Cisco Connect

Dubai, UAE
20th March 2013

"The Internet of Everything and the Path Ahead"

Howard Charney, SVP
Office of the CEO and COB

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Power of the Connected
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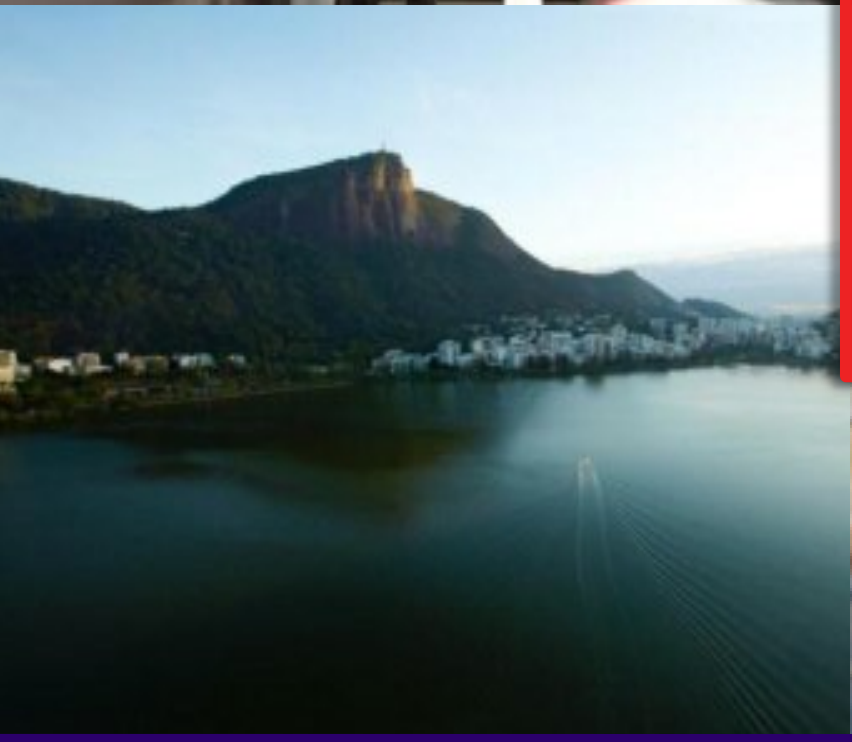
Amazing Things Happen When You Connect the Unconnected



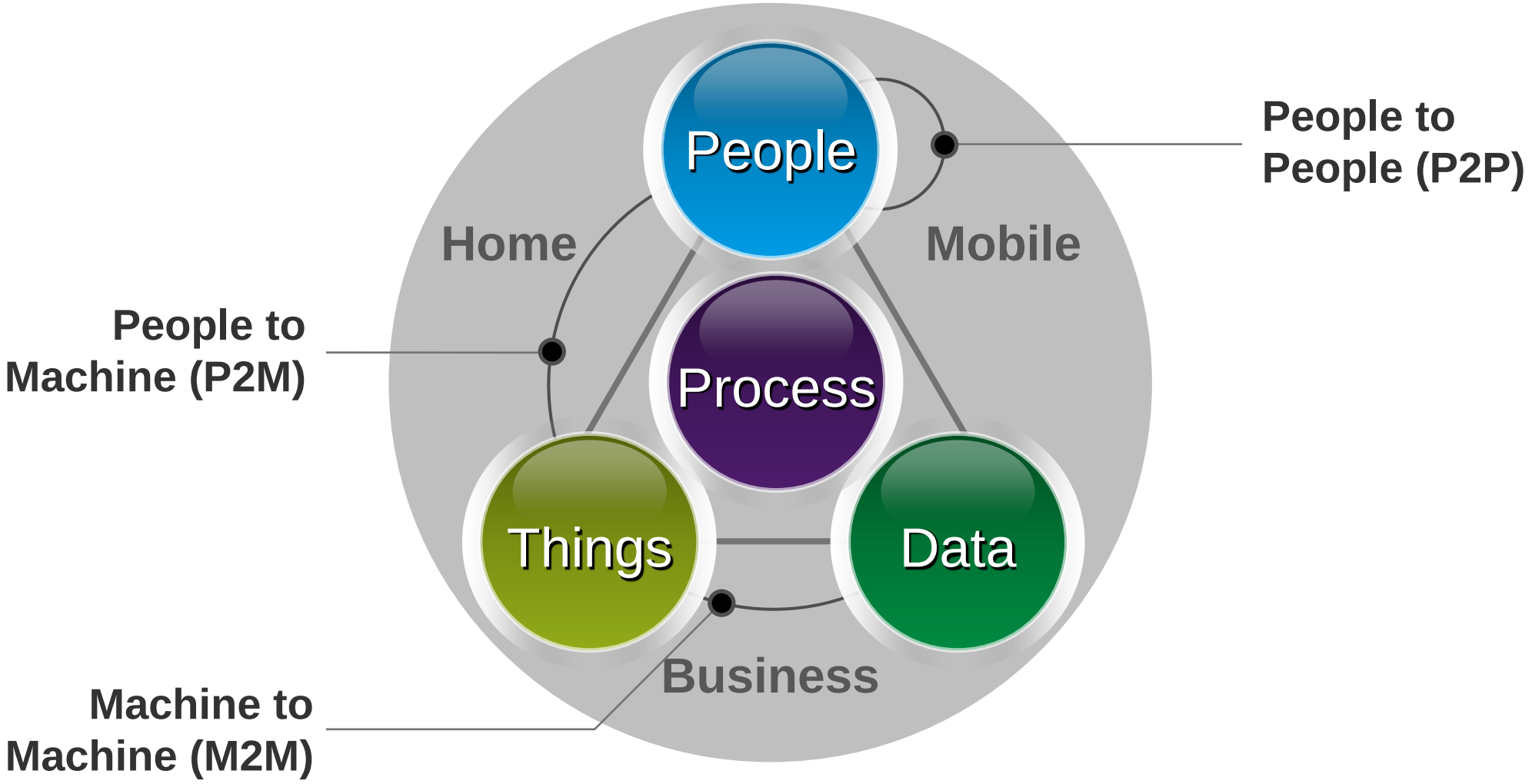
99% of the World Is **Still Not Connected**

The Internet of Everything

The Internet of Everything brings together people, process, data and things to make networked connections more relevant and valuable than ever before—turning information into actions that create new capabilities, richer experiences and unprecedented economic opportunity for businesses, individuals and countries.

The Network: Cisco's Technology News Site

The Internet of Everything



What Is the Value at Stake?

$14.4 Trillion

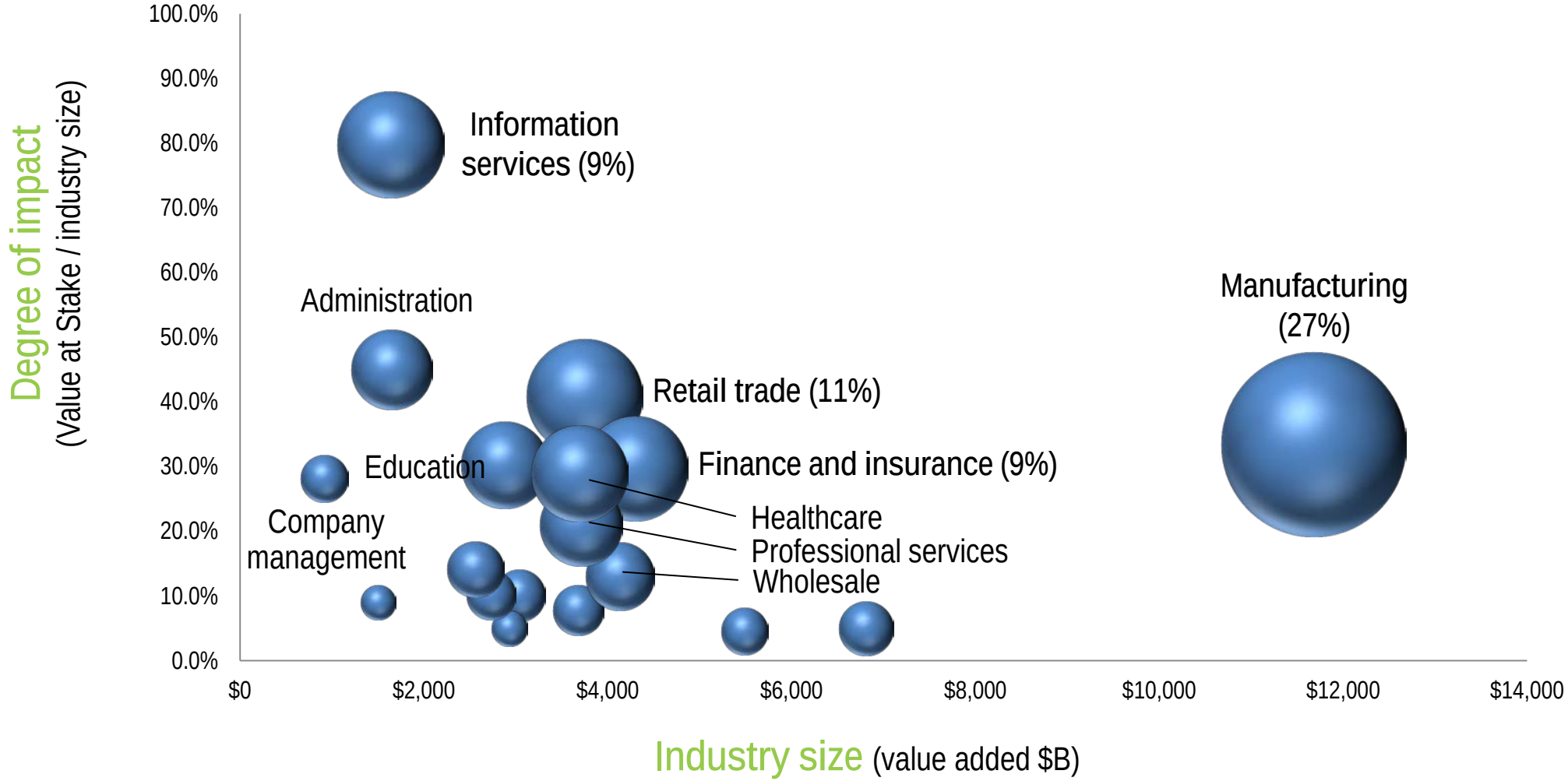
$9.5 trillion
From industry-specific use cases (66%): smart grid, connected commercial vehicles, etc.

$4.9 trillion
From cross-industry use cases (34%): future of work (telecommuting), travel avoidance, etc.

IoE represents an opportunity to grow aggregate global corporate profits ~21% by 2022

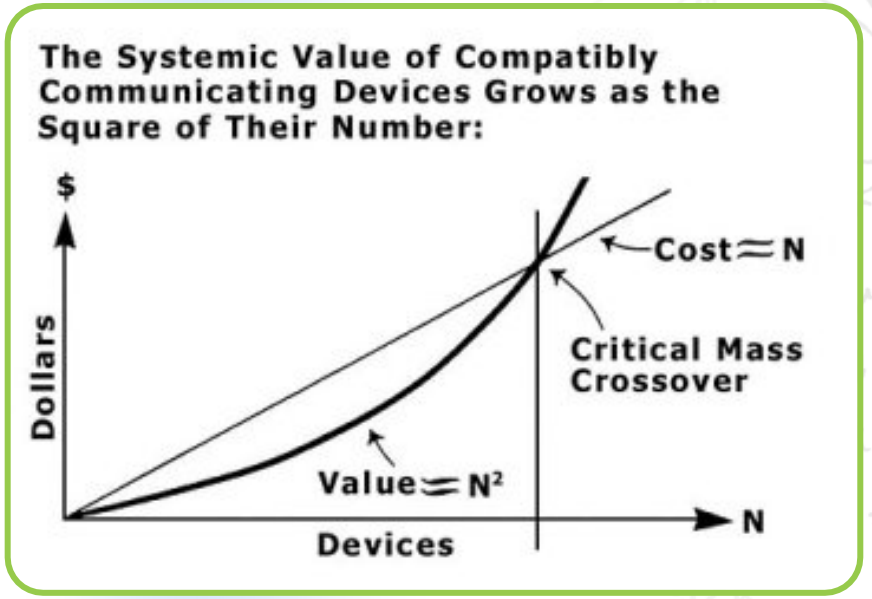
Opportunity by Industry

Top 4 Industries Make Up More Than Half the New Opportunity

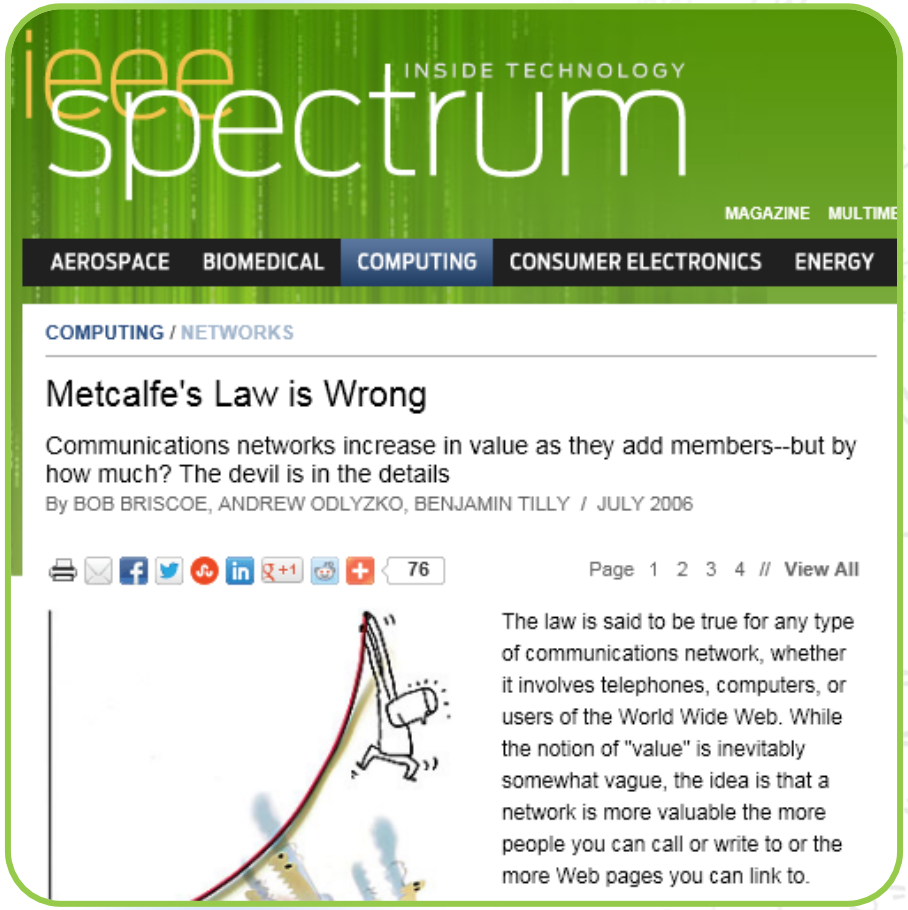


Metcalfe’s Law

Metcalfe's law states that the value of a telecommunications network is proportional to the square of the number of connected users of the system (n2)



The Naysayers to Metcalfe's Law



ieee spectrum INSIDE TECHNOLOGY

MAGAZINE MULTIME

AEROSPACE BIOMEDICAL COMPUTING CONSUMER ELECTRONICS ENERGY

COMPUTING / NETWORKS

Metcalfe's Law is Wrong

Communications networks increase in value as they add members--but by how much? The devil is in the details

By BOB BRISCOE, ANDREW ODLYZKO, BENJAMIN TILLY / JULY 2006

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Prediction: 50B Connections by 2020

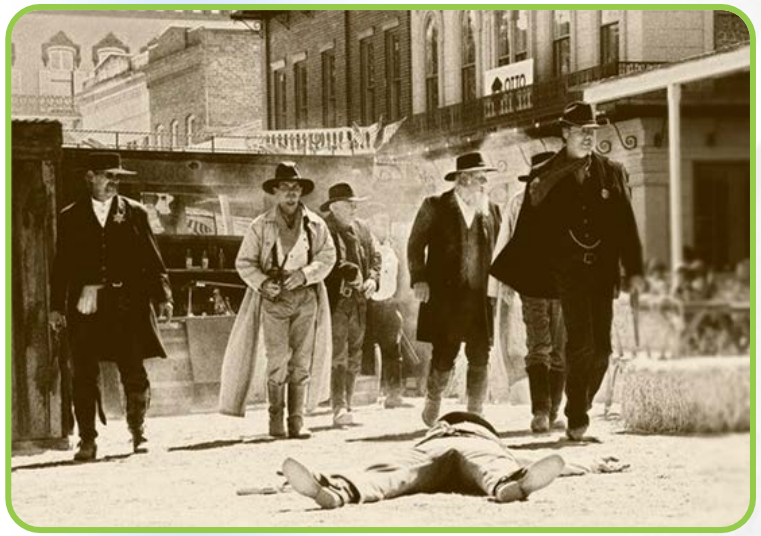
In Today's World,

What Metcalfe had no way of anticipating:

ALL CONNECTIONS ARE NOT CREATED EQUAL.

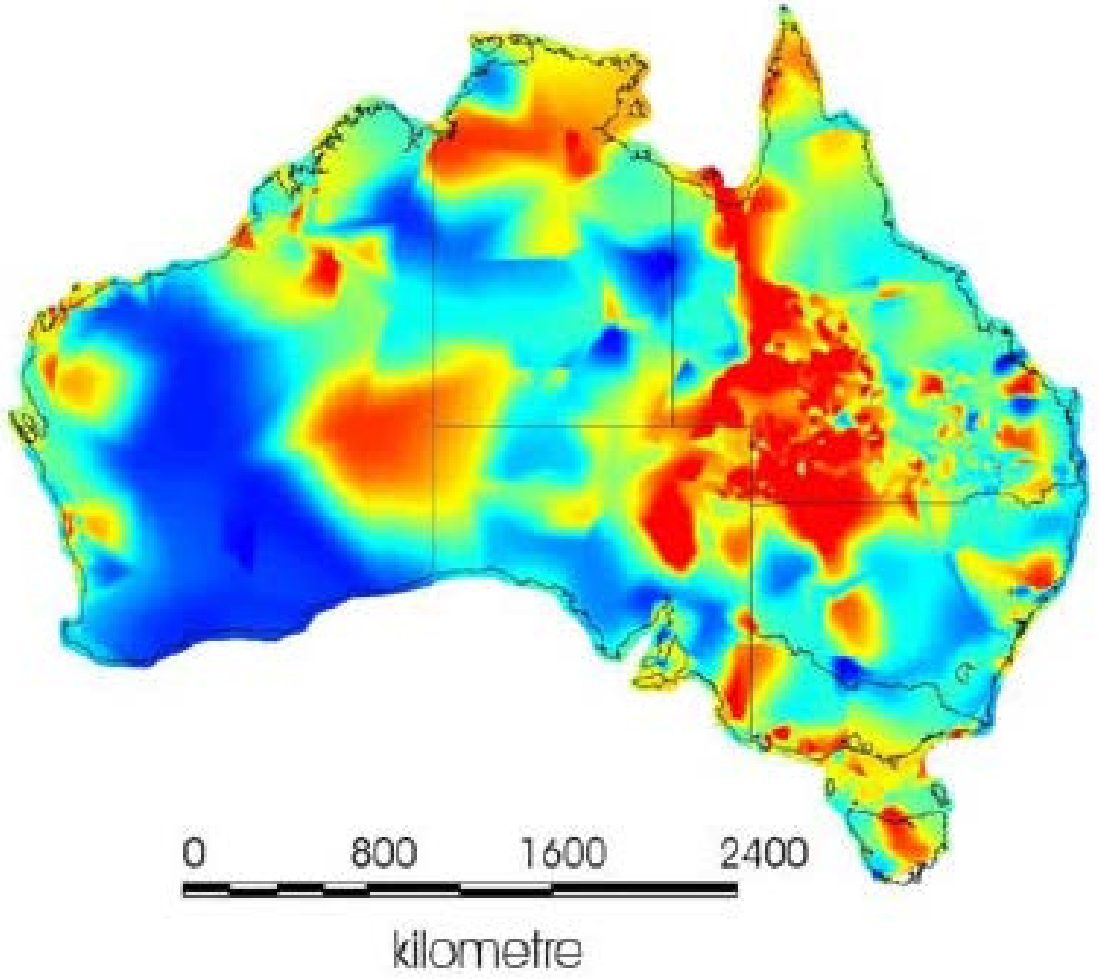
“We are in great haste to construct a magnetic telegraph from Maine to Texas; but Maine and Texas, it may be, have nothing important to communicate.”

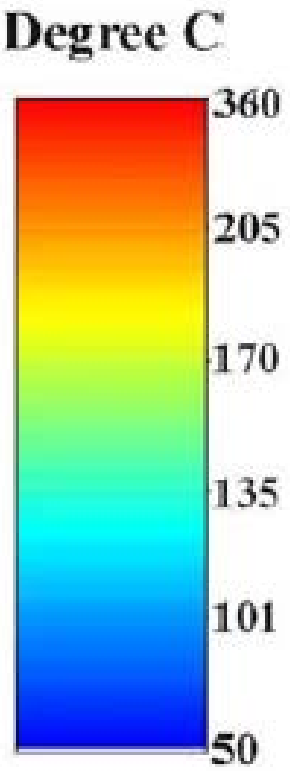
- Henry David Thoreau

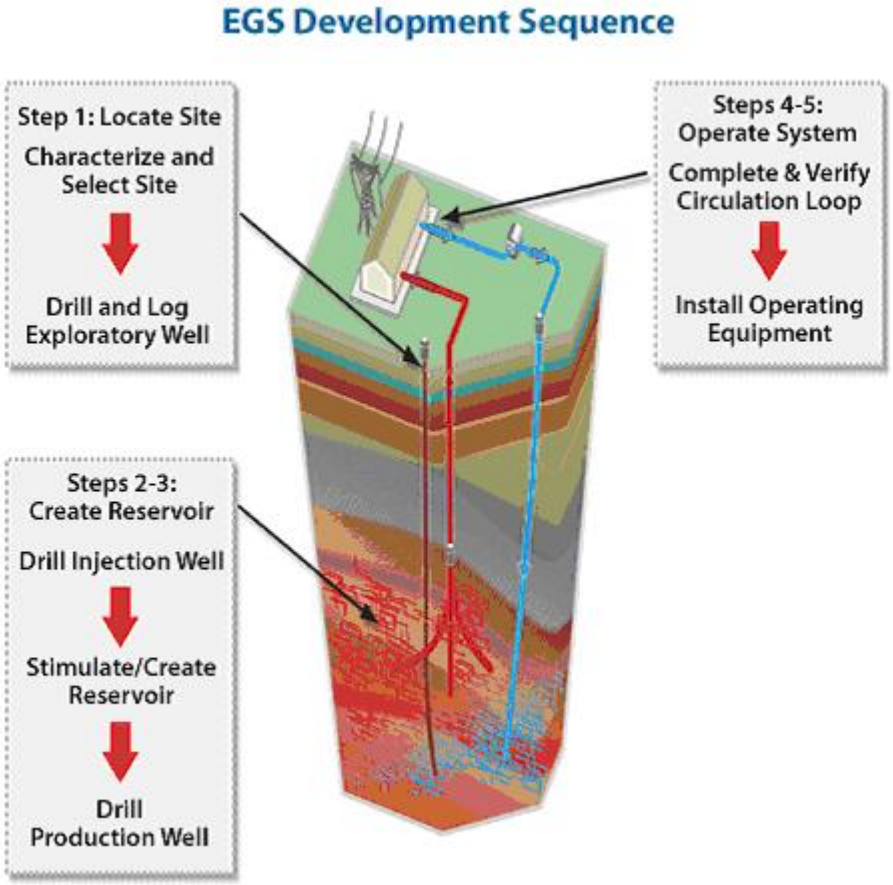


Cisco Remote Expert Smart Solution for Manufacturing

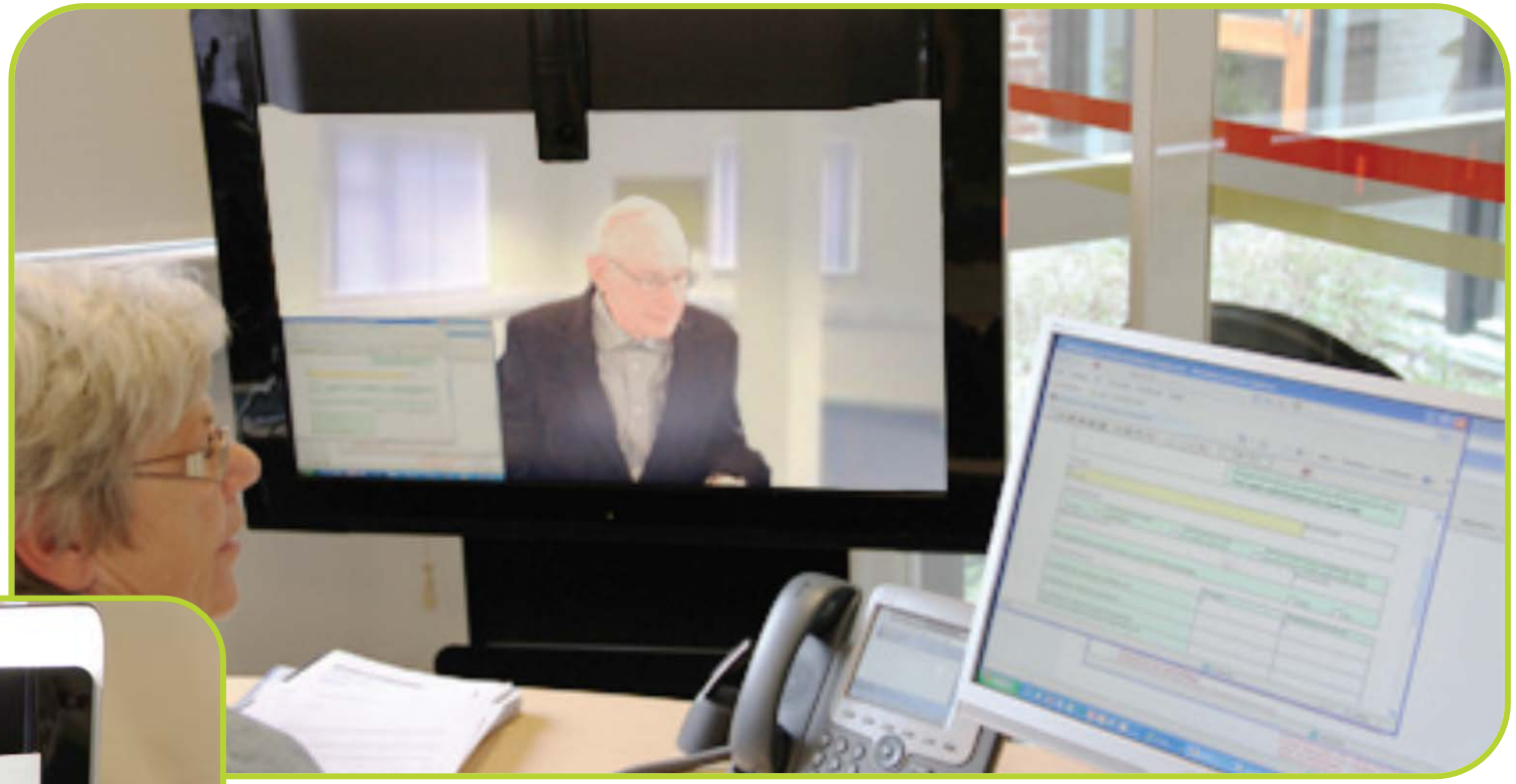
NICTA: Analyzing Data to Find Geothermal







Citizen Services



Translation Services

Tesco Brings the Store to Shoppers

Tesco builds virtual shops for Korean commuters

A visual experiment in mobile supermarket shopping has done very well for Tesco in South Korea

3:42PM BST 27 Jun 2011

1 Comment

In Technology »

Connected Retail: an $855B Opportunity

Cisco IBSG Study: Digital Malls: the Next Generation of Self-Service Shopping, Nov. 2012

Only **0.05%** of the world's available **data** is being mined for value

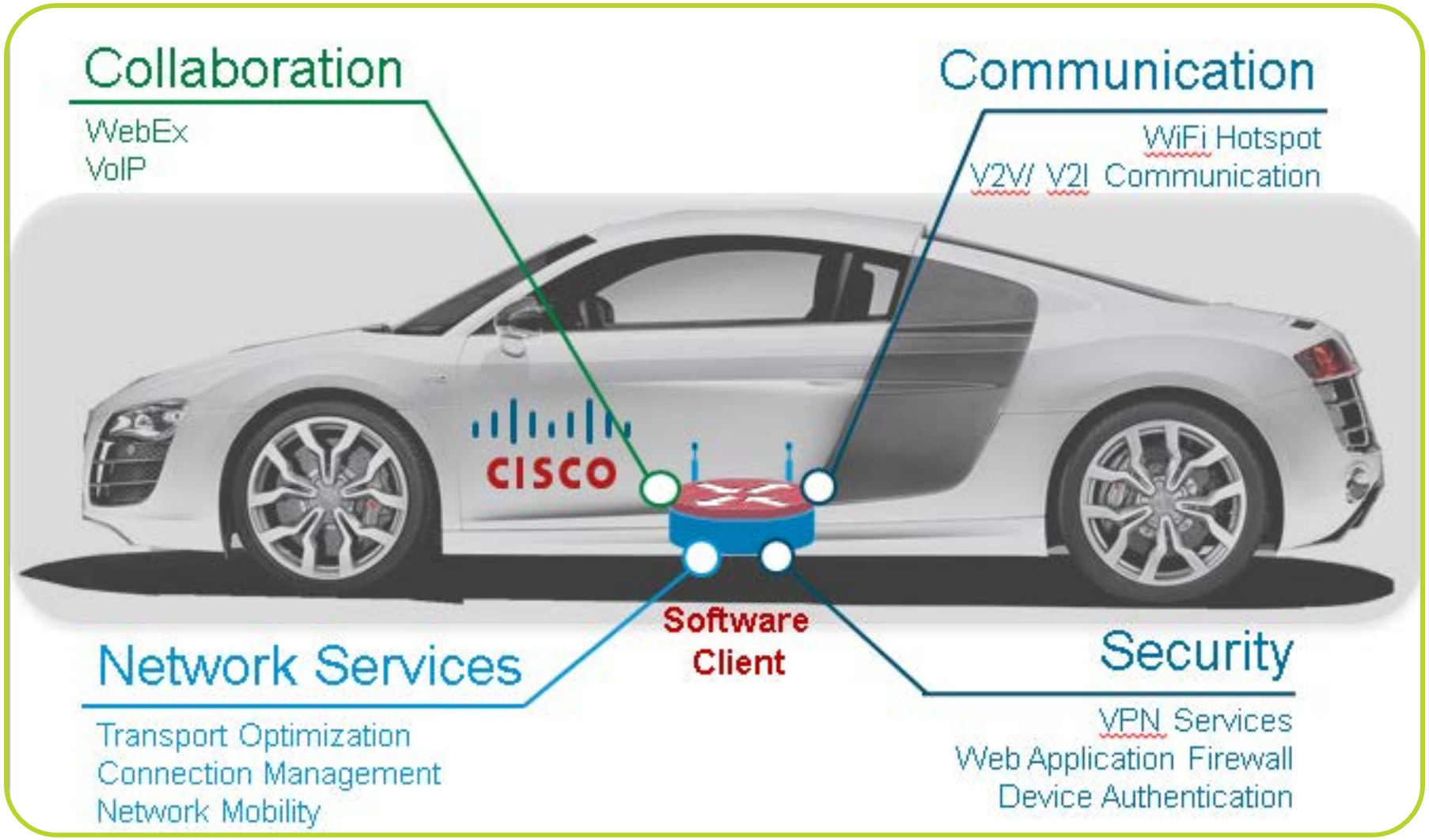
- IDC

We often focus on the tracking and mining of vast mountains of static results, but the dynamic interaction among complex agents in real time ultimately will be more valuable. It is this latter form… that has the greatest potential for revolutionary change.”

– Esther Dyson, “Pulse of the Planet” from *The Human Face of Big Data*

Smart Transportation

Car-2-car, Car-2-infrastructure



Stoplights Could Become Obsolete

The Cloud

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Cloud and the Internet of Everything

Reference: J. Rabaey, “A Brand New Wireless Day,” Keynote Presentation, ASPDAC Jan. 2008

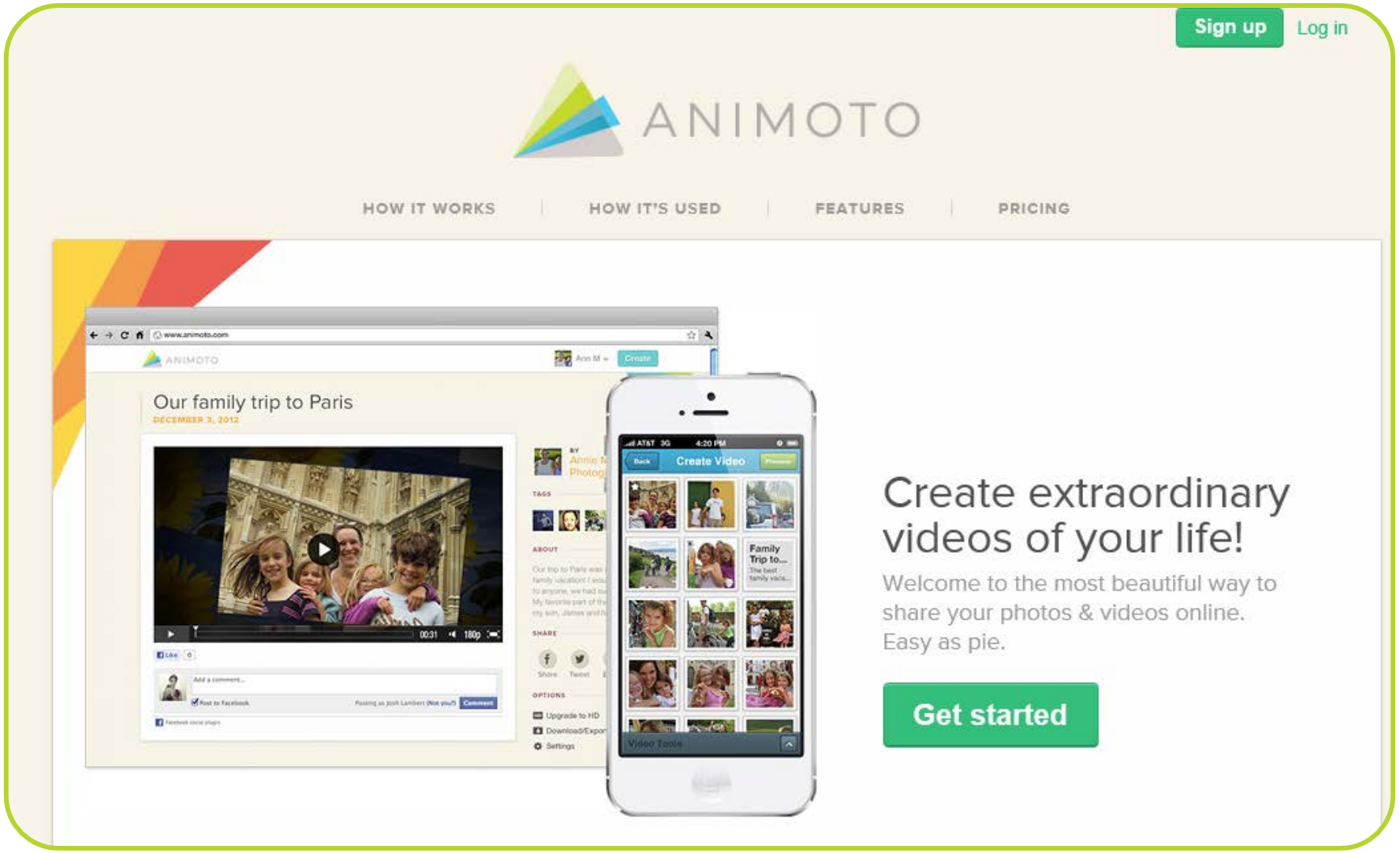
Amazon S3

1 trillion objects…

650,000 requests

…*per second*

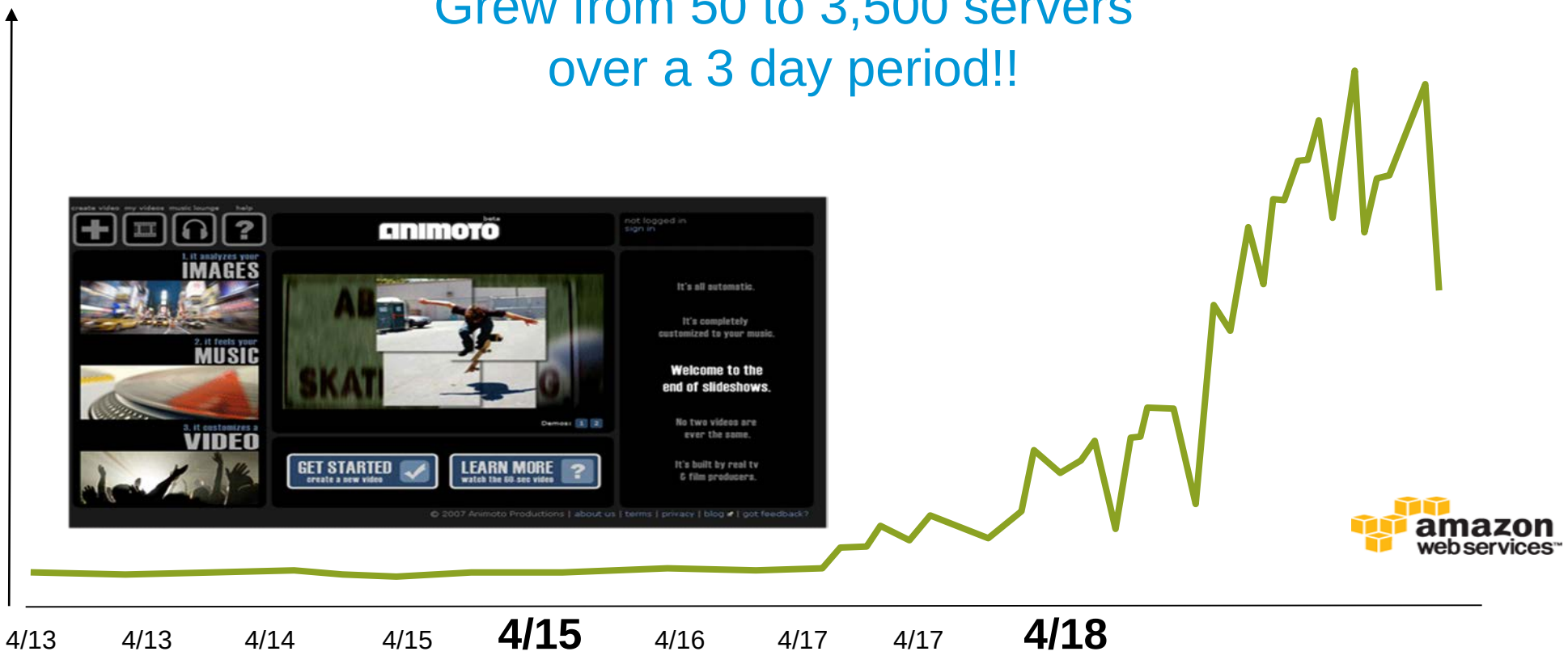
Elastic Computing



Animoto.com

Virtual Servers

Grew from 50 to 3,500 servers over a 3 day period!!



amazon web services

openstack™
CLOUD SOFTWARE

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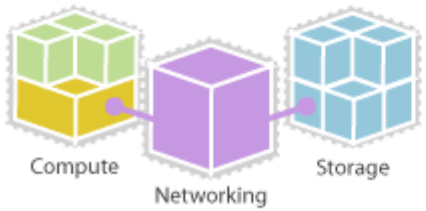
Open source software for building private and public clouds.

Software

OpenStack Software delivers a massively scalable cloud operating system.



About OpenStack Software...

Community

Join our global community of technologists, developers, researchers, corporations and cloud computing experts.

8516	87
PEOPLE	COUNTRIES

Meet Our Community

The OpenStack Summit is coming April 15-18.

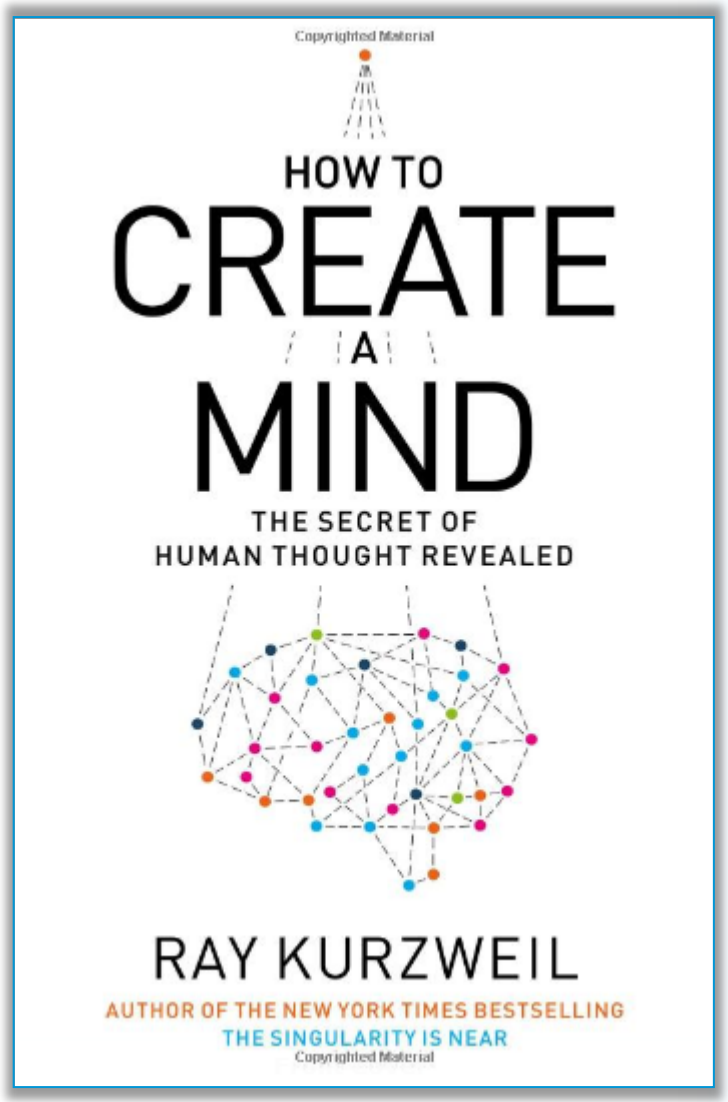
Join us in Portland, Oregon

More Info | Register Now

OpenStack OpenStack is a global collaboration of developers and cloud computing technologists producing the ubiquitous open source cloud computing platform for public and private clouds. The project aims to deliver solutions for all types of clouds by being simple to implement, massively scalable, and feature rich. The technology consists of a series of interrelated projects delivering various components for a cloud infrastructure solution.

Open Source Cloud Platform

- OpenStack is open source software that allows any company to build their own public or private cloud
- Turns data center infrastructure into a service
- Think of it as: "*software that powers Amazon's EC2+S3*"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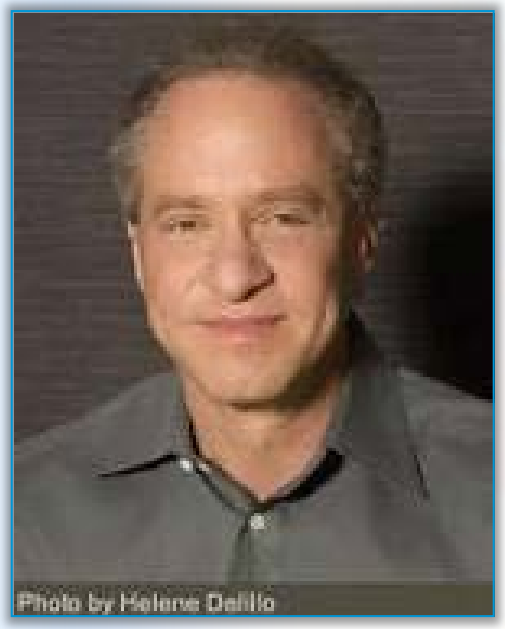
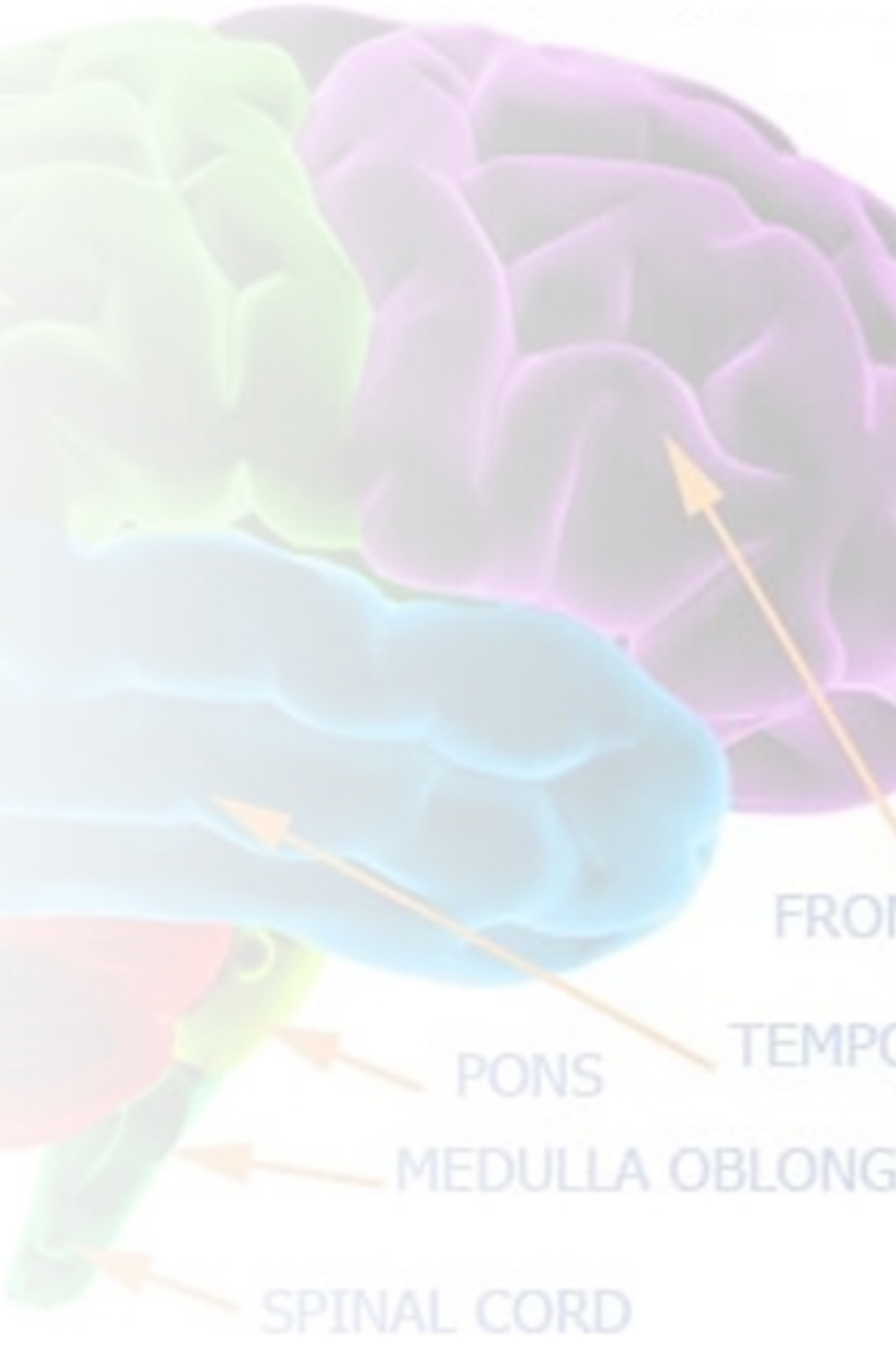
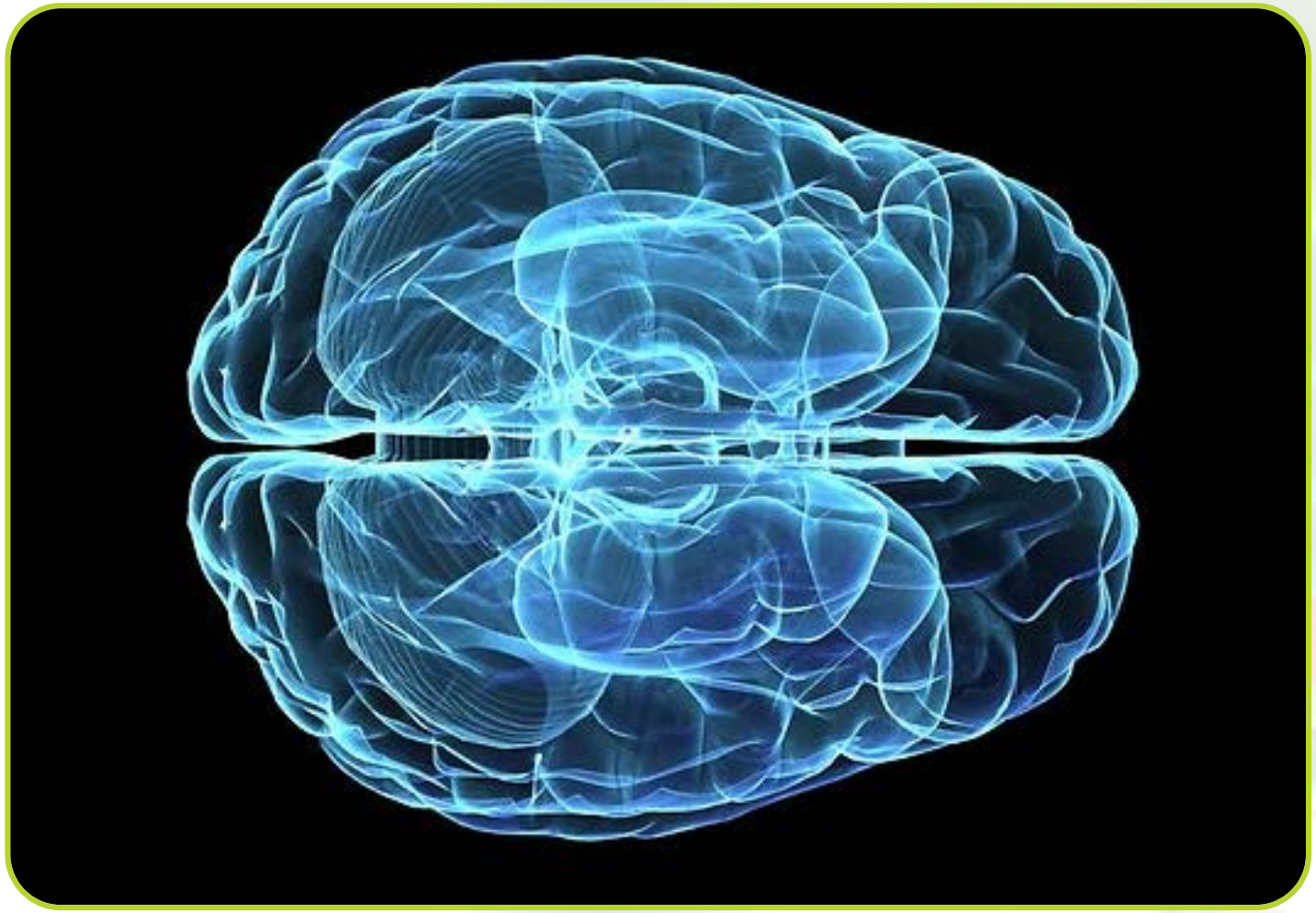


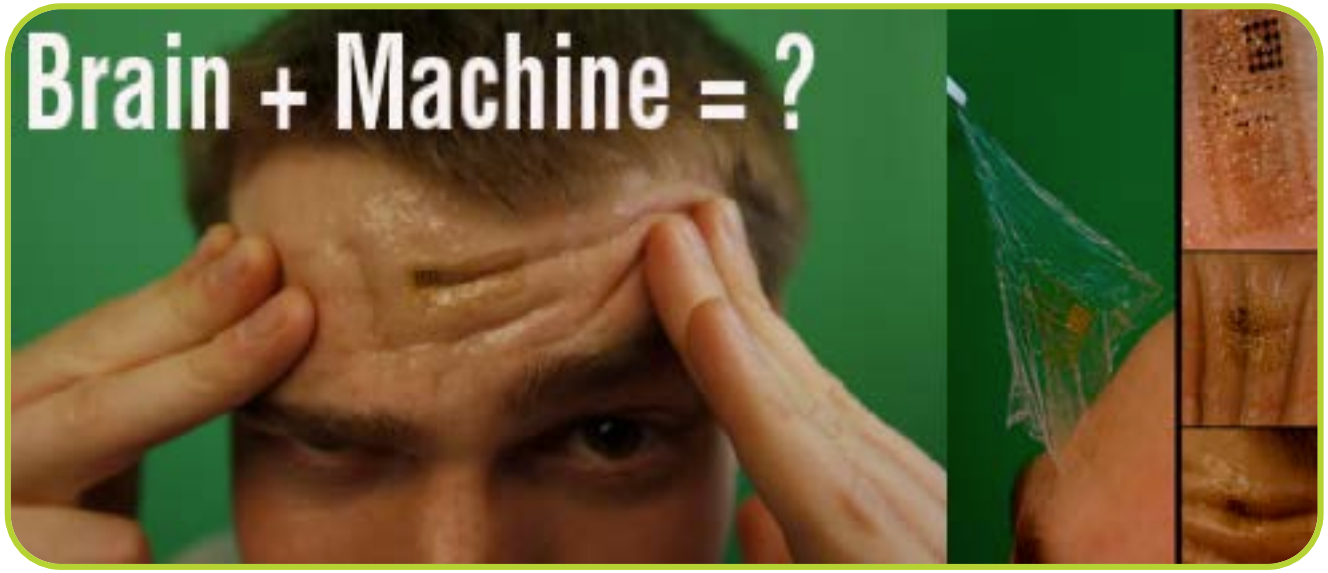
Photo by Helene Delillo

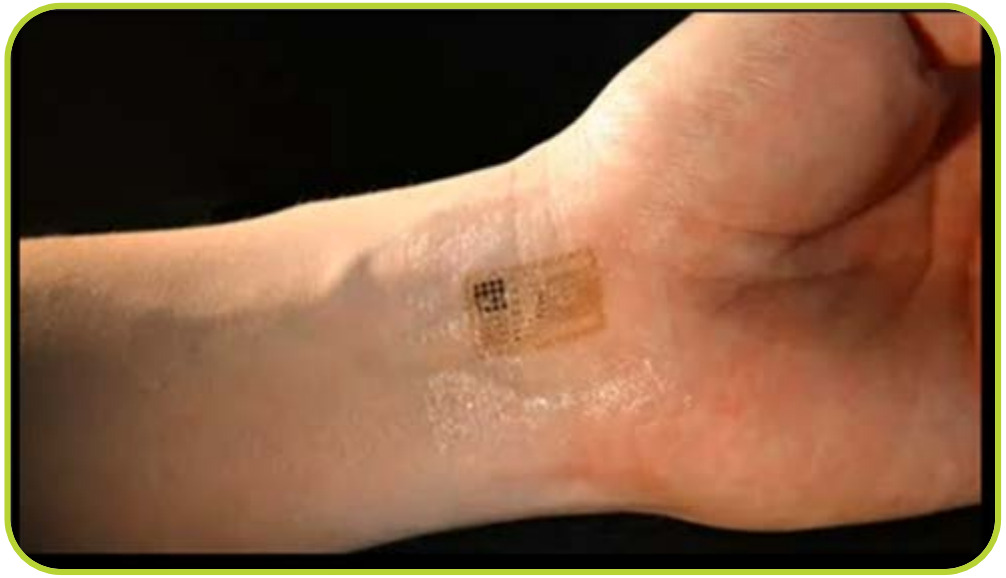

PONS
MEDULLA OBLONG
SPINAL CORD

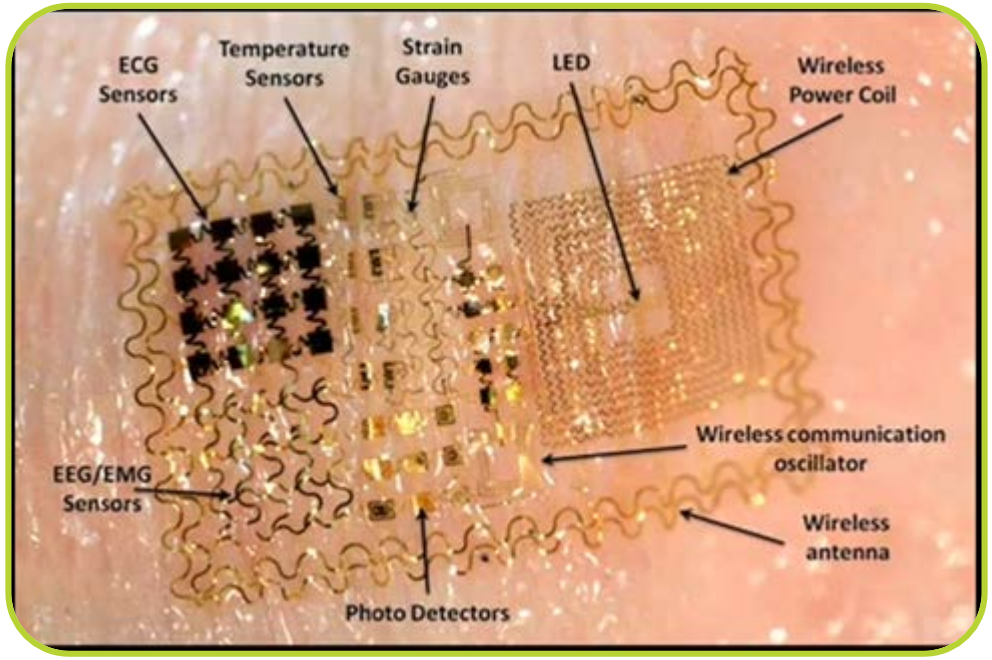
The Cloud as an Extension of the Neo-Cortex?



Epidermal Electronics



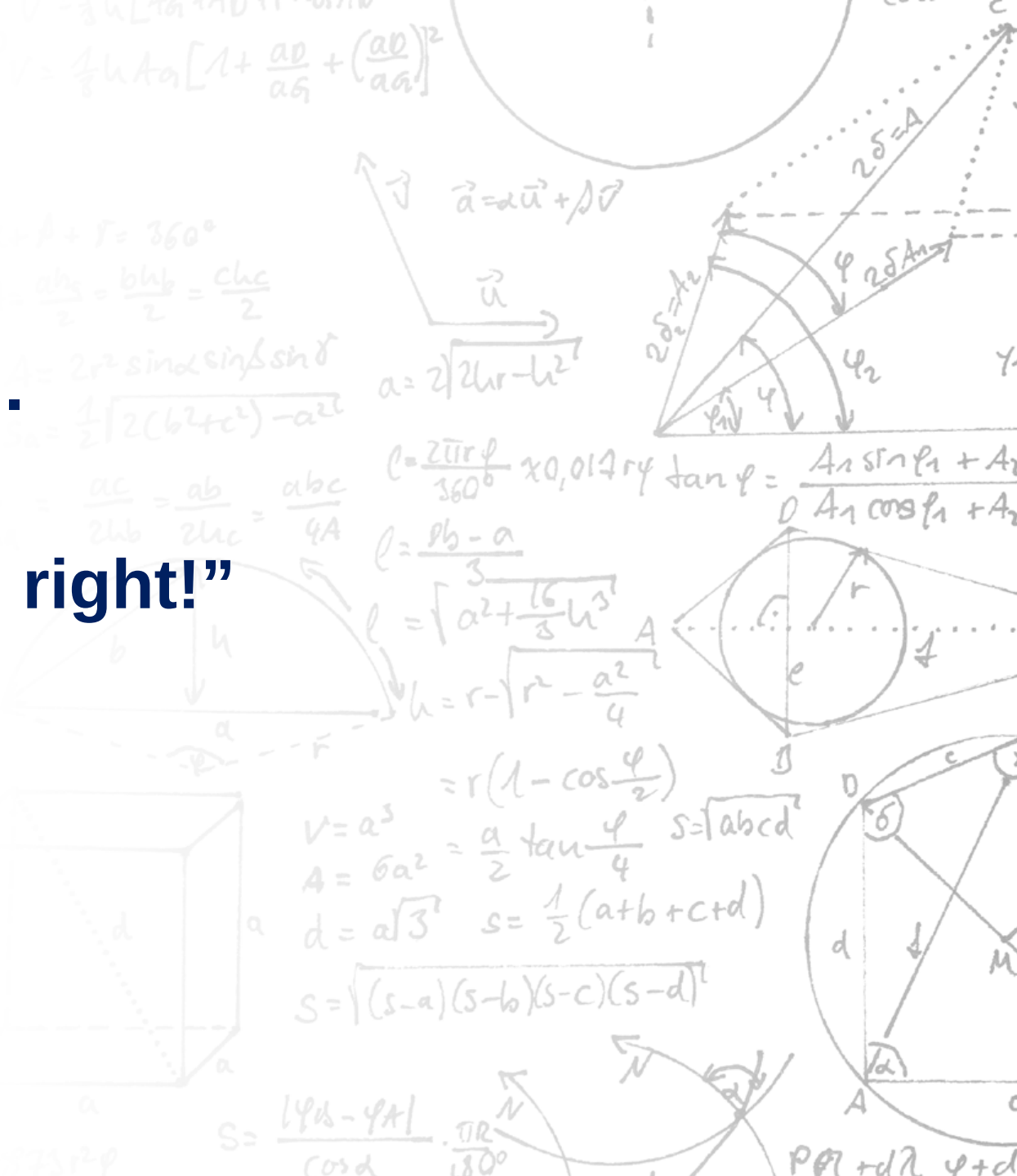




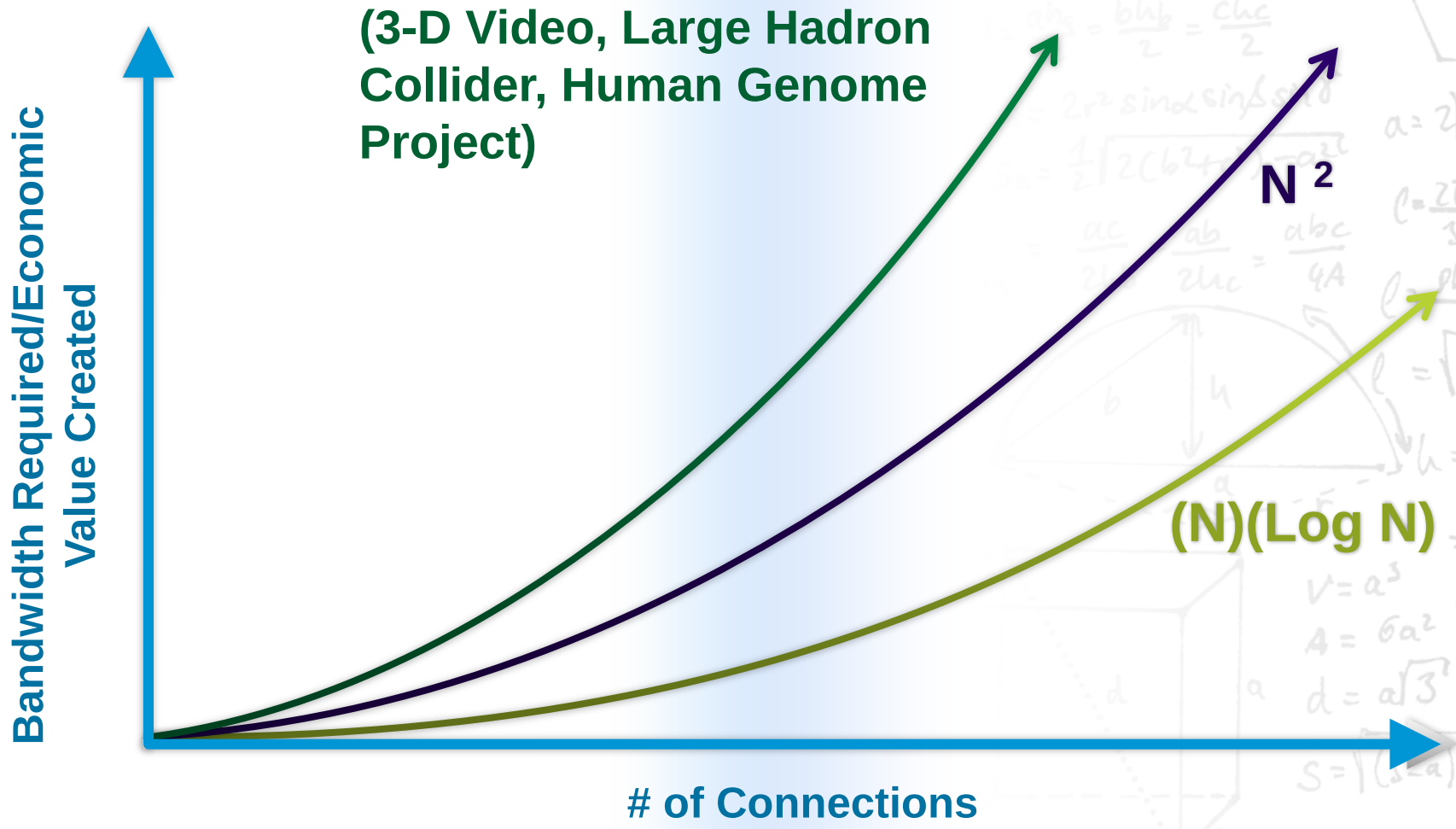
“The difference between a visionary and an eccentric is...

…being right!”

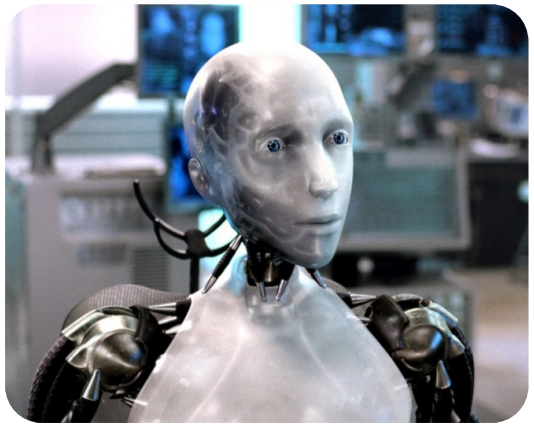
Bob Metcalfe

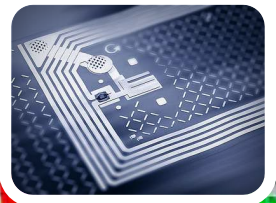


Quadratic Economic Value Creation from More Connections to the Network



Amazing Opportunities Ahead





Shukran jazeelan.