



Big Data for Government Symposium

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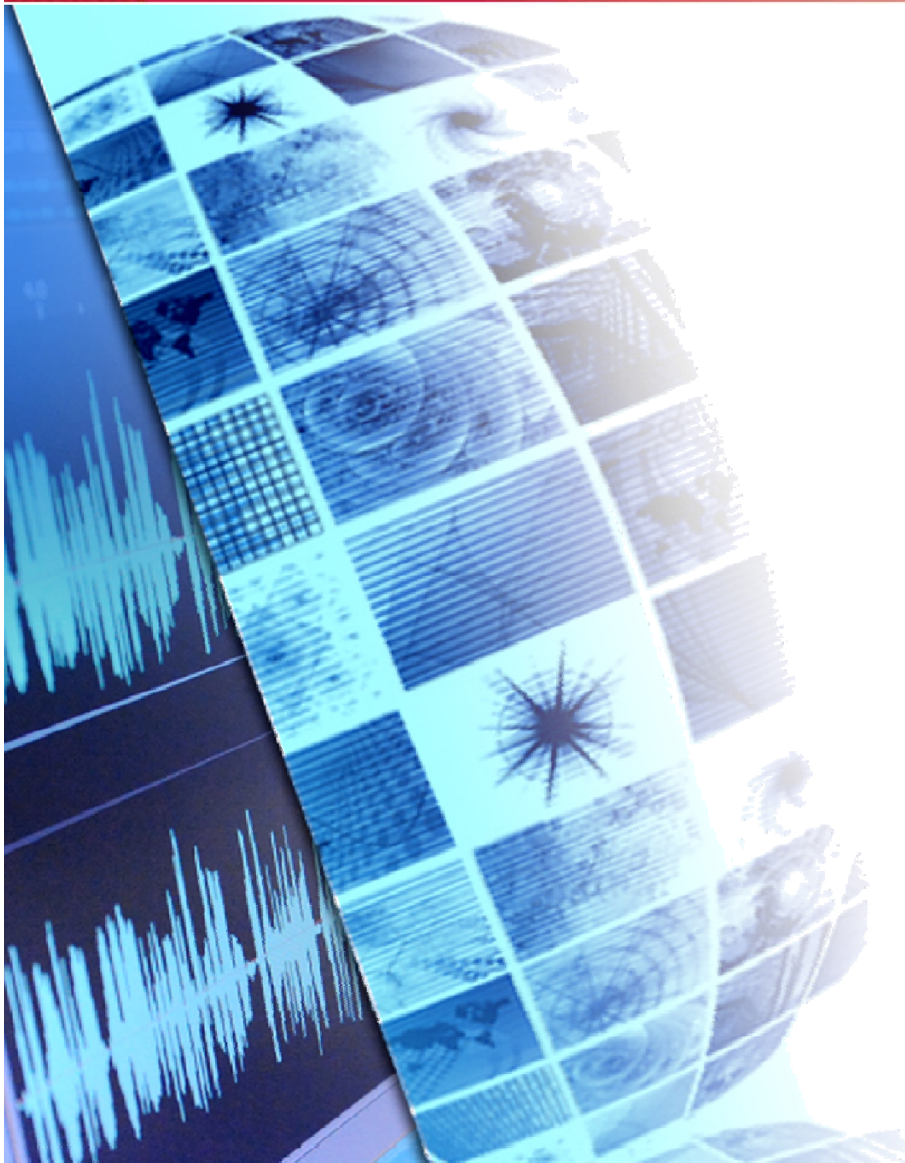


Big Data



Leveraging Big Data to better
identify and mitigate the threat

Overview



- Big Data and Intelligence
- 9/11 historical pivot
- IC/FBI transformation
- Current state
- Future Opportunities

- Intelligence agencies collect _____
- Intelligence = Big Data



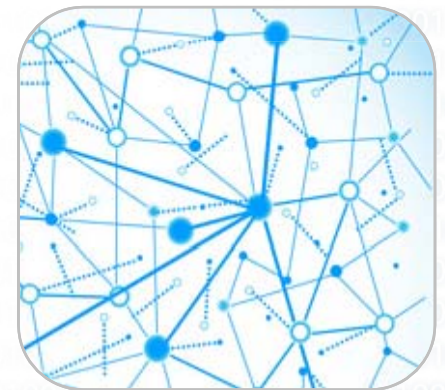
“The value of any piece of information is only known when you can connect it with something else that arrives at a future point in time. Since you can’t connect dots you don’t have, it drives us into a mode of, we fundamentally try to collect everything and hang onto it forever.”

– Gus Hunt, CIA CTO (retired)

9/11 Historical Pivot



- Global terrorism threat to the homeland
- 9/11 commission report:
 - Information systems were woefully inadequate
 - Lacked the ability to know what it knew
 - Agents created records of interviews and investigations but no meaningful intelligence
- New emphasis on intelligence sharing
- Evolution of Big Data, a strategic approach:
 - 9/11 lessons learned
 - Failure to connect the dots
 - Digital storage capacity increased





AP Photo

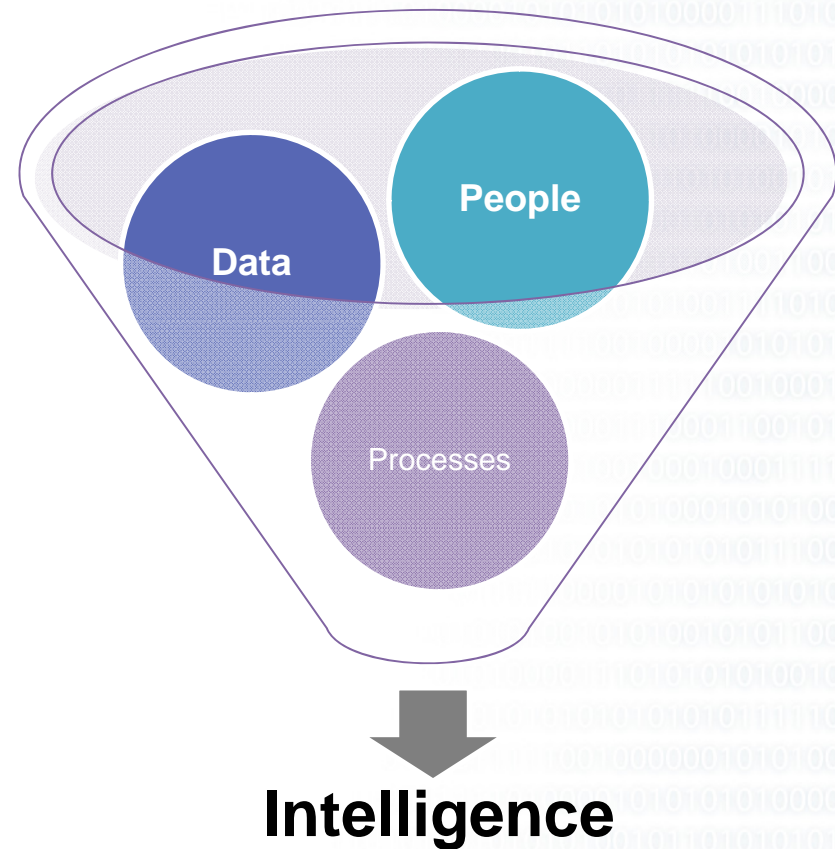
“The law I sign today directs new funds and new focus to the task of collecting vital intelligence on terrorist threats and on weapons of mass destruction.”

– George W. Bush, November 2002



Data, people, and processes

- The sheer volume of data made it necessary to develop useful tools and technology to visualize our data
- “Discovering” intelligence in your data (to optimize its value), also involves people and process involvement



Transforming the FBI

Intelligence-led, threat-driven



People: Organizational Shifts

- Established Joint Terrorism Task Forces and Field Intelligence Groups in every FBI field office
- Shifted 2000 agents to National Security programs
- Tripled the number of Intelligence Analysts

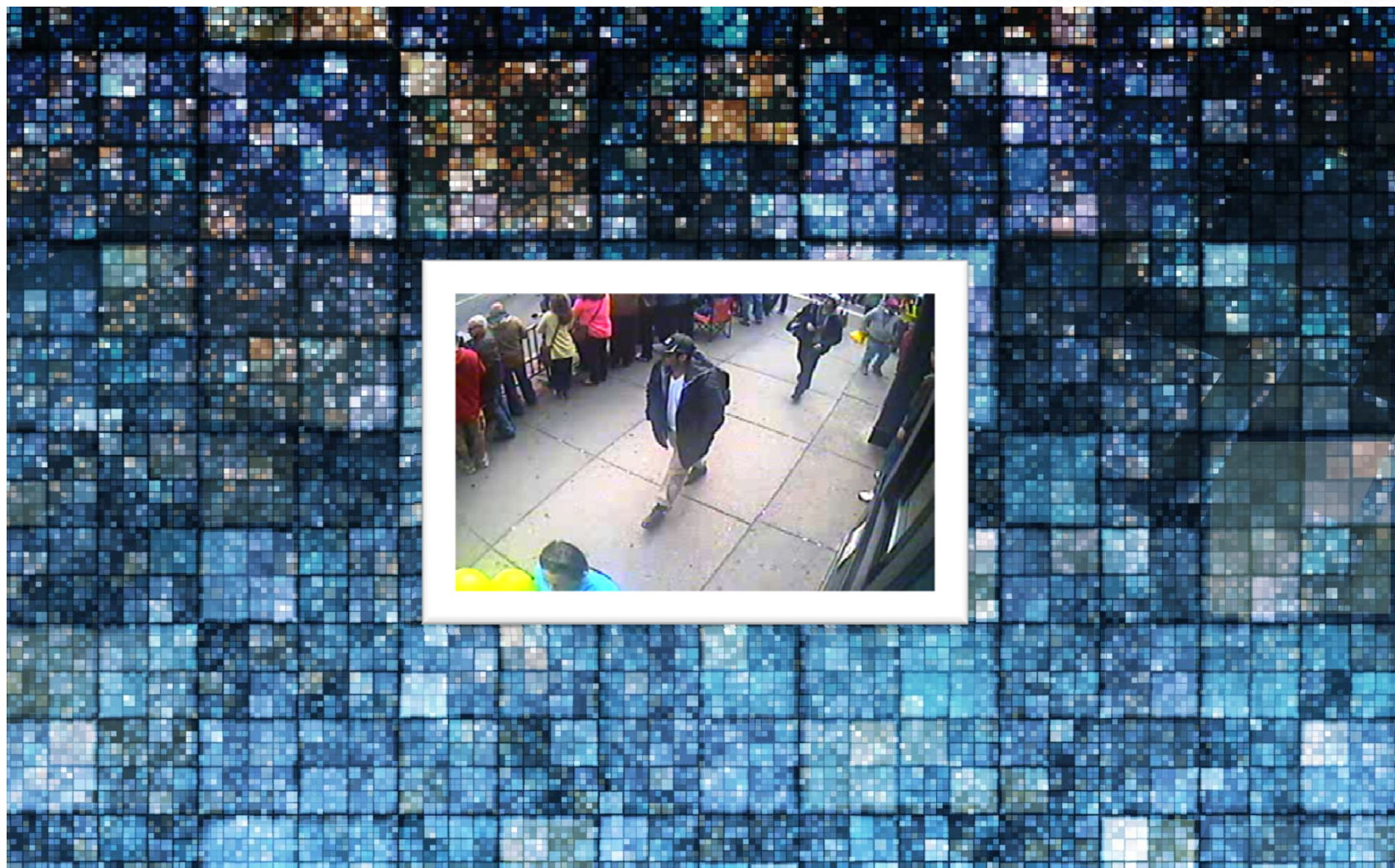
Processes: Strategic Approach

- FBI Director prioritized data integration; top down approach streamlined adoption
- Developed a comprehensive threat picture

Data: Systems Priorities

- Created systems to enable more efficient search and analysis capability
- Visualization tools (tie-in between Big Data and Visualization)
- Created a consolidated enterprise platform with data engineers to implement





Current State



Boston Bombing

Crowd sourcing to obtain video intelligence



Cyber and other Complex Threats

Good cybersecurity practice inherently generates “Big Data”;
Insider Threat; Criminal;
Finding the needle in the haystack



Privacy and Civil Liberties

Now that we’ve uncovered this ability to discover/detect threats, are we being responsible about how we are building tools obtain/utilize this data?

Future State



“The future will be better tomorrow.”

– George W. Bush, November 2002

AP Photo



Future State—Predictive Analytics



- Can we stay “left of boom” and prevent these threats from attacking?
- How advanced can we get to predict the threat?
- Assuming everything is working: the collection machine is collecting, then we can focus on the real problem, which is creating the technical ability to be predictive with our intelligence



“Every two days, we now generate the equivalent of all of the data that existed up to 2003. And thanks to advanced computation and analytics, we have the tools to turn that data into insight, knowledge, and better decisions.”

– Ginni Rometty, IBM CEO

- Common consumer examples of predictive analytics
- Discovering new ways to exploit our Big Data
- Technology is changing the way we communicate (think social media)
- Every new iteration of mobile device has the ability to change the way we communicate
- Facial recognition is becoming a reality
- Some agencies are already using predictive analytics
 - Threat assessment and Proactive deployment strategies
- Even the best predictive analytic tools will require human interpretation i.e. Analyst, Agent or Police Officer

Conclusion



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Big Data from an Intelligence perspective is all about changing the threat outcome—by improving our ability to predict, we can improve our ability to identify, prevent, and mitigate the risk.

Questions/Comments

