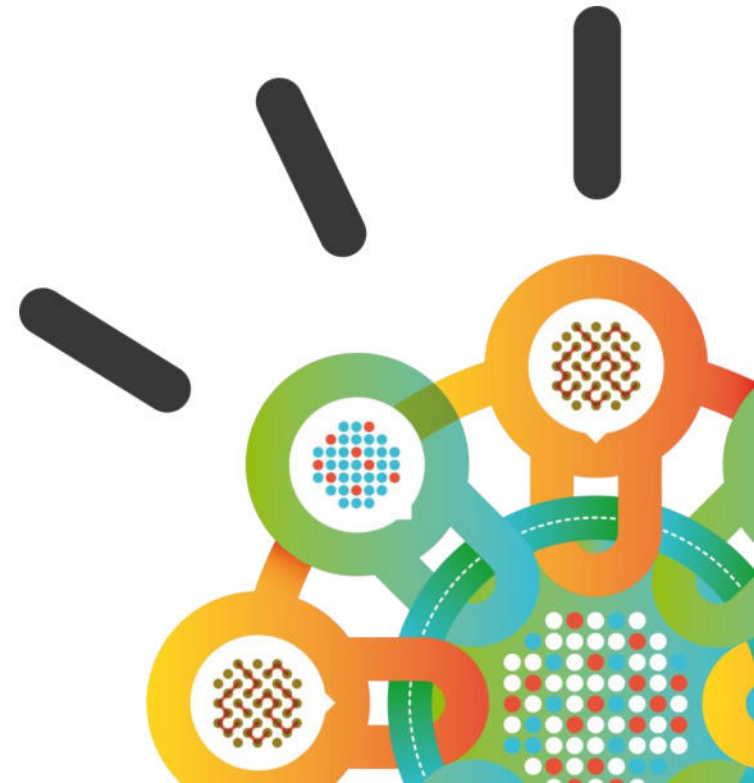


Security Intelligence.
Think Integrated.

IBM's POV
on
Body Cameras,
Intelligent Content Management
&
Smarter Public Safety





IBM POV of a Holistic Body Camera Program

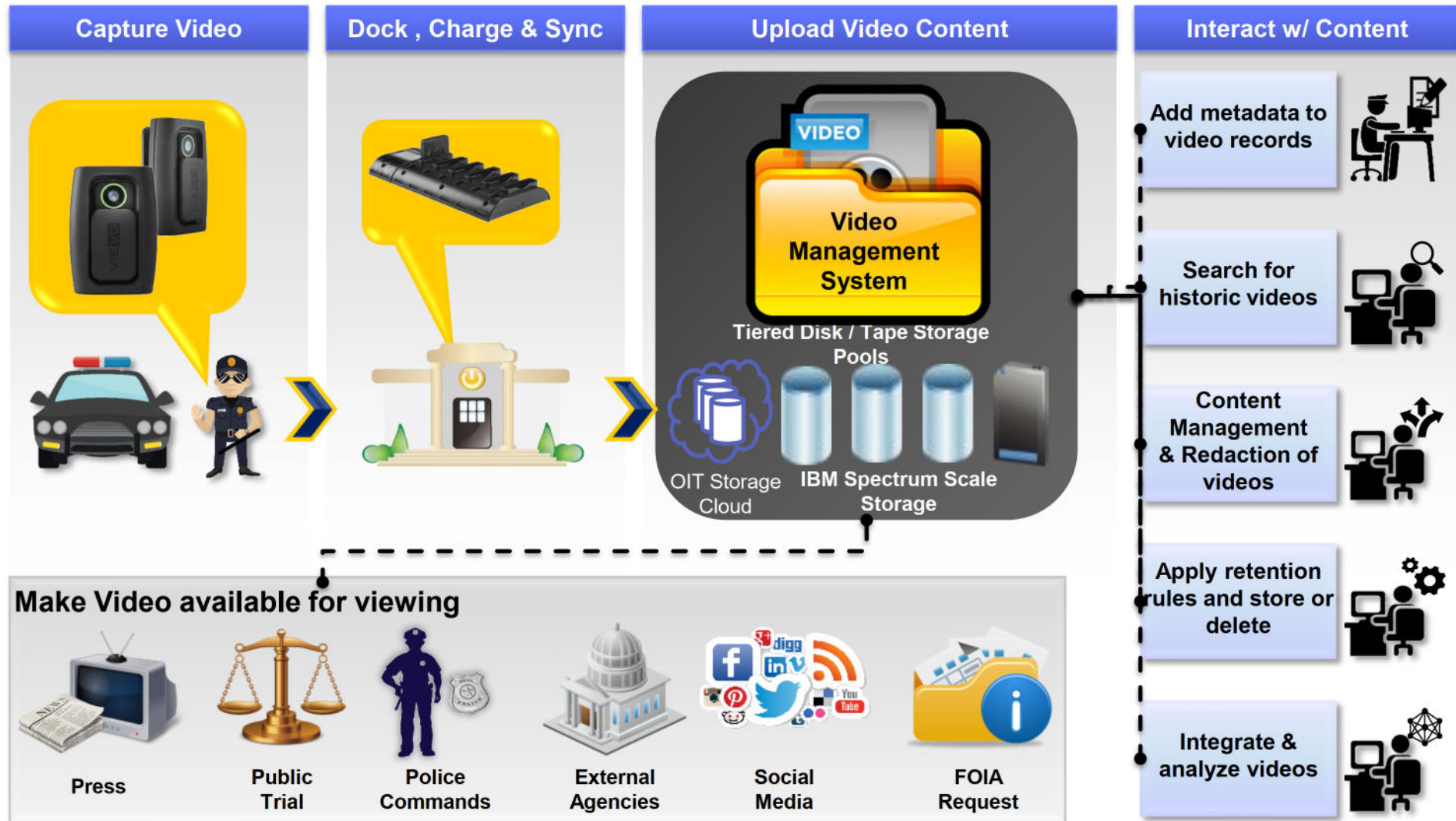
“The era of **21st Century Policing** has seen **quantum leaps** in technological capabilities, operational efficiencies (many based on lessons learned and best practices), and the need for greater accountability, the likes of which have not been seen before.

Citizens play a huge role in this equation, as both the sworn “protectees” of law enforcement personnel nationwide, and as critical **“first communicators”** at scenes of crime, terroristic acts, and catastrophic natural disasters.

With the **public’s access** to instantaneous information through **social media**, both to consume and publish media of all types, along with the pervasiveness of mobile devices capable of **recording and disseminating incidents in real-time**, the need for a well-managed, flexible, and **policy-driven Body Camera program** is of **critical importance** to the nation’s citizens and law enforcement community.”



Body Camera Video Management Process





Hardware – It’s not all about the camera...

The Camera device is the “tip of the “iceberg”

- Vendors are proliferating to enter this market
- Proprietary systems which are closed create another silo of information within an agency, limiting access to a “treasure trove” of data

Panasonic



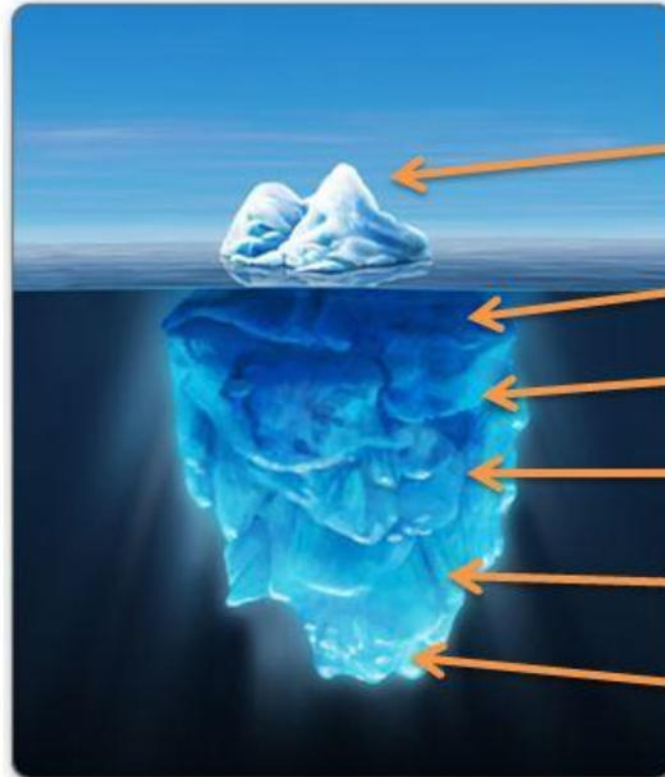
IndigoVision



Getac



VIEVU



Hardware

Software

Networking Issues

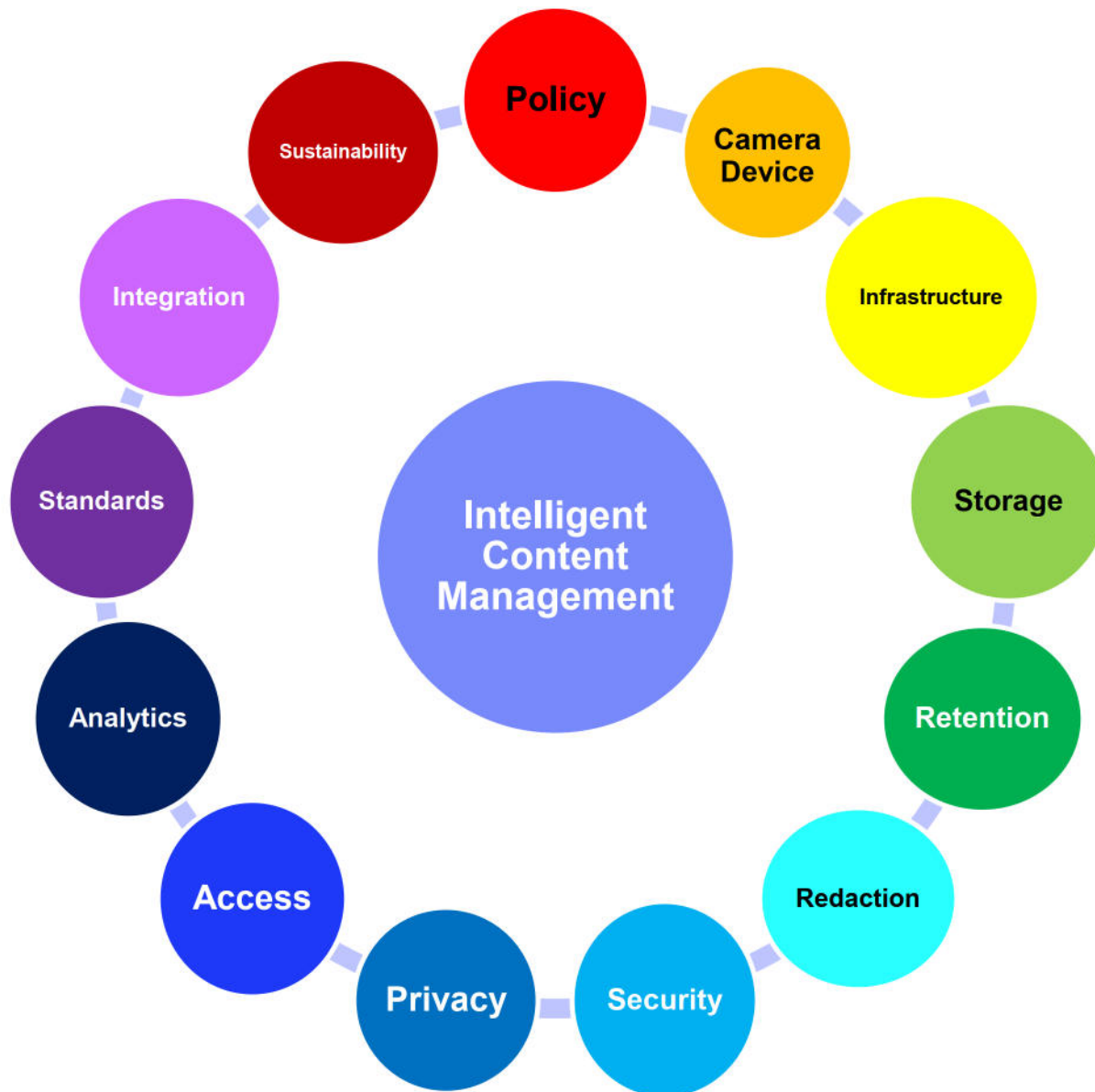
Integration Issues

Funding

Policy Concerns



Numerous & Complex Considerations to Manage when Implementing a Body Camera System





Body Camera Challenges and Mitigation



BC Considerations	Challenge	Mitigation
1. Officer Discretion to Record	Wearable Camera programs are only as good as the protocols that are defined. Officers not following established protocols need to be identified and retrained – BEFORE issues surfaces.	Baseline(s) developed around protocols and procedures. Baseline is updated based on patrol usage patterns. Outliers identified and followed up on.
2. Public Notifications	Ensuring that the general public is aware of the program and their rights.	While outside the scope of IBM's effort, we have deep expertise in communications and change management.
3. Compliance and QA Reviews	Patrol command structure should randomly review compliance with protocols and procedures. This can take up valuable time.	Workflows defined with automatic notifications for video segments matching a set criterion such as a specific arrest type or stop.
4. Mitigating Officer Infractions Recorded on BCs	Video segments with (alleged) recorded officer infractions - resulting from complaints (versus via a QA review) – must be able to be quickly and effortlessly retrieved by command.	Accurate indexing to enable easy reference to a particular segment.
5. Access Control	Video access needs to be limited to specific roles and may need to be assigned dynamically.	Flexible and easy-to-adjust access control and access tracking.
6. Public Access/FOIA Requests	Ensuring privacy and safety protections for all populations. Striking a balance between citizen's and officer's rights.	Video redaction capabilities.
7. Retention and Purging	18 month retention period requires significant storage volume. Video segments must be carefully tracked to validate evidentiary needs are met, while expired, non-evidentiary segments are purged upon expiration.	An effective, hybrid, data storage scheme coupled with automated retention and purge rules.



A Single View of IBM's Holistic Body Camera Program



End to End Video Content Management

Strategic Direction & Governance
NYPD Operations Order 48,
NYPD Open Standards Interface
Model, CJS, FEDRAMP

Program Management
WWPMM, PMP, IME,
Design Thinking, Agile, 7 Keys

Performance Management
90 Days Update, No Retention Loss of Sub, On-Time Delivery, Continual
Service Improvement, Timely Incident Response & Resolution, Customer Satisfaction

Integrated Vendor Management

Open Standards Based Platform

Stakeholder Management
NYPD Officers (PBA), OIG-NYPCOA,
NYC DOB, Requests, CCRB, IACP

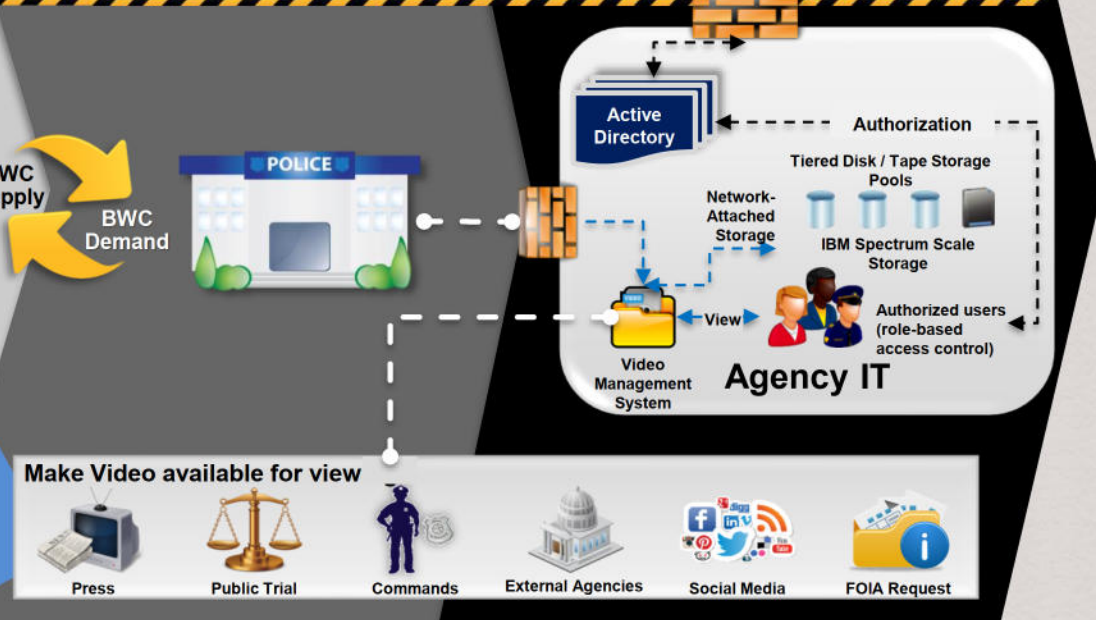
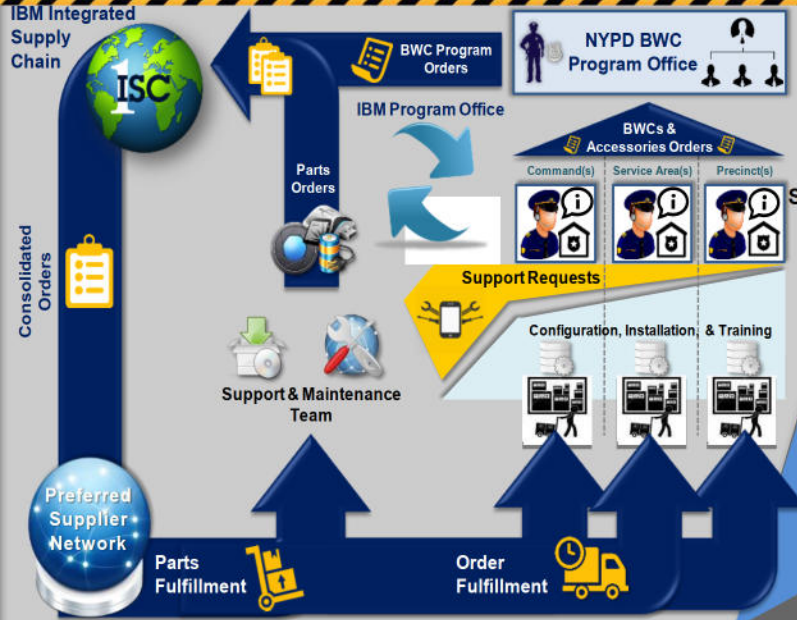
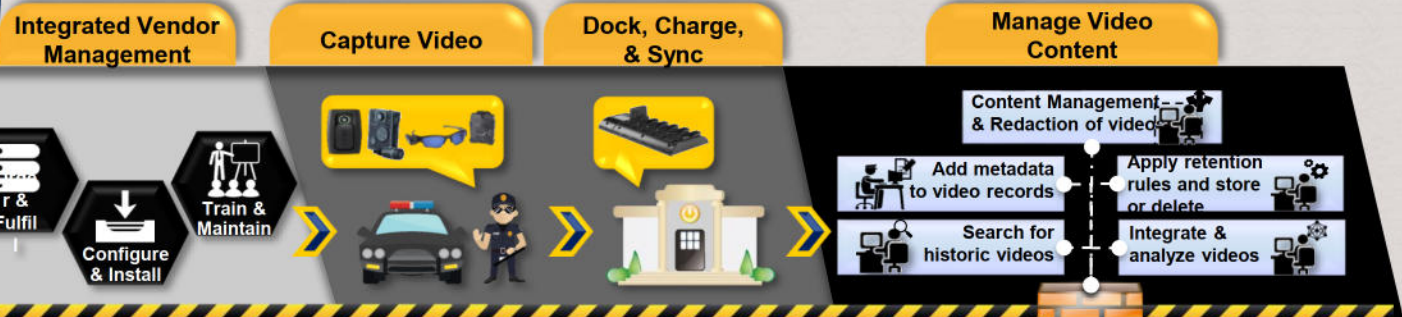
NYPD Leadership

IBM Solutions

- ✓ Entire Lifecycle Program Management
- ✓ Agnostic multi-vendor BWC sourcing model
- ✓ Flexible, scalable storage enabled for future advanced capabilities

Agency Goals & Objectives

- BWC comprehensive requirements contract
- Complete BWC functional system with related hardware, accessories, training, support, and maintenance
- Complete data storage solution for the BWC system





How does IBM view a Body Camera Project Implementation?

IBM Global Business Services (GBS) is well positioned as an End to End program manager of BC programs: PMO, Vendor Management, System Integration, Testing, Support, Maintenance, Systems Management, Analytics, and more...

Process	Capture	Collect	Manage	Analyze
Description	<ul style="list-style-type: none"> Managing Ordering & Deploying Hardware Devices 	<ul style="list-style-type: none"> Content Management of data collected from numerous device types 	<ul style="list-style-type: none"> Data Storage (On-Premise, Hybrid, or Cloud) 	<ul style="list-style-type: none"> Integration and Video Analytics (FR, 360 Deg. View, Behavioral)
IBM Content	<ul style="list-style-type: none"> 3rd Party product to be procured by IBM: Cameras & Accessories 	<ul style="list-style-type: none"> MDM & Data Modeling IBM SW ECM/ Kaltura Metadata & Tagging Geo-Location 	<ul style="list-style-type: none"> Shared Services IBM Storage: ESS, Spectrum Scale Cloud: Fed Cloud, Rocket Center, NLETS 	<ul style="list-style-type: none"> Integration Analytics Capabilities Automation and Interoperability (ex Event Triggers and Alerts)
3rd Party Content	<ul style="list-style-type: none"> Suppliers: Viewu, Taser, Panasonic, L3, Indigo Vision, Wolfcom, etc. 	<ul style="list-style-type: none"> BC SW: Taser, Viewu, Indigo Vision, L3, Panasonic, Wolfcom 3rd Party SW: Other Content Management & VMS Solutions (ex. Genetech) 	<ul style="list-style-type: none"> Cloud Vendors: Azure, AWS, Others Storage Solutions: EMC, etc. 	<ul style="list-style-type: none"> Integration of Cameras, SW, and Data Storage Additional capability Components (ex Analytics) Automation and Interoperability



Infrastructure: Hybrid Storage Solution Example

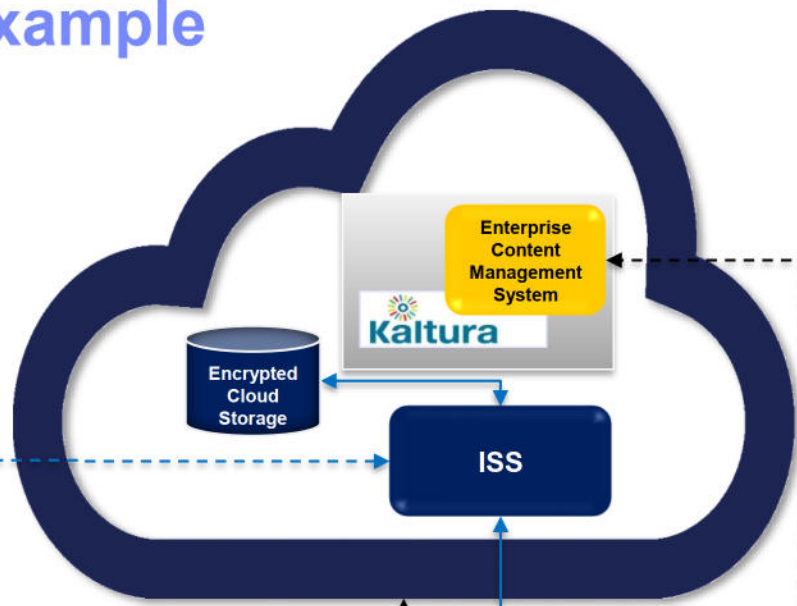


Legend:

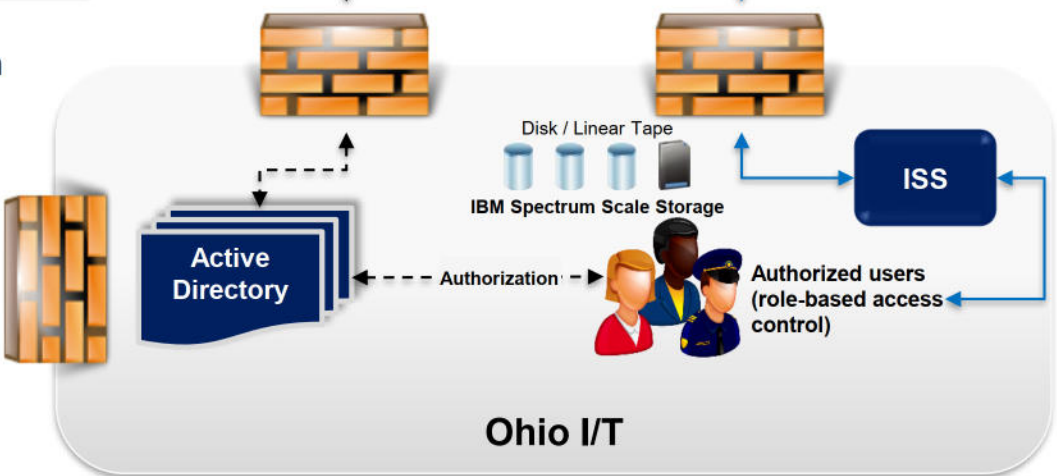
- ← - - - → Dashed black is authentication
- ← - - - → Dashed blue is encrypted data flow
- ← - - - → Solid blue is logic/application flow



Upload

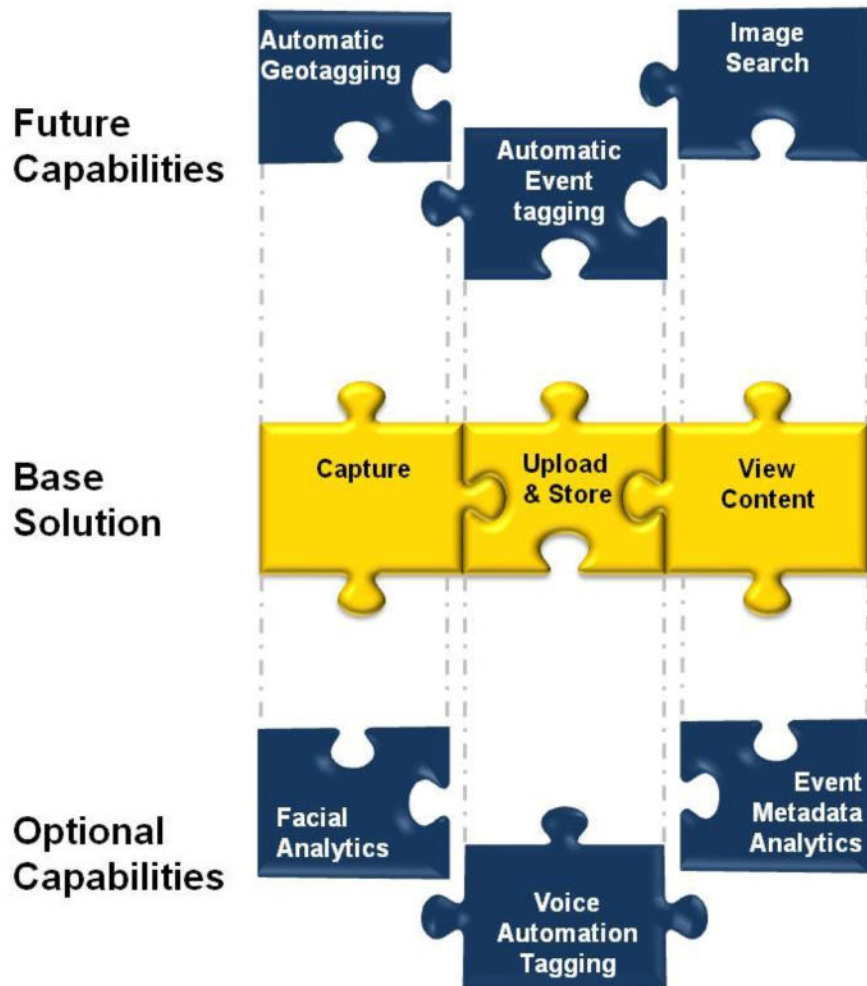


Authorization





Implementation: A Platform for Future Capabilities, Scalability and Sustainability



IBM Holistic Project Approach

- Device Agnostic
 - Technology Refresh
- Program Management Office (PMO)
- Systems Integration
 - Multi-vendor Complex Integration
- Storage Technology Innovation
- Integrated Supply Chain
- Sustainability

“Future Proof”

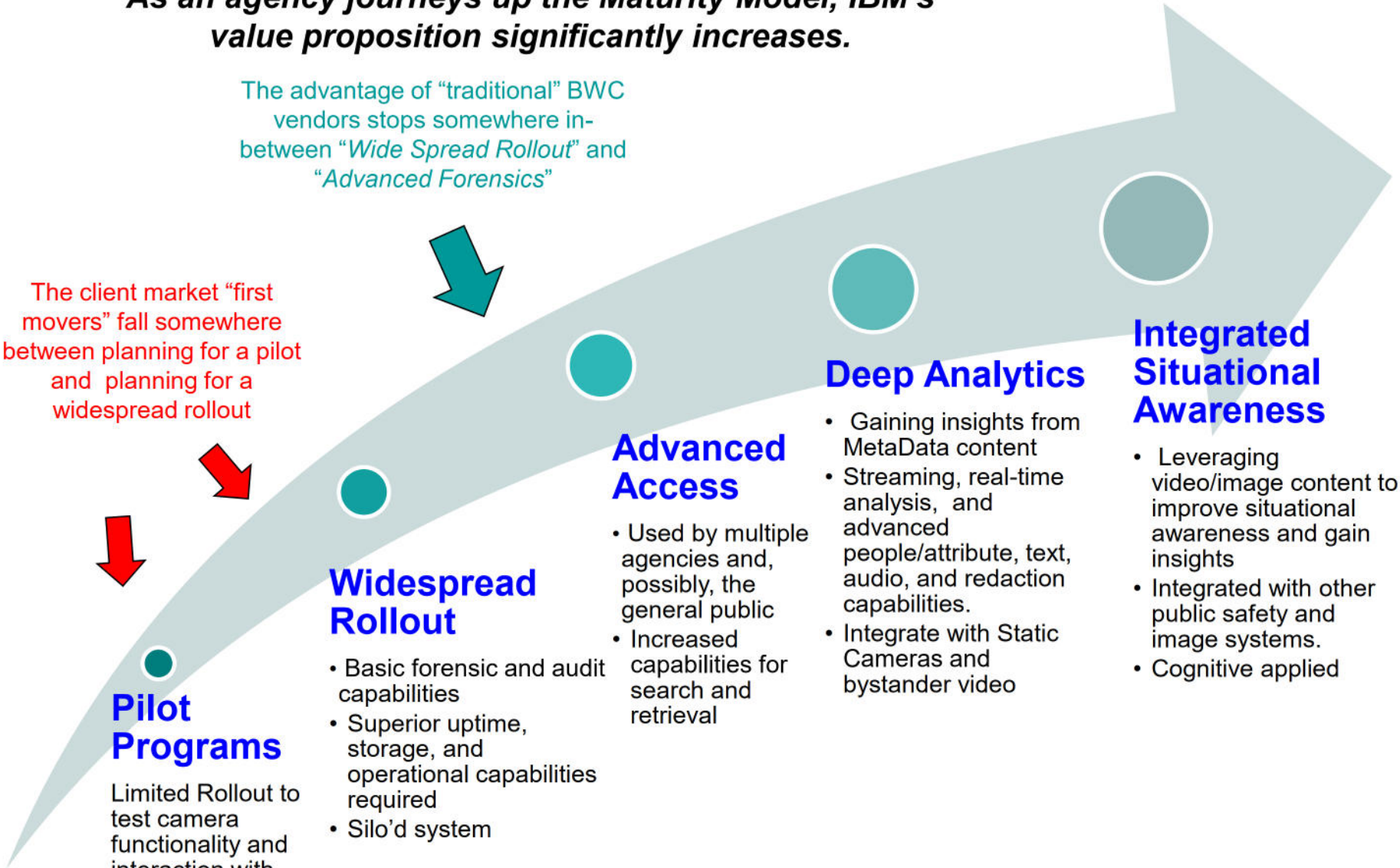


The IBM BWC Maturity Model PoV

As an agency journeys up the Maturity Model, IBM's value proposition significantly increases.

The advantage of "traditional" BWC vendors stops somewhere in-between "Wide Spread Rollout" and "Advanced Forensics"

The client market "first movers" fall somewhere between planning for a pilot and planning for a widespread rollout



Pilot Programs

Limited Rollout to test camera functionality and interaction with Public

Widespread Rollout

- Basic forensic and audit capabilities
- Superior uptime, storage, and operational capabilities required
- Silo'd system

Advanced Access

- Used by multiple agencies and, possibly, the general public
- Increased capabilities for search and retrieval

Deep Analytics

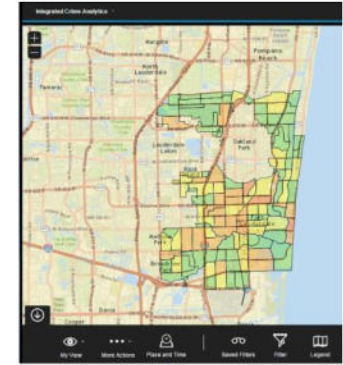
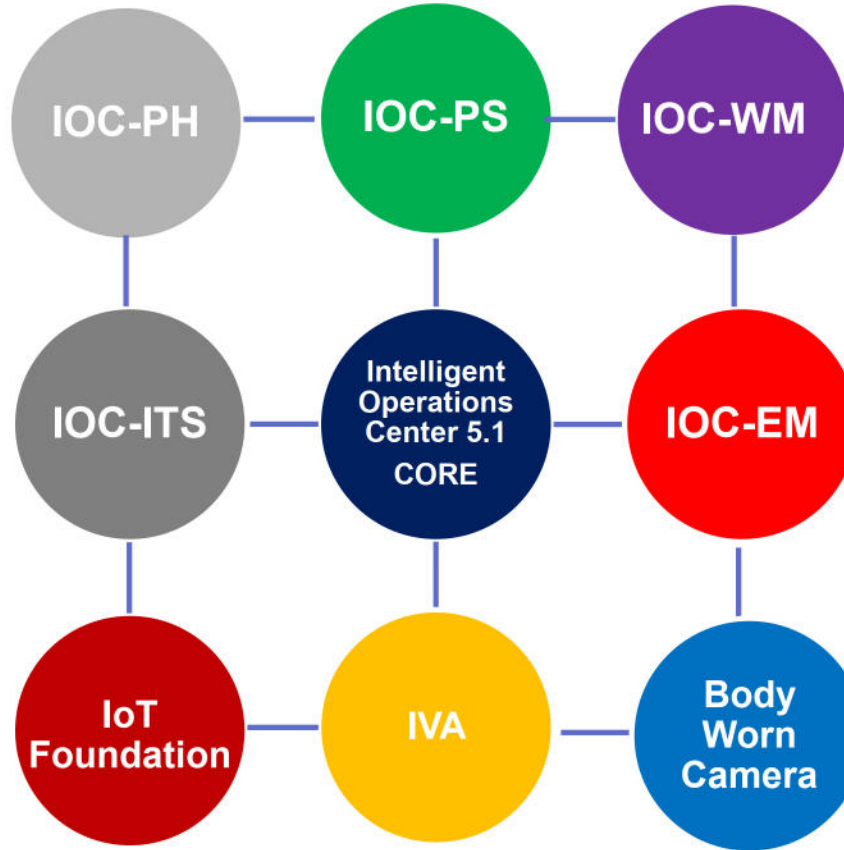
- Gaining insights from MetaData content
- Streaming, real-time analysis, and advanced people/attribute, text, audio, and redaction capabilities.
- Integrate with Static Cameras and bystander video

Integrated Situational Awareness

- Leveraging video/image content to improve situational awareness and gain insights
- Integrated with other public safety and image systems.
- Cognitive applied



Our BWC offering aligns with Smarter Cities / IOC investments



Incident Aware



Cross Risk Analysis

Cross Probability by Hour

Top areas with highest crime risk by hour

Area	Prediction Date	Start Time	Area	Probability
PH	Mar 20, 2015	10:00 AM	Fort Lauderdale Police RA 323	0.81
PH	Mar 20, 2015	10:00 AM	Fort Lauderdale Police RA 140	0.76
PH	Mar 20, 2015	10:00 AM	Fort Lauderdale Police RA 207	0.74
PH	Mar 20, 2015	10:00 AM	Fort Lauderdale Police RA 323	0.70
PH	Mar 20, 2015	11:00 AM	Fort Lauderdale Police RA 140	0.74
PH	Mar 20, 2015	11:00 AM	Fort Lauderdale Police RA 207	0.72
PH	Mar 20, 2015	12:00 PM	Fort Lauderdale Police RA 323	0.70



IOC 5.1 can be the integrating hub of all of these technologies, cross domain/industry



Industry Resources & Information Providing Guidance

National Sources: Information, Guidance and Opinion

Industry Organizations:

- DOJ-COPS
- PERF
- ACLU
- Academia
- NACo
- National League of Cities
- National Governors Association
- Major City / County Chiefs & Sheriffs
- IACP
- IAEM
- IJIS
- National Association of Prosecutors & District Attorneys
- National Association of Court Administrators

Industry Publications:

- ✓ [National Institute on Justice: Research on Body-Worn Cameras and Law Enforcement](#)
- ✓ [Implementing a Body-Worn Camera Program Recommendations and Lessons Learned](#)
- ✓ [THE USE OF BODY-WORN CAMERAS BY LAW ENFORCEMENT GUIDELINES FOR USE & BACKGROUND PAPER](#)
- ✓ [BODY-WORN CAMERAS MODEL POLICY NOW AVAILABLE](#)

Recent News Articles:

- **SC:** [Police came out against a body-camera bill](#)
- **KY:** [Bill to Help Cops Develop Body-Worn Camera Programs](#)
- **HI:** [Bill would help fund police cameras](#)
- **MI:** [Police body cams: Bill would exempt footage from FOIA](#)
- **LAPD:** [Lawmakers, police officers disagree on body camera rules](#)
- **TX:** [Texas Senate OKs police body camera bill](#)



Thank
YOU

