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Effective Partnerships: Security and Privacy in Smart Cities

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CHANGE

Challenge today's security thinking



Your Hosts

Bob Butler

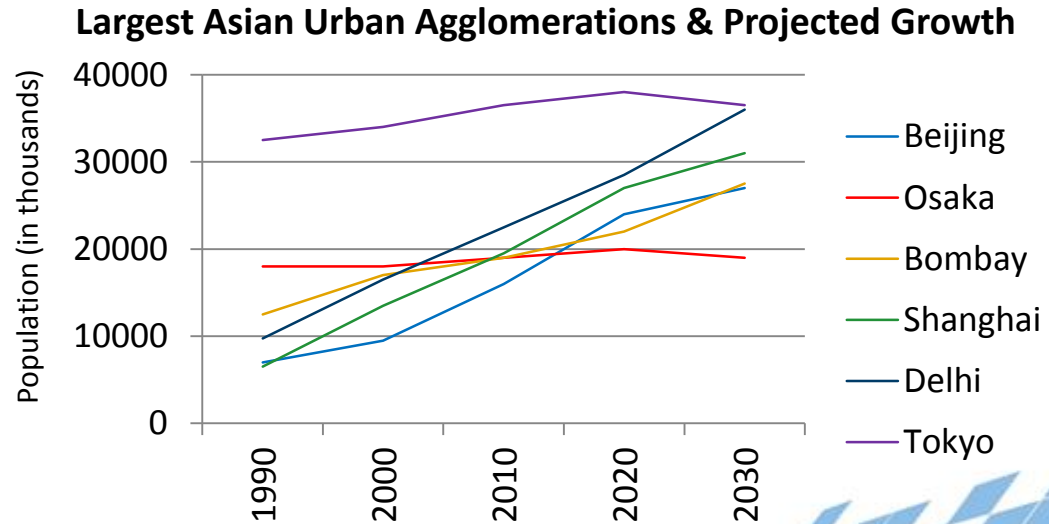
- Chief Security Advisor for IO Data Centers, global data center firm with APAC operations headquartered in Singapore
- Served as the first US Deputy Assistant Secretary of Defense for Cyber Policy
- Retired US military officer, former US Government senior executive and corporate security officer with 36 years of national security and information technology experience

Irv Lachow

- Principal Cyber Researcher at The MITRE Corporation: a not-for-profit systems engineering company working in the public interest.
- Senior Associate (Non-Resident), Center for Strategic and International Studies
- Previous employment includes: U.S. Department of Defense, Booz Allen Hamilton, RAND
- 20 years of experience in security

Importance of Cities

- ◆ Over 50% of the World's 7B people live in cities today
- ◆ Number will grow to 70% by 2050
- ◆ Major urban growth in Asia



Cities Face Challenges

- ◆ Economic growth
- ◆ Mobility
- ◆ Energy
- ◆ Safety
- ◆ Governance



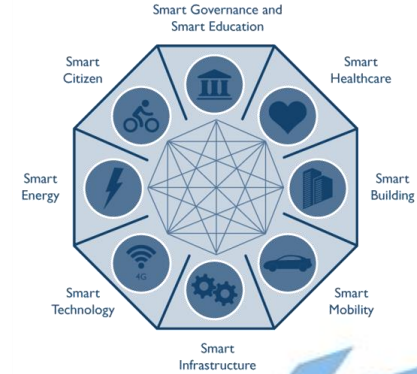
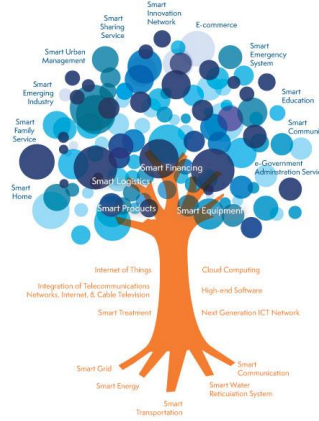
Rise of Smart Cities

- ◆ Defined by efforts to develop data-driven governance, education, healthcare, housing, mobility, energy use, innovation and community support
- ◆ A “Smart City” does all that by using information and communications technology (ICT) as a core infrastructure



Representative Smart City Projects

- ◆ Economic Growth
- ◆ Governance
- ◆ Safety



Common Themes of Smart City Efforts*

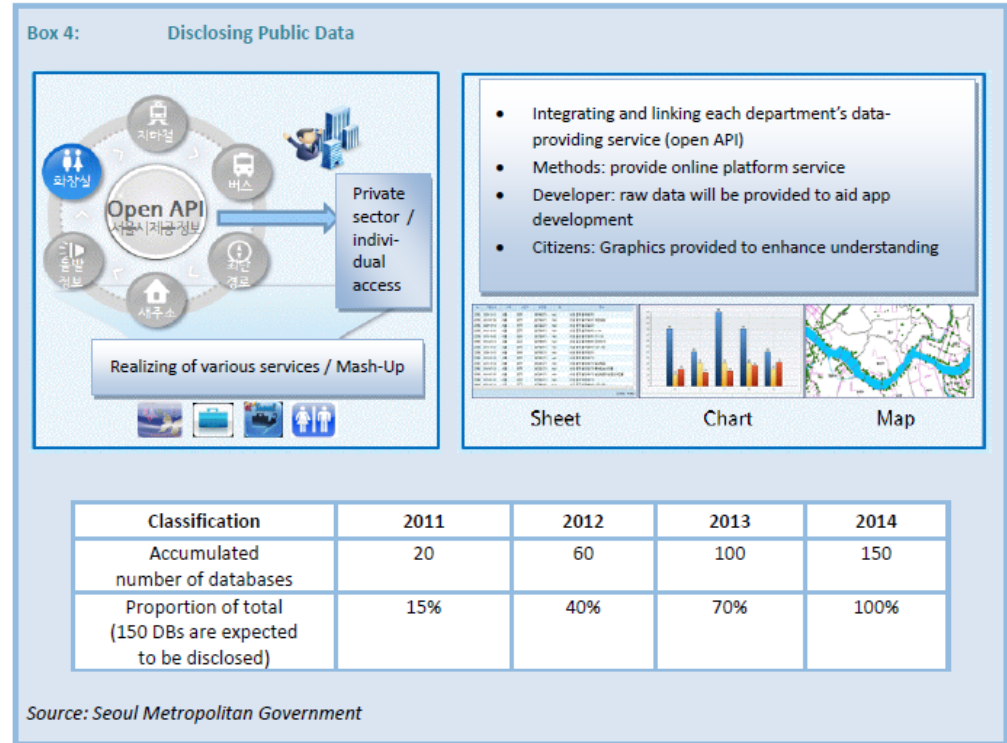
- ◆ Strong leadership + grassroots support
- ◆ Manage risk while spurring innovation
- ◆ Effective procurement
- ◆ Public Private Partnerships
- ◆ Ensure accessibility to all



*UK Dept. for Business Innovation & Skills, BIS Research Paper No. 135,
Global Innovators: International Case Studies on Smart Cities, October 2013.

Smart Cities Also Face Challenges

- ◆ Sustained Funding
- ◆ Committed Communities
- ◆ Technology/Interoperability
- ◆ *Data and System Security*
- ◆ *Privacy*



Security/Privacy Concerns are Significant*

- ◆ Many firms selling “smart systems” fail to build in effective security.
- ◆ City authorities often fail to test systems they buy
- ◆ The attack surface is huge and complex
- ◆ Lack of oversight and insufficient budgets
- ◆ How do you determine how much security and privacy are needed?
- ◆ Examples:
 - ◆ 200,000 traffic control sensors are vulnerable to attack (IOActive)
 - ◆ Smartphone sensors can reveal highly personal data including gender, age, psychological state, and movement patterns (FTC)

*<http://www.darkreading.com/vulnerabilities---threats/smart-cities-4-biggest-security-challenges/d/d-id/1321121>

So, How Do We Build Digitally Secure, Safe Cities?*

- ◆ Develop Privacy Policy
- ◆ Increase Citizen Awareness of Digital Threats
- ◆ Deploy Security Technologies
- ◆ Create dedicated Cyber Security Teams
- ◆ Establish Public-Private Partnerships



*See http://safecities.economist.com/wp-content/uploads/2015/01/EIU_Safe_Cities_Index_2015_white_paper-1.pdf.

Top Digitally Secure, Safe Cities*

- ◆ Tokyo
- ◆ Singapore
- ◆ New York
- ◆ Hong Kong
- ◆ Osaka



Local and regional public-private partnerships are foundational for digitally secure, safe cities!

*See http://safecities.economist.com/wp-content/uploads/2015/01/EIU_Safe_Cities_Index_2015_white_paper-1.pdf.

Focus Areas of Selected Partnerships in Digitally Secure, Safe Cities

- ◆ Continuous collaboration and exercise in computer incident response (Tokyo/JP-CERT/AP-CERT)
- ◆ Security data analytics and proactive security campaigns (Singapore/Interpol GCI)
- ◆ Robust information sharing of threat intelligence (New York/FS-ISAC)



Ingredients for Success in Effective Partnerships

- ◆ Identification of Champion(s)
- ◆ Group Commitment to Common Goal/Objectives
- ◆ Adoption of Common Operating Principles and Standards
- ◆ Focus on Delivering Enduring Value/Best Practices

Trust is Key!



Thoughts for Building and Sustaining Safe, Secure Smart Cities in the APAC Region

- ◆ Identify short and long term goals for improving privacy and security across region
 - ◆ Incorporate privacy and security policies and principles in all smart city projects
 - ◆ Develop citizen awareness programs concerning the growing digital threat
- ◆ Scale already effective partnerships to do more
 - ◆ Empower AP CERT to improve computer incident response readiness by collaborating with national capitals on smart city projects
 - ◆ Pilot security data analytics projects at Interpol GCI for countering cyber crime at the municipal level in the region
 - ◆ Using the FS-ISAC model and membership resources, scale automated threat sharing mechanisms across financial, telecommunications and state/city governments
- ◆ Anticipate and build new partnerships, keeping in mind the “ingredients for success”