Education

Education in Transition
Learning in the 21st Century

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Partnership.
UNLEASHED.

What I will talk about today

Students Perspective

Business Perspective

Ecosystem Perspective

Tech Landscape - the Missing Perspective

A little advice- and some free stuff

Education Improvement: A Students Perspective

Partnership.
UNLEASHED.

The Student Perspective….

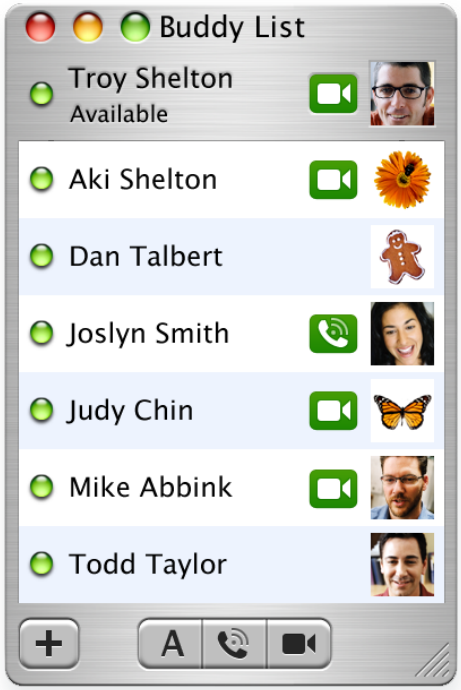
Why we need to improve education in the US

100 students begin the 9th grade…..

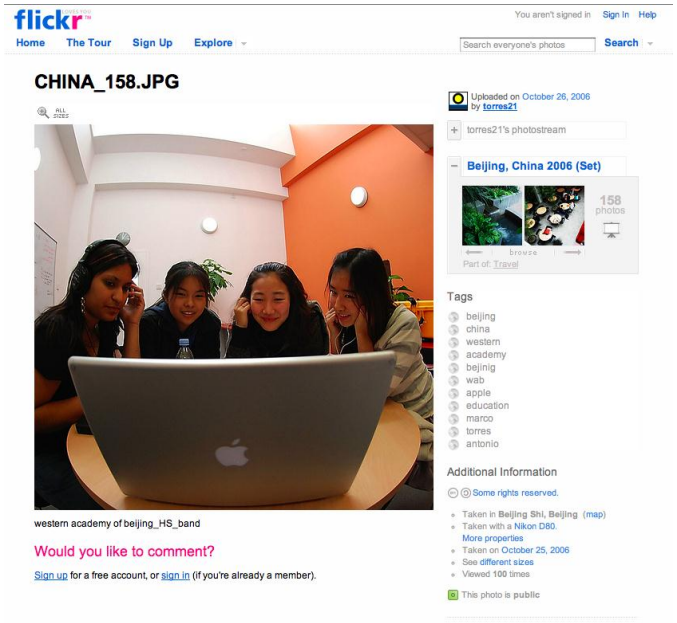
What Kids Do In School....

Outside of School- Students are connected….

Individually



Sharing Content



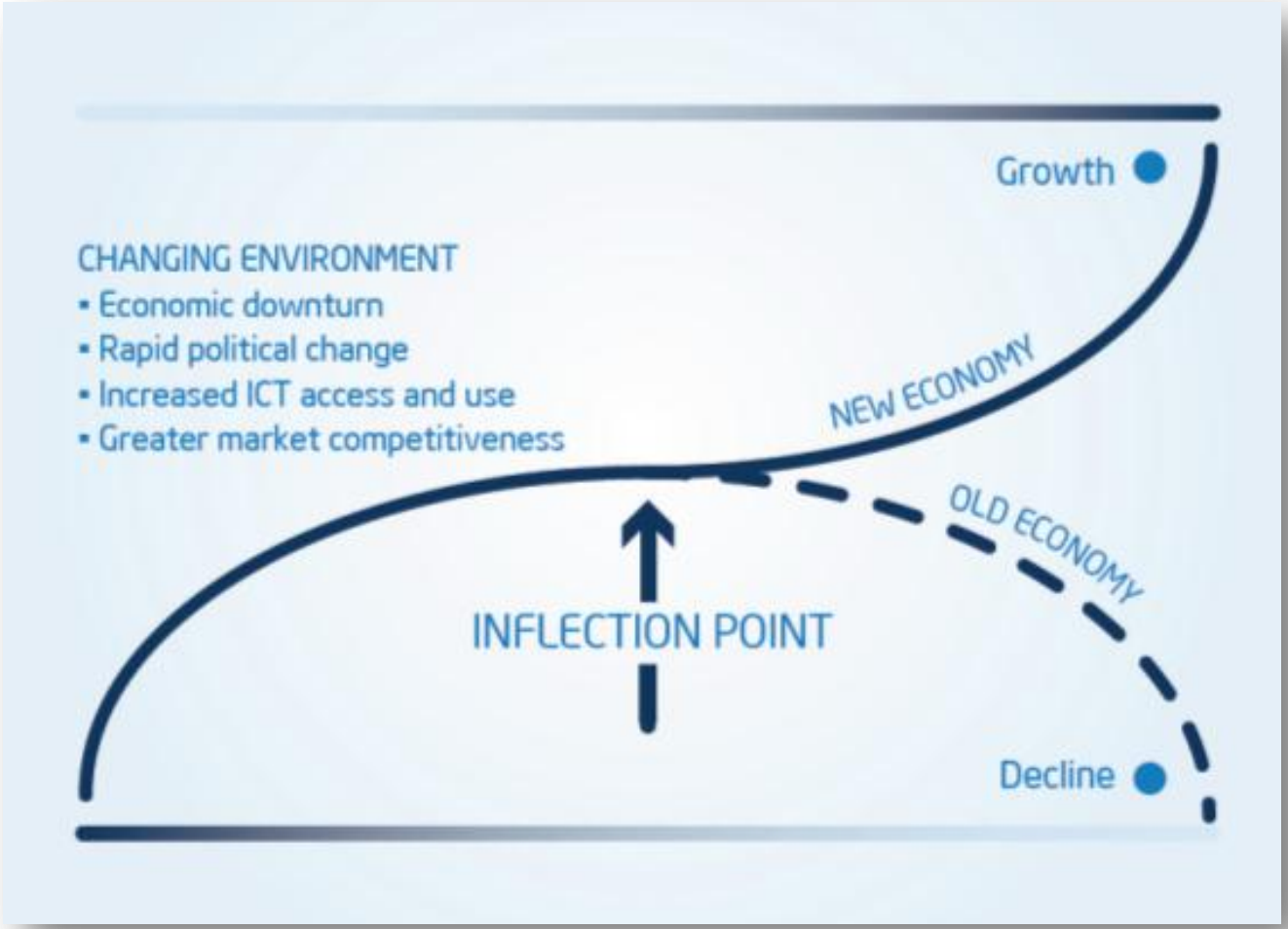
In Virtual Communities

Kids – the CEO of their own brand…

How do we make learning as relevant, rigorous and meaningful inside of schools as outside?

The digital natives are getting restless…

The workforce perspective: Competing in a Global Economy



Where will the 21st century take us?

No one really knows…..

Consider My "n of 1"…..

Retirement year: **2060**

Likely number of Jobs in her career: **15+**

And most of those jobs **do not exist today**……

20th century skills don't cut it anymore

Jobs that rely on
repetitive tasks,
basic knowledge,
or **physical labor**

are **quickly** being
replaced

By
machines

or
outsourced

21st Century Skills Matter

"The illiterate of the 21st Century will not be those that cannot read and write- but those who cannot learn, unlearn and re-learn"

Alvin Toffler, American Futurist

Impact on the US Economy….

"If the United States had in recent years closed the gap between its educational achievement levels and those of better-performing nations such as Finland and Korea, GDP in 2008 could have been $1.3 trillion to $2.3 trillion higher. This represents 9 to 16 percent of GDP."

"The Economic Impact of the Achievement Gap in America's Schools", McKinsey Report 2009

Trends in the 'Business' of Education

RAPIDLY CHANGING LANDSCAPE

86% Growth in tablets

Common Core Standards & Assessment

Arrival of MOOCs

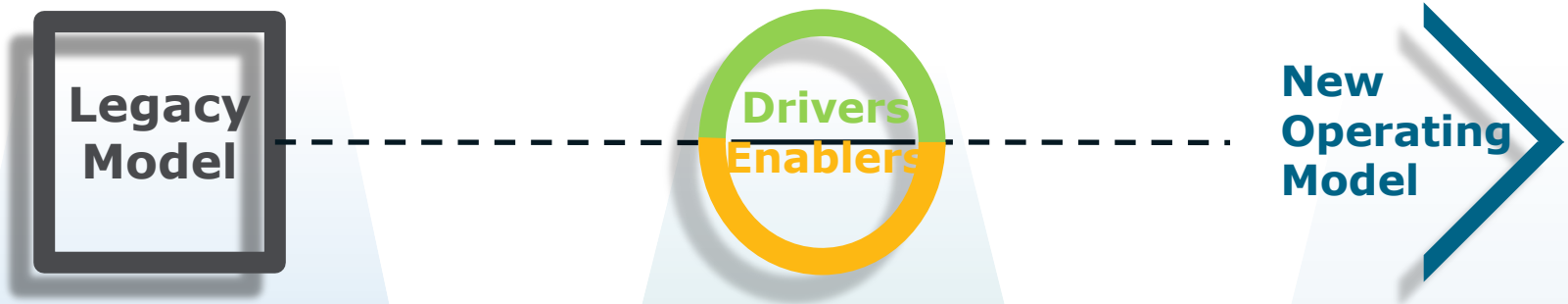
Policy Driven Digital Shift

BYOD

Large Scale 1-1 Deployments

The World of McGraw Hill Education

"The Digitization of Education across the globe represents a once in a century business opportunity …" Annual Report 2012



One Way Customer Relationships
One Time Unit Sale
Long Development Cycle
One Size Fits All
Physical Inventory
US Centric Production

Shrinking Technology Costs
Ubiquitous Access
Digital Savvy Customer
Big Data
Cloud Delivery
Workflow Integration
Mobile Application

Interactive Customers
Subscription Revenue
Rapid Development Cycle
Customized Solutions
Digital and Data Services
Digital Asset Management
Global Production
Direct to Consumer Sales
Lower Cost Base

The New Landscape of Content

ESTABLISHED PUBLISHERS

SCHOLASTIC
Read Every Day. Lead a Better Life.

PEARSON

Houghton Mifflin Harcourt

Mc Graw Hill Education

Discovery EDUCATION

HIGH STAKES ONLINE ASSESSMENTS: DRIVERS

PARCC

Smarter Balanced
Assessment Consortium

measured progress

PEARSON

NEW INNOVATORS

adaptive curriculum

242,210,357 lessons delivered
KHANACADEMY

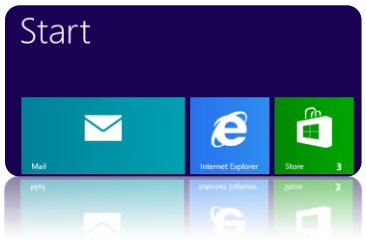
OER COMMONS
OPEN EDUCATIONAL RESOURCES

Kno

Amplify

dreambox LEARNING

MICROSOFT



APPLE

GOOGLE

AMAZON

intel Education

Technology Trends that have not hit Education (yet)

Traditional Computing

Traditional Computing

Enter the Era of Pervasive Computing…

Traditional Computing

2015: Everything Computing

>1Billion Additional Users >15 Billion Connected Devices
➢8X Network, 16X Storage & 20x Compute Capacity Needed

Emergence of Big Data!

Big Data

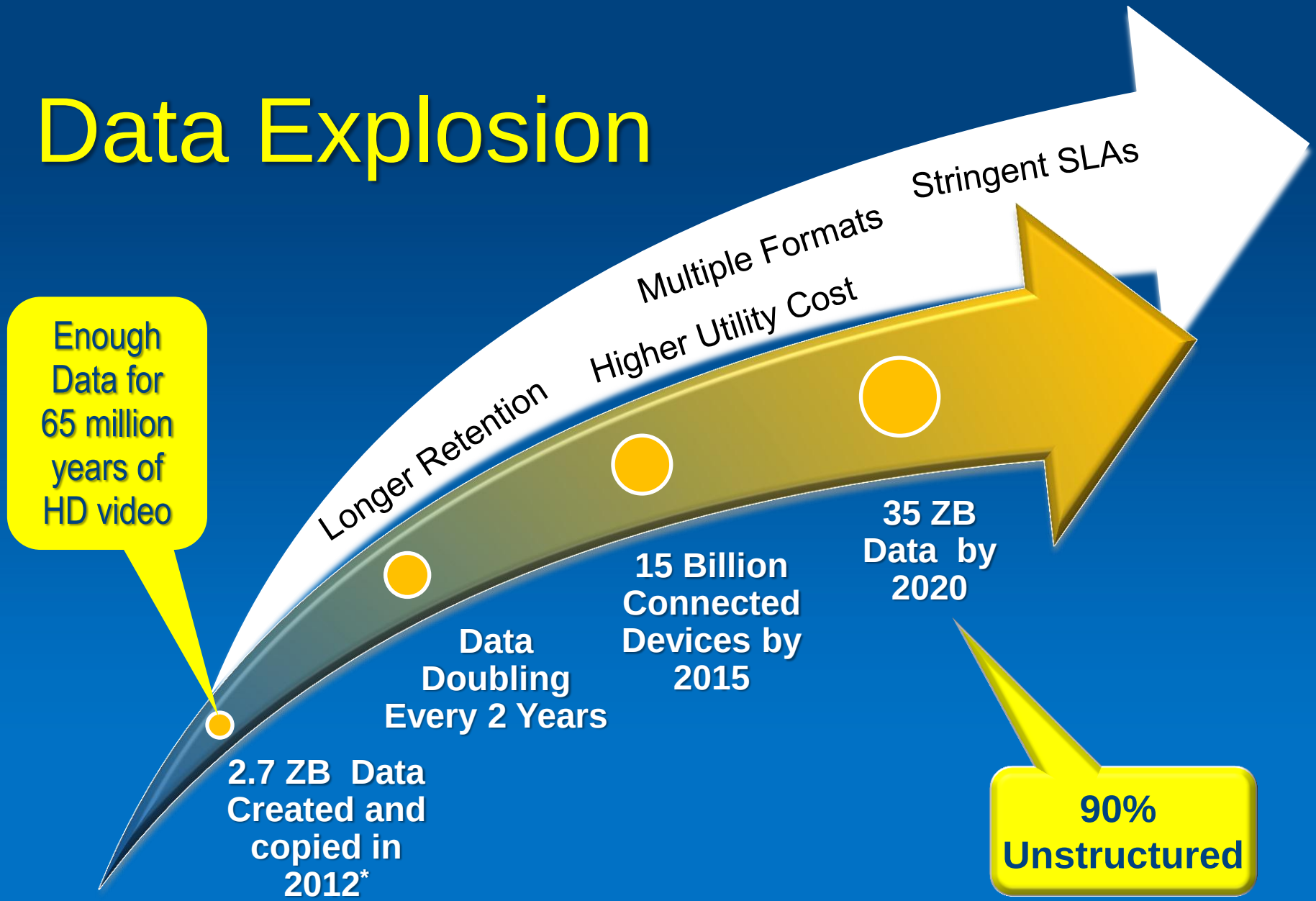
5 Billion Mobile Phones in 2010

30 Billion pieces of content shared every month
40 Billion Photos hosted

RFID Tags sale projected to grow from 12 Million in 2011 to 209 Billion in 2021

Power Grid Smart Meters projected to grow from ~ 130 Million in 2011 to ~ 340 Million in 2015

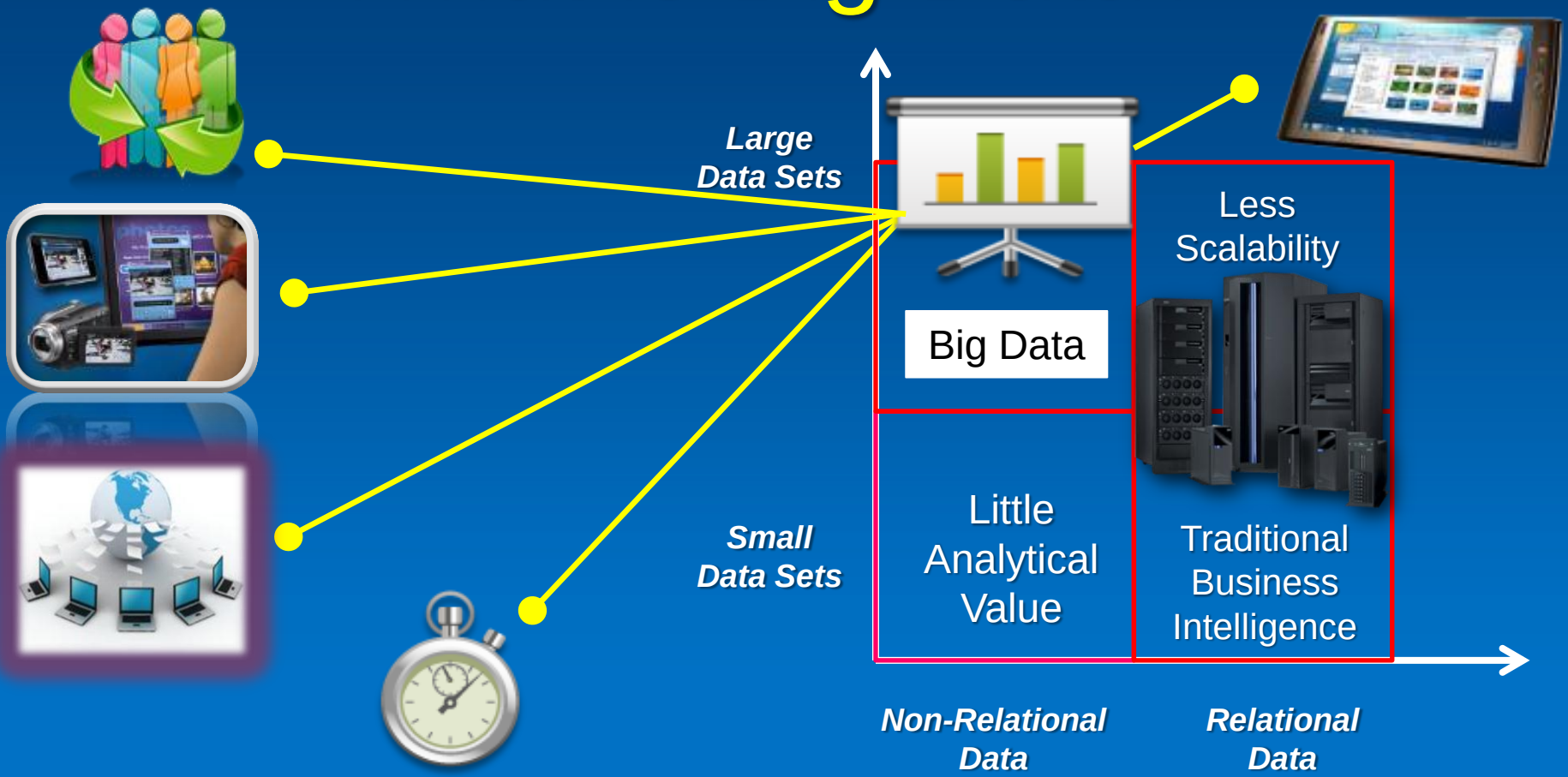
Data Explosion



1 Zetta Byte = 1,000,000,000,000,000,000,000 Bytes

Exa Peta Tera Giga Mega

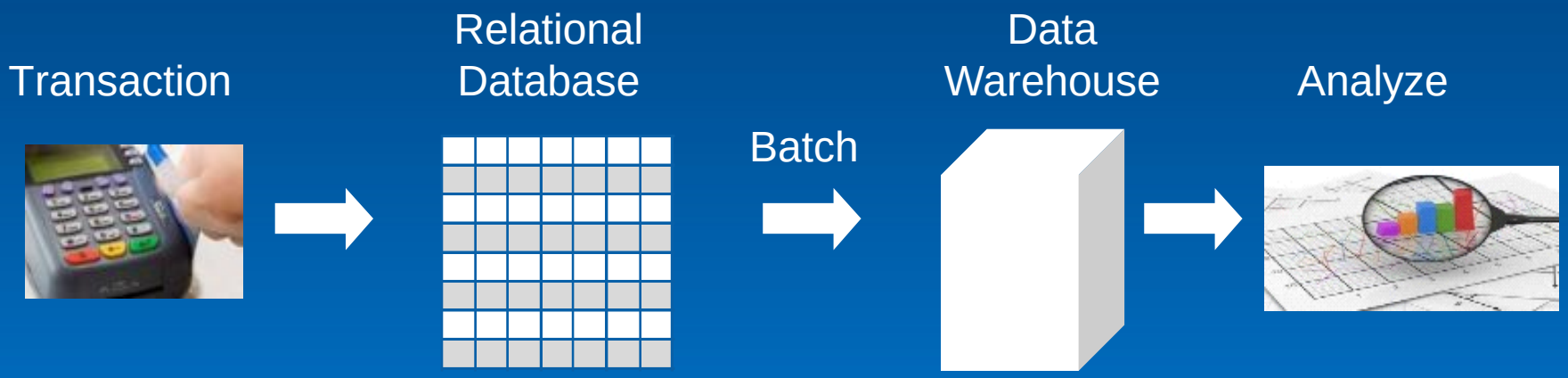
What is Big Data?



Unstructured Datasets whose Volume, Variety, Velocity and Value are helping augment Traditional Business Value Process

Things Change with Big Data

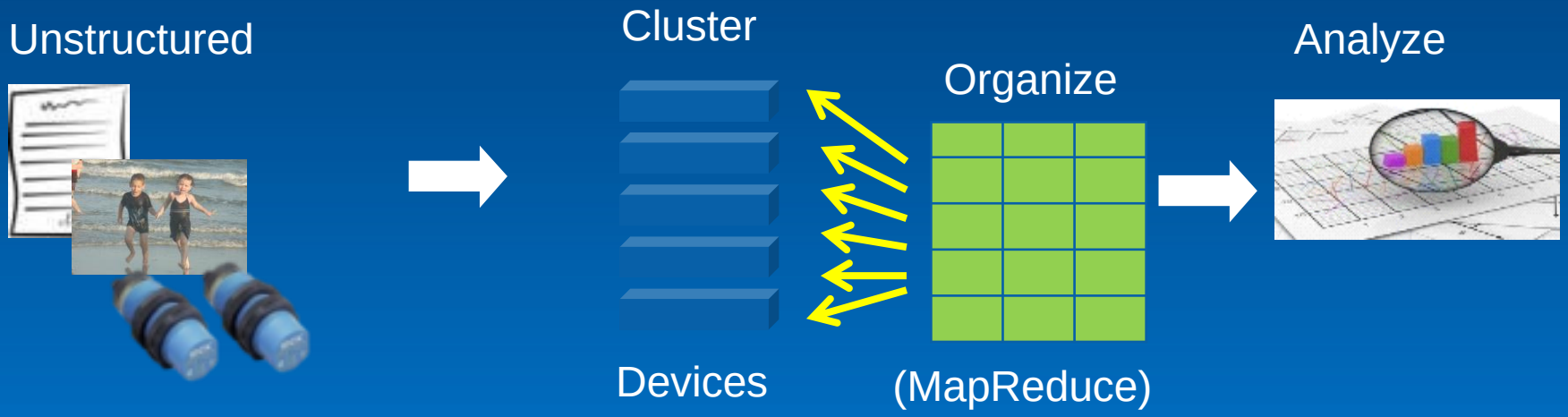
Traditional Data Analysis



- **Structured data**
- **Data ~ GBs to TBs**
- **Centralized: Data moves to analytics**
- **Batch analytics**

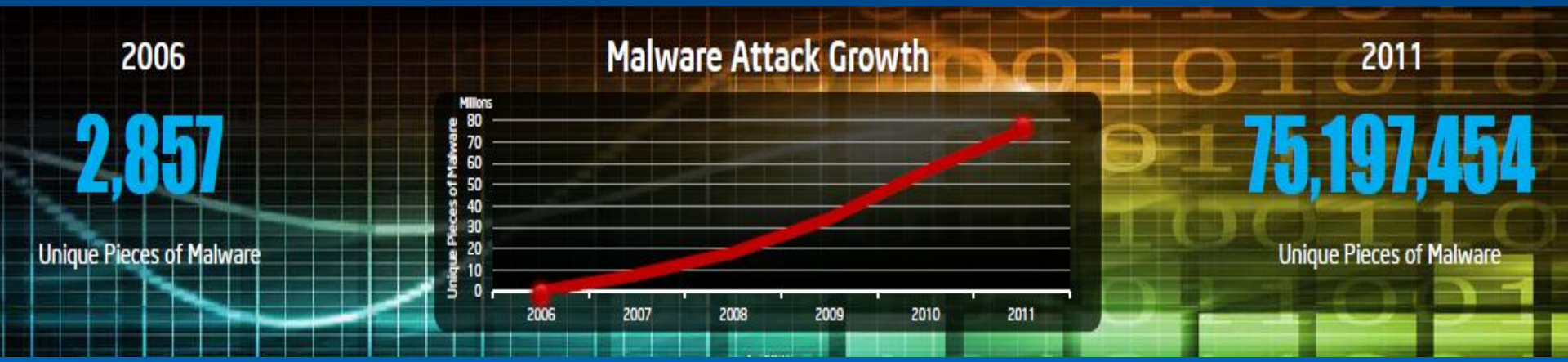
Things Change with Big Data

Big Data Analysis



- **Unstructured, variety of data: “mashup”**
- **Data ~ TBs to PBs**
- **Distributed: Analytics move to the data**
- **Streaming analytics**

Big Data Presents Big Security Challenges
Security: Key Inhibitor to Innovation



Future Will Be An Interconnected Mesh of Mobile Devices, Data, People, and Algorithms

- Growth of Cloud Based Applications
- Applications will write themselves based on observing your behavior
- Language Barriers will be eliminated – Country Barriers?
- Near Field Communication will enable more Electronic Payments
- Gesture Control and Facial Recognition become common place
- Elimination of IR Remote controls; Self Driving Cars
- Marriage of Silicon and Biology, Advances in Prosthetics

Wrapping Up: Advice & Some Free Stuff

What the Research Says

Project RED

Great Educational Leaders & Teachers MATTERS

High Quality Professional Development is critical

Very hard to get transformation w/ shared devices

Impossible to get cost savings back w/ shared devices

Download your free copy at iste.org

K-12 Blueprint Toolkits

Collections of distributable and adaptable resources school districts and their educators focused on current topics. Toolkits include overviews, frameworks, checklists, presentations, and other exemplar materials.

Now

Bring Your Own Device (BYOD)

Provides context, information, & resources for districts considering implementing a BYOD program.

Educational Technology Policy

Helps policy makers & implementers understand effective ed-tech policy and successful implementation.

Planning for Digital Content

Information schools, and educators can use to prepare for and take advantage of the shift from print to digital content.

ICT Program Evaluation

Proven research tools, instruments, and case studies that schools can adapt to help evaluate the success of their programs.

Soon

Common Core Standards

Resources, guides, and supporting materials to help districts integrate Common Core State Standards (CCSS) into the ed-tech decision making.

Later (Q2-3)

Funding Technology Initiatives

Resources and research support to help districts better understand different models to fund technology initiatives.

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A **series** of compelling free online professional development courses

- **Convenient** just-in-time professional development for busy teachers
- **Compelling** e-learning content, w/ animated tutorials, interactive learning & offline activities.
- **Available** online or on CD
- **Practical**, with action planning to implement new approaches in your existing curricula.

Project-Based Approaches	Helps teachers improve their understanding and application of Project-Based Approaches to engage students.
Assessment in 21st Century Classrooms	Allows educators to take an in-depth look at assessment that meets the needs of today's learners.
Collaboration in the Digital Classroom	Supports teachers in ensuring students have collaboration skills for the global economy.
Educational Leadership	Helping school and district leaders support teacher effectiveness to further improve student achievement.
Thinking Critically with Data	Enabling educators to prepare students with skills to think critically in our information-rich world.
Inquiry in the Science Classroom	Explains and demonstrates the inquiry process in depth with interactive activities and locally relevant classroom examples.
Designing Blended Learning	Helps teachers explore and transition to blended learning experiences by providing rationale, strategies, and suggest technology tools.

Learn more at www.intel.com/education/elements