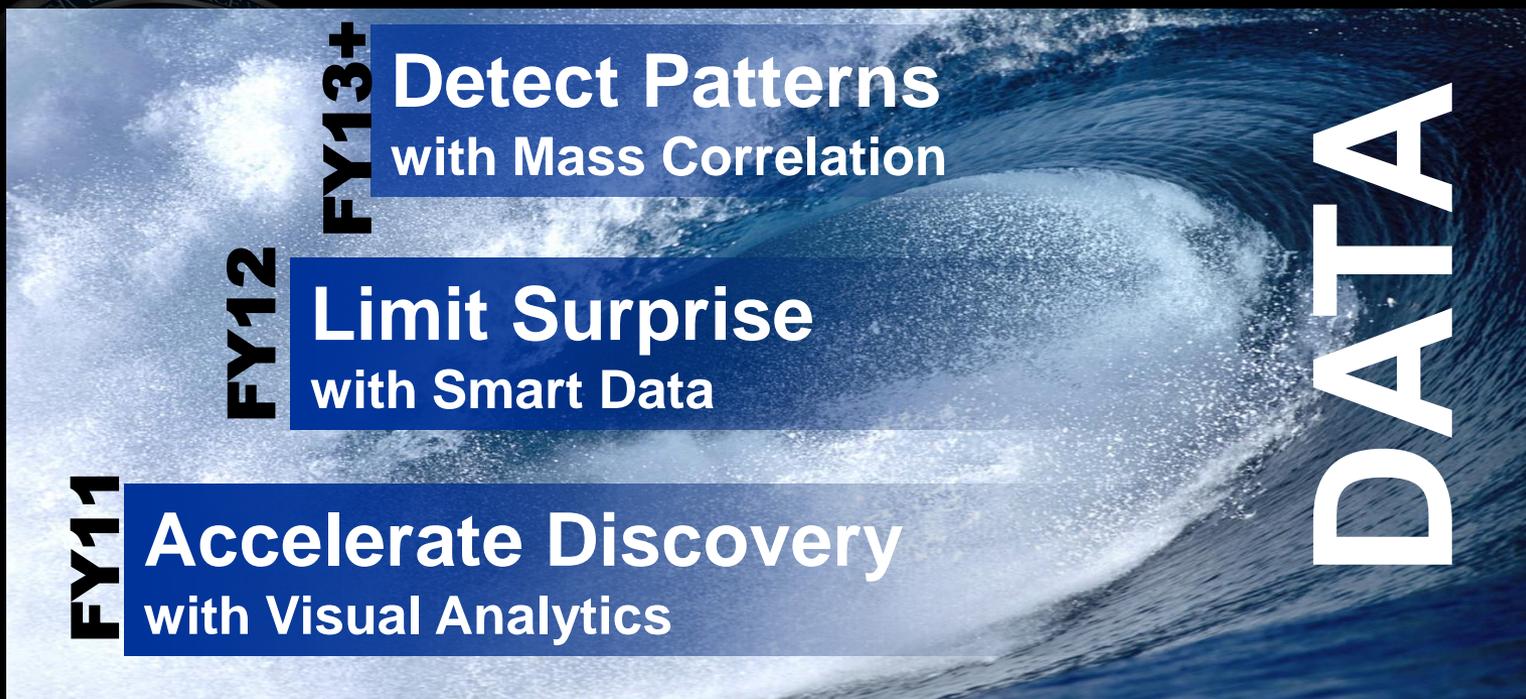




Big Data Operational Excellence Ahead in the Cloud



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Chief Technology Officer
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Our Mission

We are the nation's first line of defense. We accomplish what others cannot accomplish and go where others cannot go. We carry out our mission by:

Collecting information that reveals the plans, intentions and capabilities of our adversaries and provides the basis for decision and action.

Producing timely analysis that provides insight, warning and opportunity to the President and decisionmakers charged with protecting and advancing America's interests.

Conducting covert action at the direction of the President to preempt threats or achieve US policy objectives.



4 Big Bets

1 Big Data

- Acquire, federate, and position for multiple constituencies to securely exploit. Grow the haystack, magnify the needles.

2 Operational Excellence

- Innovate infrastructure operations and provisioning, create an authoritative source on our asset base, and run IT like a business.

3 Serve CIA by supporting the IC

- Assume a leadership role in IC activities that benefit the CIA

4 Talent Management

- Focus on continuous learning and diversity of thought, experience, background



5 Key Technology Enablers

1 Advanced **Mission Analytics**

- World-class abilities to discover patterns, correlate information, understand plans and intentions, and find and identify operational targets in a sea of data

2 Enterprise **Widgets and Services**

- A customizable, integrated and adaptive webtop that lets analysts, ops officers, and targeters to “have it their way”.

3 **Security as a Service**

- One environment, all data, protected and secure using common security services such as: ubiquitous encryption, enterprise authentication, audit, DRM, secure ID propagation, and Gold Version C&A.

4 Enterprise **Data Management--the Data Harbor**

- An ultra-high performance data environment that enables CIA missions to acquire, federate, and position and securely exploit huge volumes data.

5 **Cloud Computing**

- Ruthlessly standardized, rigorously automated, dynamic and elastic commodity computing environment. Massive capacity ahead of demand. Speed for mission need.



Our World Today

- Economic climate
- Astounding commercial IT capabilities
- Shape-shifting, technologically sophisticated enemies
- Public expectations of intelligence perfection - connecting the dots
- Deluge of multi-lingual data
- Video, audio, Tweets, SMS, etc.
- The Perfect Storm

LOL, 555, 大笑 mdr,
ههههه, 笑,
Лол, asg, rs





It's a

BIG Data

World



Google
>1 Trillion Indexed
URLs



**Google's index
>100 Petabytes**



YouTube
>789 Petabytes



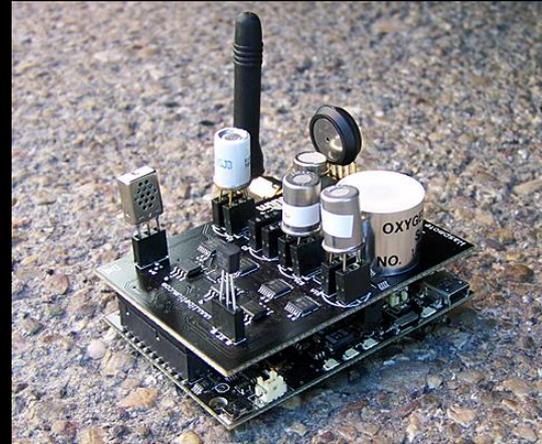
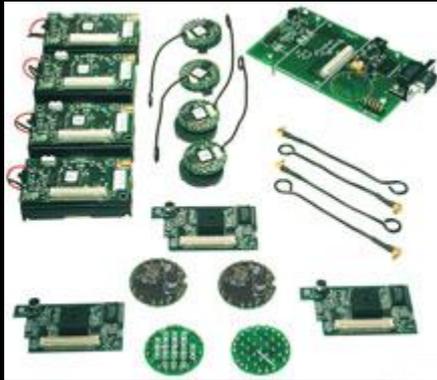
**>144 Million
Tweets per day**



**Facebook Holdings
>90 Petabytes**



Sensors





Our Job

- 1 Leverage** the **Big** Data world
- 2 Find** the Information that Matters
- 3 Connect** the Dots
- 4 Understand** the Plans of our Adversaries
 - Prevent an attack, Save lives, Safeguard our national security

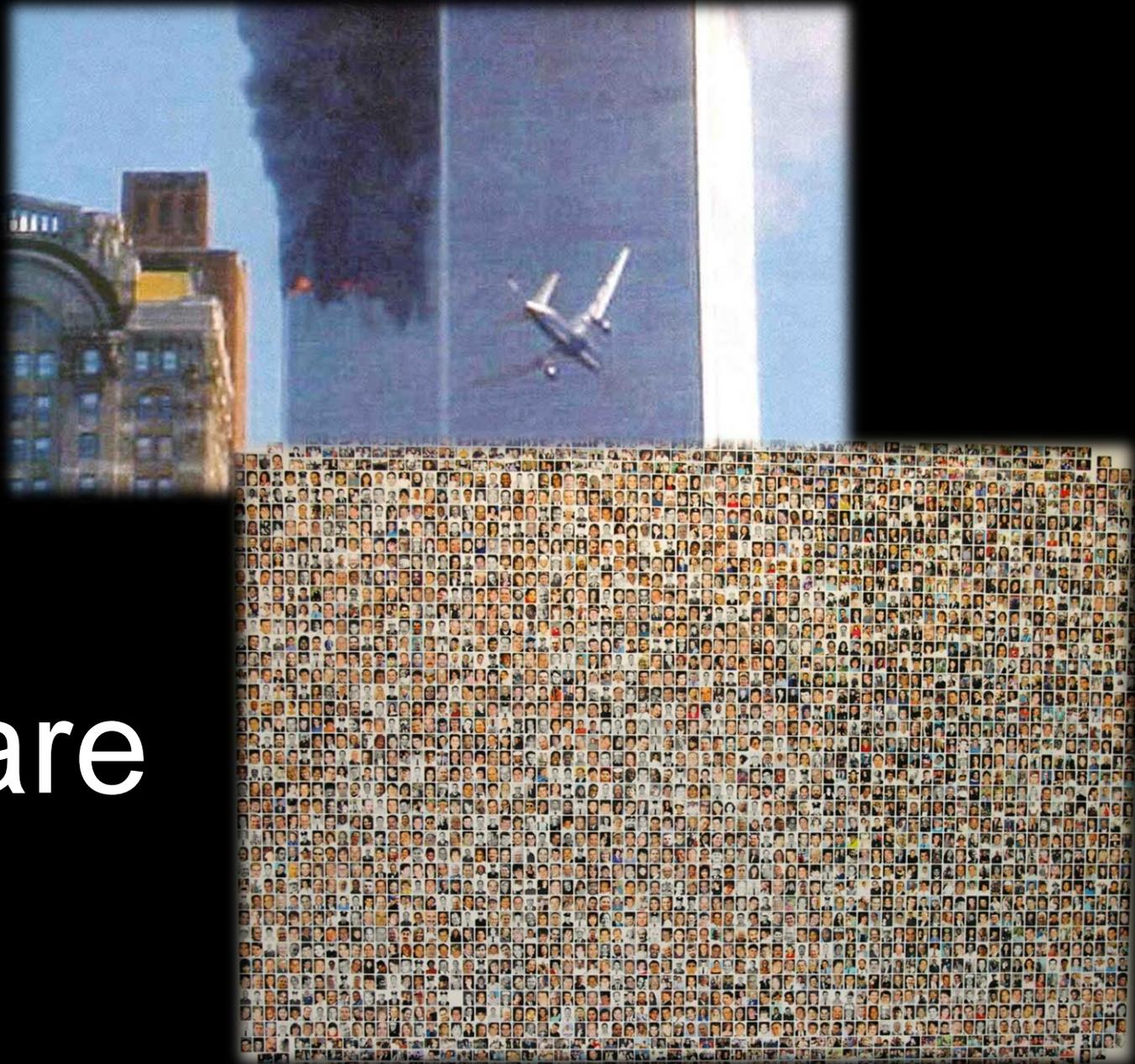


WE WANT FREEDOM



**Why
We
Care**





Why We Care



The Problem

MCHUMOR.com by T. McCracken



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Our Problem: Which 5K

- 1** Don't know the future **value** of a dot **today**
- 2** We cannot connect dots **we don't** have
- 3** The **old** collect, winnow, dissem **model fails** spectacularly in the **Big Data** world

The few cannot know the needs of the many

Secure the data, **Connect** the data, **Empower** the user



Our Reality

- **Significant** budget cuts are coming
- IT is under enormous pressure to **reduce** spending
- IT must **deliver** new and better capabilities--faster
- **Instability** is rising across the globe
- **Speed and agility** are paramount

Operational Excellence is about solving all of the above--**simultaneously**



Let's talk Cloud





Big Data

Continuous Services

Unbounded Scale

Capacity ahead of demand



= Operational Excellence

Radical Efficiency

Rigorous Standardization

Ruthless Automation

Failure Tolerant

Redundant by Design

Available by Default



Capacity ahead of demand

Make IT **Frictionless** for Mission

- Zero wait, zero effort
- Like 110 out of the wall
- Like dial tone
- Plug in and go

Provide **CIA** and the **IC**

- Continuous Services
- “Unbounded” Scale
- Radical Efficiency
- Rigorous Standardization
- Ruthless Automation
- Failure Tolerant
- Redundant by Design
- Available by Default





Big Data

Mass analytics

Complex reasoning

Hypothesis generation

Answers ahead of questions

Cloud

Computing

Operational Excellence

Radical efficiency

Rigorous standards

Security ahead of need

Capacity ahead of demand



Its not about the **Cloud**

Its about:

1 **Big** Data

- Acquire, federate, and position for multiple constituencies to securely exploit. Grow the haystack, magnify the needles. Connect the dots.

2 Operational **Excellence**

- Innovate infrastructure operations and provisioning, create an authoritative source on our asset base, and run IT like a business.

Cloud is the **mechanism** to achieve
both **securely**



Questions

**The journey of a thousand miles
begins with a single step.**

Lao Tzu