The Good, the Bad and the Ugly: Privacy and Legal Implications of Internet of Things for Businesses

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Agenda

- The Good
- The Bad
- The Ugly
Internet of Things Described

- Devices equipped with sensors that transmit data
- Devices that communicate data to other devices
  - Hub network
  - Mesh network
- Devices that are controlled remotely
- Sensors can measure temperature, light, pressure, sound, motion
- Devices equipped with microphones or cameras can record or broadcast
Internet of Things Quantified

Are there more things connected to the internet than people?

- Global population: 7.3+ Billion (World Population Clock 5/11/14)
- Cisco Internet Business Solutions Group predicts 25 Billion devices will be connected by 2015, and 50 Billion by 2020

- Introduction of IPv6 addresses
  - Replaces IPv4, using 32 bit addresses – limit: 4.3 Billion addresses
  - Uses 128 bit addresses – limit: 340 Trillion addresses
  - Allows for unique identifier for each device
Internet of Things Standards

- Manufacturers set their own standards for data transfer from internet-connected devices.
- No consistent industry or regulatory standards.
- But competing industry groups are now forming to “self-regulate” standards.
The Things

- Light bulbs/switches
- Vehicles
- Power meters
- Thermostats
- Locks
- Smoke/chemical detectors
- Wear-ables
- Smart phones

- Laptops
- Tablets
- Motion sensors/video cameras
- Point of Sale Terminals
- Alarm systems
- Anything with an RFID tag
  - Clothing
  - Consumer products
  - Passports
  - Access cards
The Things
### Internet of Things in Use

#### In Public and Business Spaces
- Sensors in retail operations, offices, products or production lines
- Smart meters
- Physical security sensors
- Employee access card sensors
- Waste disposal
- Sensors in parking spaces, street lights, and smart phones
- Power grids
- Water systems
- Traffic control
- Air quality

#### In Personal Spaces
- Smart meters
- Burglar alarm systems/security cameras
- Networked wi-fi computers/printers
- Smart thermostats
- Vehicles
- Smart phones as sensors
The Good

Information/Analysis
- Tracking behavior
- Situational Awareness
- Enhanced Decision-making

Automation
- System/Process control
- Supply line control
- Automated system responses
The Good

- Improving efficiencies
- Controlling costs
- Monitoring product location and logistics
- Protecting security and safety of physical plant
- Improving employee communications and productivity
- Enhancing customer experience
- Develop insights into activities or product uses
- Health and medical monitoring
The Bad

- Monitoring employee locations
  - Vehicle monitoring for driving habits and locales
  - Timeclock “on steroids”

- Tracking workforce activities
  - Light and temperature sensors identify when a room is occupied
  - Employee access card identifies who is in the room

- Google glasses and smart contact lenses

- Collecting data about consumer location, activities and preferences
The Bad

- Using surreptitiously collected data to make employment decisions without notice or opportunity to challenge the data
- Monitoring work hours and locations – Overtime
- Monitoring after hours
- Monitoring personal devices connected to the system
- Monitoring safety conditions

- Using remote access to interfere with connected devices
  - Smart buildings
  - Smart production
  - Automobile systems
- Monitoring tenants’ activities, locations and habits
The Ugly

- Are there laws that apply to the internet of things?
- There are no specific laws, but
- All, generally-applicable laws are relevant
Case Law on Internet of Things
The Ugly

- Privacy
  - Who owns the data and the obligation to disclose
  - How can data be used, combined, shared
  - Device approvals, policies and procedures
  - Disclosures to Employees
  - Consent from Employees
  - Disclosures to Consumers
  - Consumer choices
  - Signage
The Ugly

- Security
  - Inventorying all connected or connectable devices
  - Preserving logs
  - Devices connected to company systems may be insecure
  - Encrypting device can impair its function (e.g., vehicles)
  - Remote access to system
  - Open wireless
The Ugly

- Unfair/Deceptive Practices
- Anti-Spyware
- Wiretapping and Eavesdropping
  - Intended and unintended surveillance
  - Compliance with anti-wiretapping regulations
The Ugly

- Labor and Employment
- Quiet possession of leased property
  - Landlord intrusion
  - Disclosure and consent
- Retail and Hospitality
  - Signage
  - Data use
  - System security
- Medical Services
  - HIPAA
The Ugly

- **Law Enforcement**
  - There is significantly more information available to law enforcement.
  - Can they use that information without violating rights to privacy?
    - Can you get a ticket for speeding based on the time it takes to get from one toll booth to the next (or for going through the booth itself too quickly)?
    - Can law enforcement use cell phone location data to find out where you are/were?
  - If your company collects information (for whatever reason), will you be forced to share it with law enforcement?
    - How do you protect your customers?
    - How do you protect your database?
    - How do you protect your reputation?
Internet of Things

- Unchartered territory
- Technology advancing at lightning speed
- Disclose, disclose, disclose
  - Clear, concise and readily available
  - May not be enough; especially outside the United States
- Provide choices
- International regulatory issues
QUESTIONS?
Thank You for Participating!

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