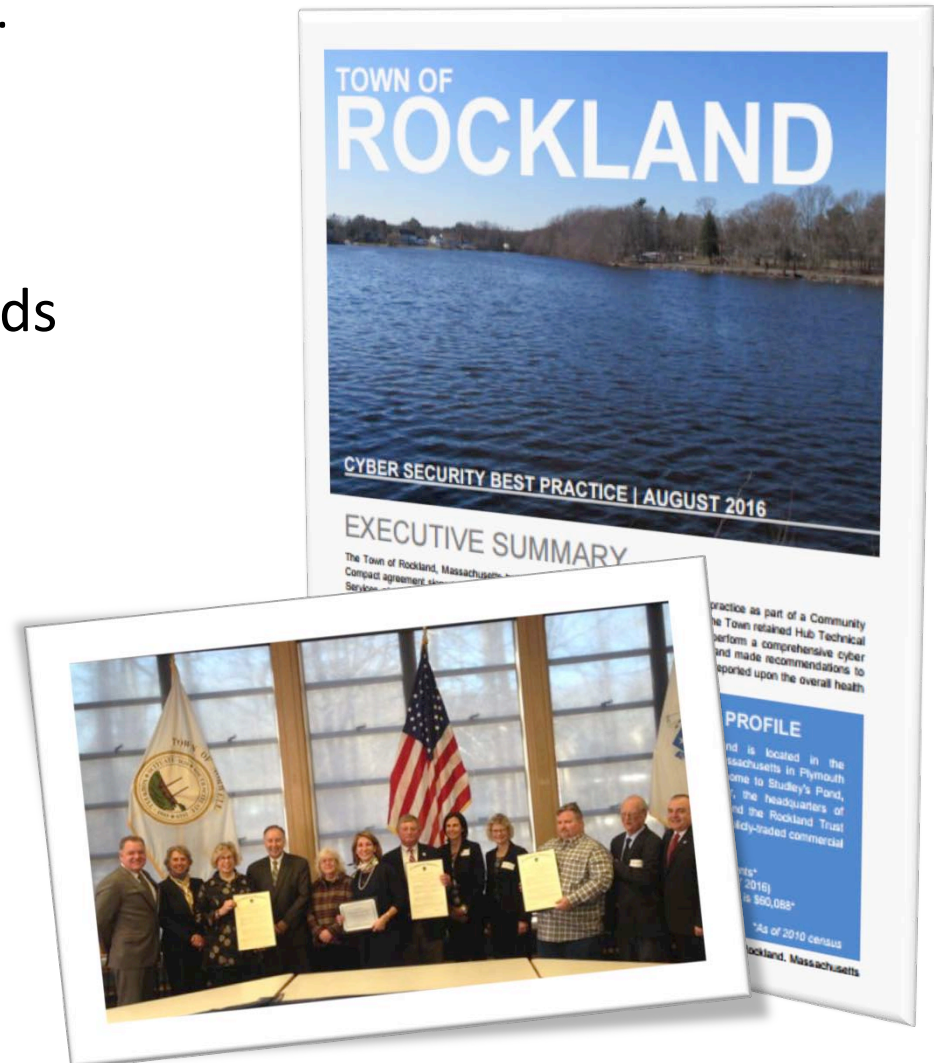
# CCC Best Practice Program

Around 275 communities have applied and we're working with more than 100 communities on IT Best Practices.

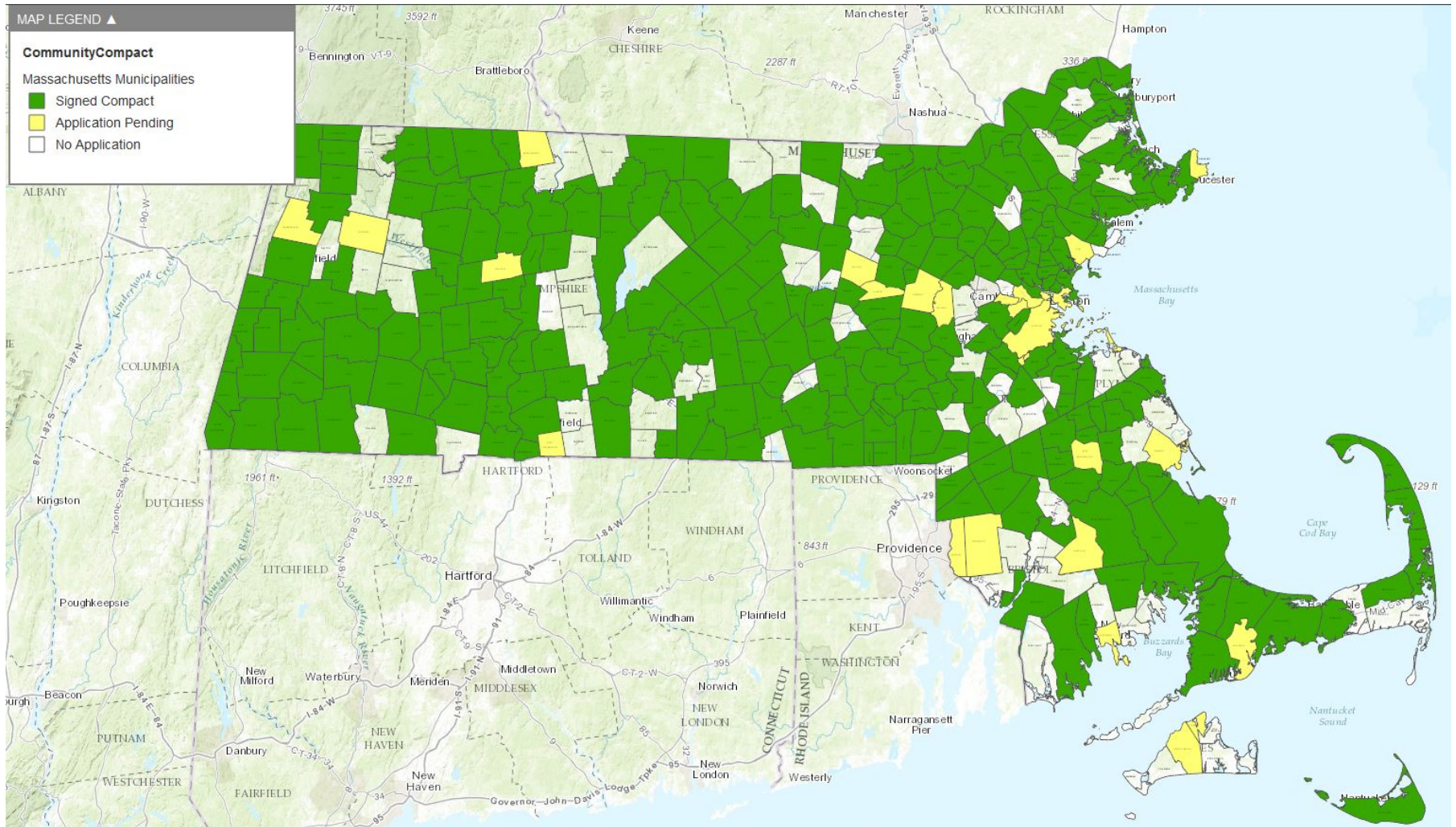
- Strategic Planning
- Transparency & Data Standards
- Business Continuity
  - Including Cyber Security
- Citizen Engagement



<http://www.mass.gov/ccp>



# Community Compact Participation



<http://www.mass.gov/ccc>

# CCC Efficiency and Regionalization Program

- Competitive grant program to support implementing regionalization and other efficiency initiatives that allow for long-term sustainability.
- Open to:
  - Municipalities
  - Regional school districts
  - School districts considering regionalization
  - Regional planning agencies and councils of governments
- You can submit both a local and regional application.
- Round 1 closed last month; Round 2 is open until February 1st at 5pm.



<http://www.mass.gov/ccc>

# CCC Efficiency and Regionalization Awards

Examples of awards from Round 1 include:

- Regional Animal Shelter / Animal Control (North Adams, Adams, Williamstown) - **\$200,000**
- Regional Dispatch (Gardner and Athol) - **\$103,279**
- Regionalize Fire and EMS (Winchendon and Templeton) - **\$50,000**
- Regional Wastewater Management with Joint Base Cape Cod (JBCC) (Falmouth, Bourne, Mashpee, Sandwich) - **\$135,000**
- PVPC Regional Approach to Wastewater and Stormwater Management for Connecticut River Communities (Agawam, Chicopee, Granby, Hadley, Ludlow, Northampton, Southwick, Springfield, West Springfield) - **\$111,550**
- MAPC Regional Approach to Stormwater Management (Acton, Bolton, Boxborough, Carlisle, Concord, Hudson, Lexington, Lincoln, Littleton, Maynard, Stow, Sudbury) - **\$50,000**



<http://www.mass.gov/ccc>

# CCC IT Grant Program

- The CCC IT Grant is a competitive grant program intended to support one-time, capital investments innovative and transformative technology.
- Last year, 110 applications requested a total of \$16 million in grant funds. We were able to award 52 grants using the \$2 million in available funding.
- This year, the program is open to CCC Best Practice communities who were not awarded IT Grant Program funds last year.
- The next round opens on March 1st.



<http://www.mass.gov/ccc>

### Examples of IT Grants from 2016 Include:

- **Upton** – Implementation of a modern permitting system
- **Haverhill** – Implementation of a 311 platform
- **Dartmouth** – Technology to better manage beach facilities
- **Barre & Rutland** – Improved regional communication technology
- **Hinsdale** - Technology related to usage-based water-metering
- **Ayer** – Improved infrastructure at the wastewater treatment plant



<http://www.mass.gov/ccc>



## Digital Connections Partnership School Grant

- A competitive matching grant program to improve school infrastructure and support next generation teaching, learning and assessment.
- 74 schools across 25 districts have received support for wiring and WiFi throughout their buildings, and we expect that to double soon.
- MassIT submits the E-Rate Category 2 application on behalf of awarded districts, handles all procurement, and provides project management.

**See the results at:**

<https://www.youtube.com/user/MassInnov8/>










## Massachusetts School Building Authority

*Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities*

- In support of the Digital Connections Grant Program, the Massachusetts School Building Authority (MSBA) established an IT Loan program in 2016.
- The MSBA has allocated \$50 million over a five year period for zero interest loans to Digital Connections awardees.
- Loans can be used to cover the local match required from school districts prior to the start of construction.
- Loans can be paid off using the federal E-Rate reimbursement that MassIT applies for as a consortium on behalf of school districts.



- We are working with the Department of Elementary and Secondary Education and the Operational Services Division on a school device bundles purchasing solution for school districts:
  - Platform agnostic – whatever solution is best for your students and staff
    - Apple/iOS 
    - Chrome/Android 
    - Windows 
  - Single price per student/seat
  - Services and accessories that districts are looking for
  - Simplified procurement process with volume discounts that leverage the purchasing power of the state
  - Anticipated availability in the fall of 2017



# MassGIS Free Resources

We work very closely with MassGIS and are happy to help you access their resources.

- A huge library of data layers
- Google Ortho Imagery
- An evolving addressing standard
- Standardized Parcel Mapping
- MuniMapper GIS visualization tool for small towns



Thank you!

Please feel free to reach out anytime!

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<http://www.mass.gov/massit/omst>