Public Interest Cybersecurity

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Public Interest Cybersecurity

- Applying cyber resources towards supporting public life
- Community security vs. national security. What is critical?
- Population lens vs. sectoral lens
1. Why is Cybersecurity Important?
2. Cyber Assessment Resources for Cities
3. Berkeley Cyber Programs
Why Cybersecurity is Important
Cyberattacks are a major risk for cities

- Cities make attractive targets for cybercriminals
- Cities are regularly hit with financially-motivated cyberattacks like ransomware
  - Oakland last month
  - This week: Dallas TX, Lowell MA
- Cyberattacks on cities hurt residents
  - 911 and emergency response services (fire, EMS, police)
  - Bill and utility payments, marriage licenses
  - Sensitive services; housing assistance, legal services
Challenges for Cyber Resiliency

- City IT infrastructure can be complex
- Changing city budgets is time-consuming and politically challenging, and balancing other city needs
- City IT teams are small and wear multiple hats
What framework to use?

- NIST Cybersecurity Framework, CIS Controls, ISO 27001
# CISA Cross-Sector Performance Goals

## IDENTIFY (1)

<table>
<thead>
<tr>
<th>1.A Asset Inventory</th>
<th>ID.AM-1, ID.AM-2, ID.AM-4, DE.CM-1, DE.CM-7</th>
<th>CURRENT ASSESSMENT</th>
<th>YEAR 1 ASSESSMENT</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COST:</strong> $$$$</td>
<td><strong>IMPACT:</strong> HIGH</td>
<td><strong>COMPLEXITY:</strong> MEDIUM</td>
<td>DATE:</td>
<td>DATE:</td>
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<tr>
<td><strong>TACTIC, TECHNIQUE, AND PROCEDURE (TTP) OR RISK ADDRESSED:</strong></td>
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<tr>
<td>Hardware Additions (T1200)</td>
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<td>Exploit Public-Facing Application (T0519, ICS T0519)</td>
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<tr>
<td>Internet-accessible device (ICS T0883)</td>
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<tr>
<td><strong>RECOMMENDED ACTION:</strong> Maintain a regularly updated inventory of all organizational assets with an IP address (including IPv6), including OT. This inventory is updated on a recurring basis, no less than monthly for both IT and OT.</td>
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<tr>
<td><strong>FREE SERVICES AND REFERENCES:</strong> Cyber Hygiene Services, &quot;Stuff Off, Search&quot; Guide or email <a href="mailto:vulnsharing@cisa.dhs.gov">vulnsharing@cisa.dhs.gov</a></td>
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</table>
CISA Bad Practices

1. Use of **unsupported** (or end-of-life) **software**

2. Use of known/fixed/**default passwords** and **credentials**

3. The use of **single-factor authentication** for **remote** or **administrative** access to systems
CA Resources for Risk Assessments

- California Cybersecurity Integration Center (Cal-CSIC)
  - Receive Alerts and Advisories
  - Free 30-Day License for an Endpoint Detection Tool
  - Potential for security assessments
  - Email calcsic@caloes.ca.gov
Beyond controls — what helps?

- Invest in cybersecurity; tools, people, training
- Divide and conquer (and hire contractors)
- Competitive salaries and training opportunities
- Cybersecurity awareness training for all employees
Berkeley Cyber Programs
The Cybersecurity Clinic Model

- Students train, and then provide pro-bono cyber services
- Clinics each serve surrounding community, choose own clientele

*Icons courtesy of Freepik, Flaticon, and Freeicons.io
The Consortium of Cybersecurity Clinics

Learn more at https://www.cybersecurityclinics.org
Lessons Learned

- Password Security
- Awareness Training
- Endpoint Security
- Cyber Policies
- Multi-Factor Authentication
- Data Encryption
Questions?

Additional Resources

- Consortium of Cybersecurity Clinics: www.cybersecurityclinics.org
- Berkeley Center for Long-Term Cybersecurity: www.cltc.berkeley.edu
- US Cybersecurity and Infrastructure Security Agency (CISA): cisa.gov
- MS-ISAC

Thank you!