

# Session 15636

## Technology Innovation: Tail Wags the Dog

*Updated for Pittsburgh 2014*

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# Abstract

- During this week at SHARE, you've heard about many trends that are having an impact on IT: Cloud, Mobility, BYOD, Big Data and Analytics, Social Networks, etc. As businesses take advantage of these innovations, more of the processing can and should be moved to the mainframe for all the reasons we know and love, such as reliability, scalability, and most important, security.
- Do you understand the maturation process that all trends follow, and where the mainframe traditionally fits in that cycle? As a company, can you culturally and technically incorporate these trends when (not if) the business demands them? We'll discuss at some real life examples and the lessons learned, and review this week's high points as they apply to innovation.

# IT Modernization

## *My job - Make the project successful...*

5 years on an international IBM SOA innovation team

- Mostly on BPM customer projects

Worn many, many hats over the years

- Aerospace engineer, developer, sysprog, architect, product manager, professional services, marketing, etc.

Innovative has special challenges

- Budget allocations/process, territories, job roles, departmental boundaries, NIH mentality, DIY hazards
- Corporate attention span is short

# Innovation: Topics

- Cloud Computing
- Big Data and Analytics
- BYOD / Mobility
- Different perspectives of innovation maturation

*Not a discussion of concepts nor technology nor value propositions nor products nor ...*

# Big Surprise!

## INNOVATION IS NOT ABOUT TECHNOLOGY

Frame your thinking in business terms



Risk and Reward are important to the executives

- Define *Success* early in their terms
- Know who will win, who will lose and how are they motivated
- Prestige and paychecks

# Innovation Challenges: Technobabble

## Terminology

- Good: produced by standards committees

## Creates incomprehensible conversations

- No language to bridge the gap with untrained technical teams, executives or business leaders
- New name for similar concepts confuses teams
- Long learning curve for the barrage of new terminology
- Definitions keep evolving

# Data Center vs. LOB as a Consumer

Built or Bought, IT still responsible for infrastructure and tooling

- The final build and subsequent updates / fixes
- The maintenance and licenses
- The management software
- The next release
- The security

Easy to justify a new technology to add to all the rest of the technologies you already manage. Is there a plan to retire obsolete technologies?

# Beyond the Marketing and Benefits

Early projects bear a huge burden

- Design and architecture
- Tooling of life cycle
- Training and roles
- Policies and governance



Subsequent projects benefit from this foundation

*Benefits such as Agility, Time to Market, blah blah blah*

- *but... it'll take 5 years, and the budget is what ???*



# So, Why do Innovation Efforts Fail?

Zillion reasons any IT-led initiative fails

- Lack of stakeholder buy-in; No executive sponsorship
- Ineffective governance
- Treated like an IT initiative instead of Business transformation
- All implementation, no maintenance, no performance testing
- Insufficient architecture, if it exists at all
- DIY shop determined to reinvent the wheel to save \$\$

*[ebizq.net/blogs/cloudsoa/2010/11/updated-3-reasons-clouds-fail.php](http://ebizq.net/blogs/cloudsoa/2010/11/updated-3-reasons-clouds-fail.php)*

*[process-cafe.blogspot.com/2010/03/why-saas-pricing-will-kill-bpm-in-cloud.html](http://process-cafe.blogspot.com/2010/03/why-saas-pricing-will-kill-bpm-in-cloud.html)*

*[ebizq.net/blogs/ebizq\\_forum/2010/09/why-do-so-many-bpm-projects-fail.php](http://ebizq.net/blogs/ebizq_forum/2010/09/why-do-so-many-bpm-projects-fail.php)*

# Hot Topics

- Big Data and Analytics
- BYOD / Mobility
- Cloud Computing
- Cognitive Computing



# Big Data and Analytics Promises

## Promises

- Easy, timely data access integrated into existing processes
- Turn data into insight... but does insight turn into decisions?
- Process close to the data, particularly Big Data
  - Stop moving and transforming data \$\$\$
  - Most of the data breaches are about personal data

# Big Data and Analytics Pitfalls

## Pitfalls

- 70% of time is spent on identification, cleansing, and integrating data
- Fragmented, difficult to share data from various sources

## Data quality

- Compare numerical bank transactions to social media hits
- Still looking to support the answer (or lie) you want to find
- Need analytics for the management, not just business data

Big Data hype cycle <https://www.gartner.com/doc/2814517>

<http://www.informationweek.com/big-data/software-platforms/big-data-meets-trough-of-disillusionment-gartner/d/d-id/898939>

<http://venturebeat.com/2013/08/06/when-the-cloud-hype-cycle-shuts-down-the-real-fun-begins/>

# Big Data Promises and Pitfalls

Does anyone remember...

Lies, Damn Lies, and Statistics  
*often attributed to Mark Twain*

How about Executive Information Systems?



[http://en.wikipedia.org/wiki/Lies,\\_damned\\_lies,\\_and\\_statistics](http://en.wikipedia.org/wiki/Lies,_damned_lies,_and_statistics)  
[http://en.wikipedia.org/wiki/Executive\\_information\\_system](http://en.wikipedia.org/wiki/Executive_information_system)

# Data Quality is a Huge Issue

Faulty / misleading data replicates just as easy as good data

- Data doesn't have a dead date
- No automatic conflict resolution
- Data Broker Acxiom
  - Up to 30% of a person's profile information may be wrong at any given time since it is based on information from a variety of sources, including public records and surveys that may be incorrect or out of date.



[http://money.cnn.com/2013/09/05/pf/acxiom-consumer-data/index.html?source=cnn\\_bin](http://money.cnn.com/2013/09/05/pf/acxiom-consumer-data/index.html?source=cnn_bin)

# Bring your own Device / Technology BYOD



Having a single device is very appealing

- Good news: “unparalleled freedom to work from anywhere”
- Bad news: “unparalleled burden of working from anywhere”

*Never underestimate the ability of your technical team to find a creative workaround in order to get a job done*

[http://techpageone.dell.com/technology/byod-adoption-rate-to-top-35-by-2016/#.UwoRD\\_IdXAT](http://techpageone.dell.com/technology/byod-adoption-rate-to-top-35-by-2016/#.UwoRD_IdXAT)

# Bring your own Device BYOD

Where is this headed?

- BYOD disconnecting from Mobility; Bring a Mobile Device
- Pandora's box is open: take advantage of accessibility instead of preventing usage

Compliance, security issues

- \$5.5M average cost for a security breach
- Hack an app, get access to other apps
- Hidden costs related to support, expenses and reimbursement



# Along comes Cloud

Nebulous or conflicting perception

- Good: It can be everything you want
- Bad: definition is broad, muddied by claims
- Cloud-washing by vendors

Mainframe has been doing this for years: self-service is new

If you don't believe Cloud is disruptive, start researching

*[zaphink.com/2012/03/03/bpm-in-the-cloud-disruptive-technology/](http://zaphink.com/2012/03/03/bpm-in-the-cloud-disruptive-technology/)*  
*[softwarestrategiesblog.com/2011/07/27/gartner-releases-their-hype-cycle-for-cloud-computing-2011/](http://softwarestrategiesblog.com/2011/07/27/gartner-releases-their-hype-cycle-for-cloud-computing-2011/)*

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# Consumer Mentality

What drives the Cloud hype?

- New ways to exploit technology with strong ROI
- We all remember Service Bureaus and Time Sharing
- Fundamental shift from 'Build it' to 'Buy it'
- Business capabilities are like a Utility
- LOB wants to be a Consumer

# What if Cloud is just another platform?

Do you have a backout strategy if Cloud fails?

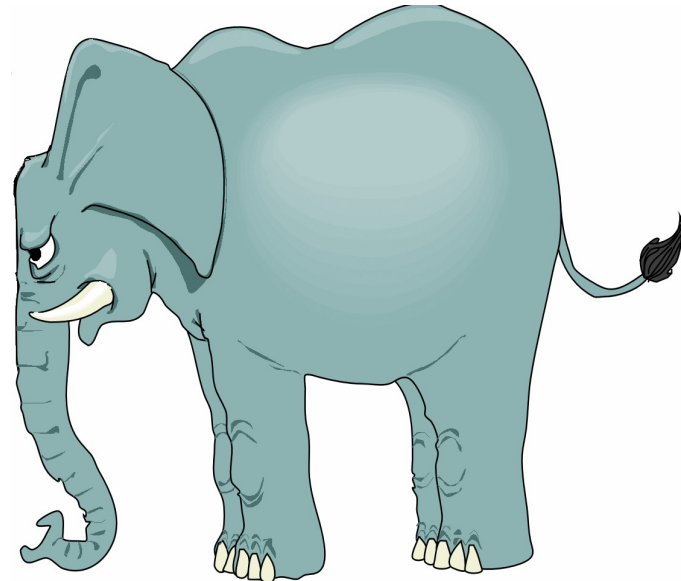
- Can you move processes back?
- What's the cost of migration?



*[cio.com/article/712849/Lock\\_in\\_Migration\\_Costs\\_Can\\_Put\\_a\\_Damper\\_on\\_Cloud\\_Projects\\_Says\\_ISACA?taxonomyId=3024](http://cio.com/article/712849/Lock_in_Migration_Costs_Can_Put_a_Damper_on_Cloud_Projects_Says_ISACA?taxonomyId=3024)*

# What's Wrong with this Picture?

- Elephant in the room
  - Security
  - Licensing
  - Design
  - Skills
  - Ownership



*77% Executives believe cloud makes protecting privacy more difficult*

# Mainframe Innovation vs. Innovation on the Mainframe

## Pros

- Long list: virtualization, reliability, security, scalability, etc.
- Software license consolidation

## Cons

- Single source for hardware, opsys, etc.
- Considered inaccessible to the casual user

Are there truly hardware agnostic applications?

## Follow the money - Cloud

“ IBM pledged to commit **\$1.2 billion** to significantly expand its global cloud footprint, beefing up its SoftLayer infrastructure and other components. Big Blue said the investment includes a network of cloud centers designed to bring clients greater flexibility, transparency and control over how they manage their data, run their business and deploy their IT operations locally in the cloud.”

# Innovations that can use Big Iron

## Technology to watch

- The elusive computer that *learns*
  - Not the same as predictive analysis
- Cognitive computing is next

[http://www.cnn.com/interactive/2013/12/tech/cnn10-ideas/?hpt=hp\\_t5](http://www.cnn.com/interactive/2013/12/tech/cnn10-ideas/?hpt=hp_t5)

[http://news.cnet.com/CA-builds-artificial-intelligence-into-software/2100-1001\\_3-239064.html](http://news.cnet.com/CA-builds-artificial-intelligence-into-software/2100-1001_3-239064.html)

<http://www.research.ibm.com/cognitive-computing/#fbid=wtbESfHZ0Yb>

# Wikipedia on Cognitive Computing

“A cognitive computer is a proposed computational device with a non-Von Neumann architecture that implements Hebbian learning. Instead of being programmable in a traditional sense within machine language or a higher level programming language such a device learns by inputting instances through an input device that are aggregated within a computational convolution or neural network architecture consisting of weights within a parallel memory system. An early instantiation of such a device has been developed in 2012 under the Darpa SyNAPSE program at IBM directed by Dharmendra Modha.”



# IBM on Cognitive Computing

“Cognitive computing systems learn and interact naturally with people to extend what either humans or machine could do on their own. They help human experts make better decisions by penetrating the complexity of Big Data.”

## Follow the money - Cognitive

“ ... IBM said it would invest more than **\$1 billion** into the Watson Group, focusing on development and research and bringing cloud-delivered cognitive applications and services to market. This will include the establishment of a \$100 million venture investment fund to support IBM's recently launched ecosystem of startups and businesses that are building a new class of cognitive apps powered by Watson, in the IBM Watson Developers Cloud.”

<http://www.zdnet.com/ibm-ceo-rometty-watson-cognitive-computing-mainstreaming-begins-7000024983/>

## Pundits: Gartner et al

Trends for both technologies and business concepts

- It's worth comparing year to year predictions

*But I'm a technology person, why should I care? That stuff doesn't apply to me....*

# Gartner: Top 10 Strategic Technology Trends for 2014



## One is Disruptive Technologies

- The Nexus of Forces — mobile, social, cloud and information
- Once again, “bid goodbye to IT conventional wisdom”

<http://www.gartner.com/technology/research/top-10-technology-trends/>

# Gartner's Hype Cycle

Degree of hyperbole vs. productivity associated with emerging technologies

Idea evolves and matures

- Focuses on early implementation
- Not a cycle, since it never repeats

Generates intense discussion and speculation

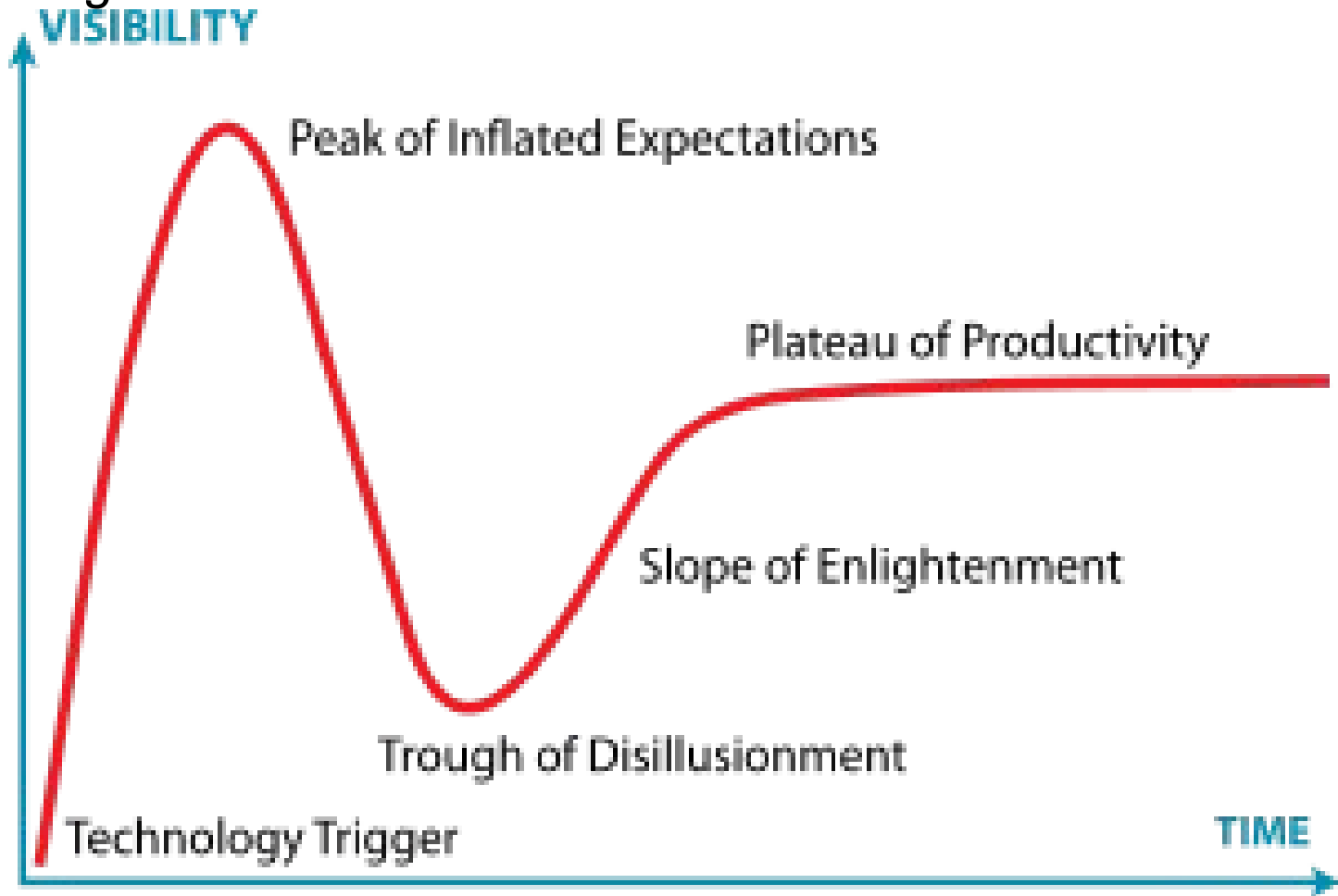
*[forbes.com/sites/louiscolombus/2012/08/04/hype-cycle-for-cloud-computing-shows-enterprises-finding-value-in-big-data-virtualization/](http://forbes.com/sites/louiscolombus/2012/08/04/hype-cycle-for-cloud-computing-shows-enterprises-finding-value-in-big-data-virtualization/)*

*<https://www.gartner.com/doc/2573318/hype-cycle-cloud-computing->*

*<http://searchcloudcomputing.techtarget.com/opinion/Whats-wrong-with-the-Gartner-Hype-Cycle-for-Cloud-Computing-2012>*

# Gartner Hype Cycle

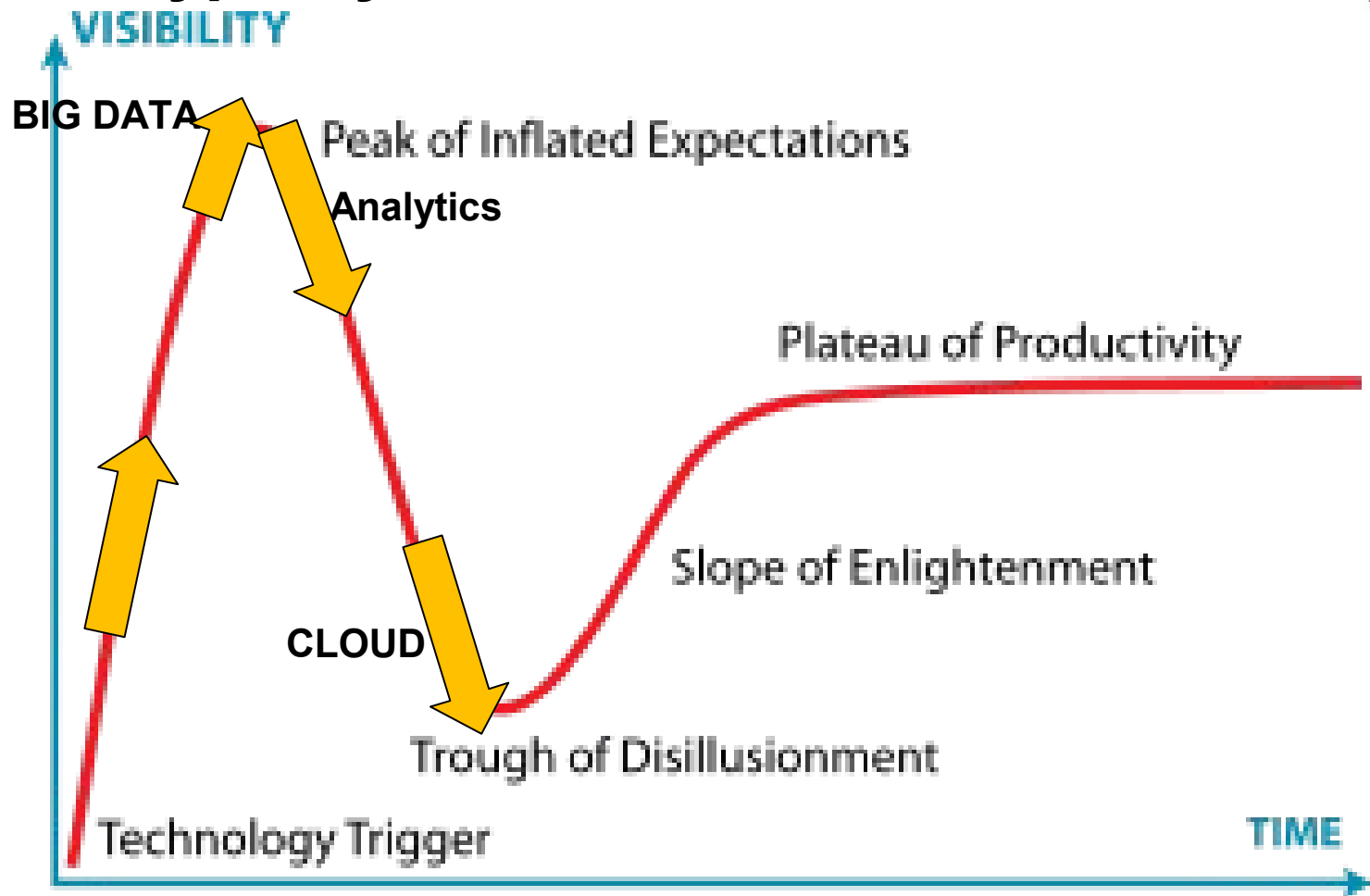
<http://www.gartner.com/newsroom/id/2575515>



[http://en.wikipedia.org/wiki/Hype\\_cycle](http://en.wikipedia.org/wiki/Hype_cycle)

<http://www.gartner.com/technology/research/methodologies/hype-cycle.jsp>

# Gartner Hype Cycle 2013



<http://www.zdnet.com/gartners-2013-emerging-technologies-hype-cycle-focuses-on-humans-and-machines-7000>

<http://www.gartner.com/newsroom/id/2575515019564/>

Complete your session evaluations online at [www.SHARE.org/AnaheimEval](http://www.SHARE.org/AnaheimEval)

## Where is Cloud now?

Parts of it peaked, other parts still climbing

- Lots of Cloud-washing by vendors
- Confusion due to too broad a category
- Outages such as Amazon are very revealing
- Off-the-charts complexity

Gartner's 2012 report was 75 pages on 34 technologies

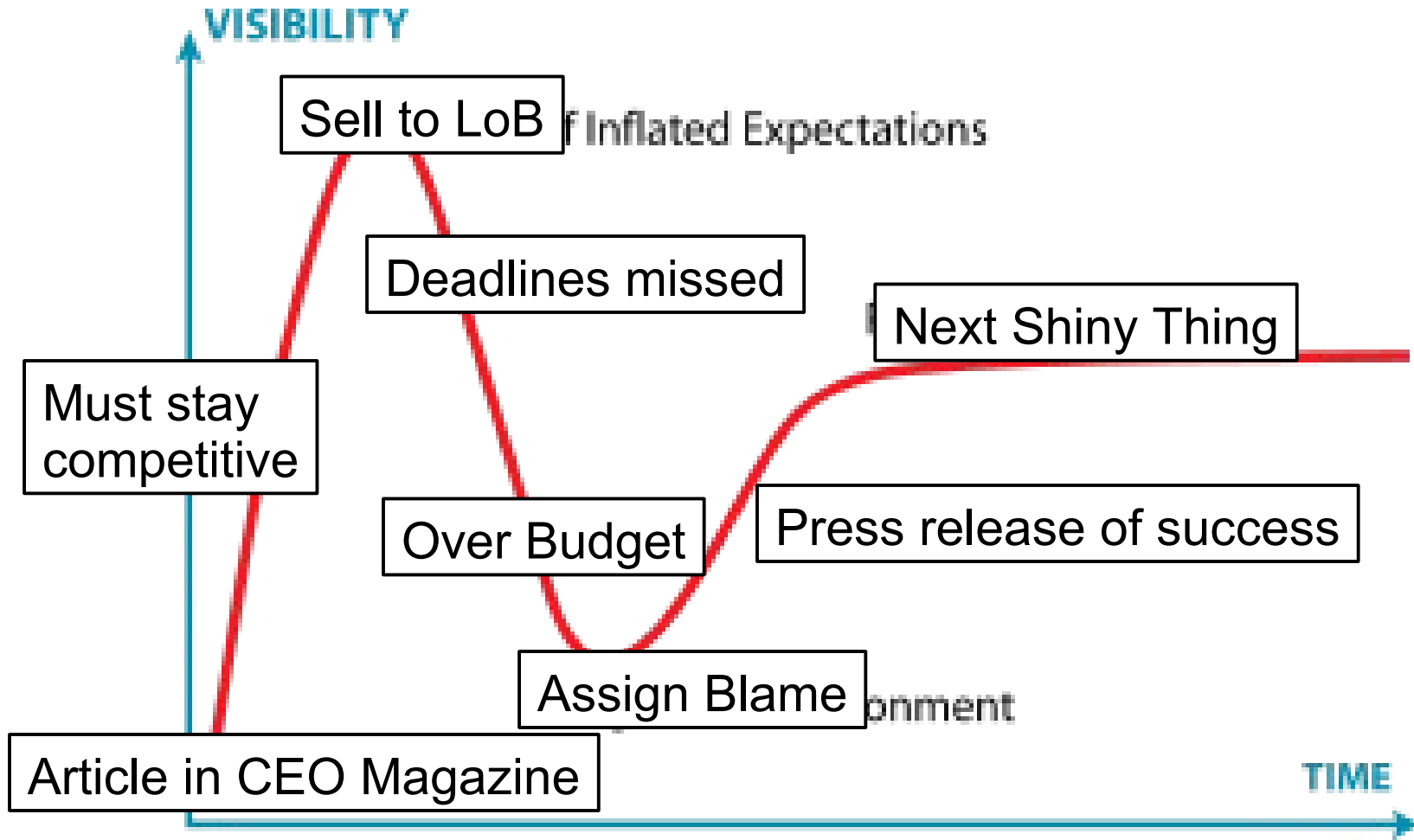
*Hype cycle for application architecture:*

*<https://www.gartner.com/doc/2569522>*

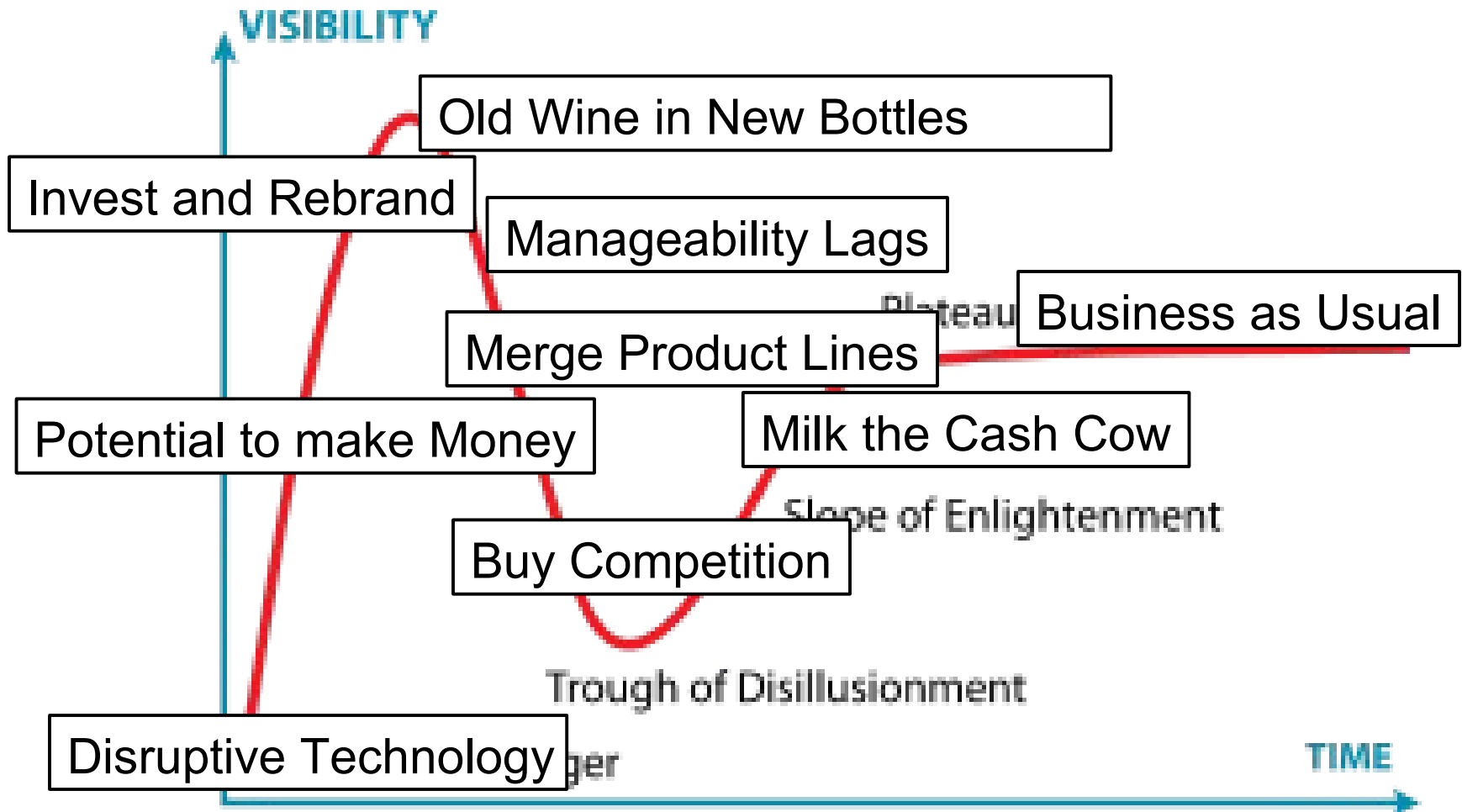
*[businesscloud9.com/content/axway-and-what-analysts-think/10859](http://businesscloud9.com/content/axway-and-what-analysts-think/10859)*



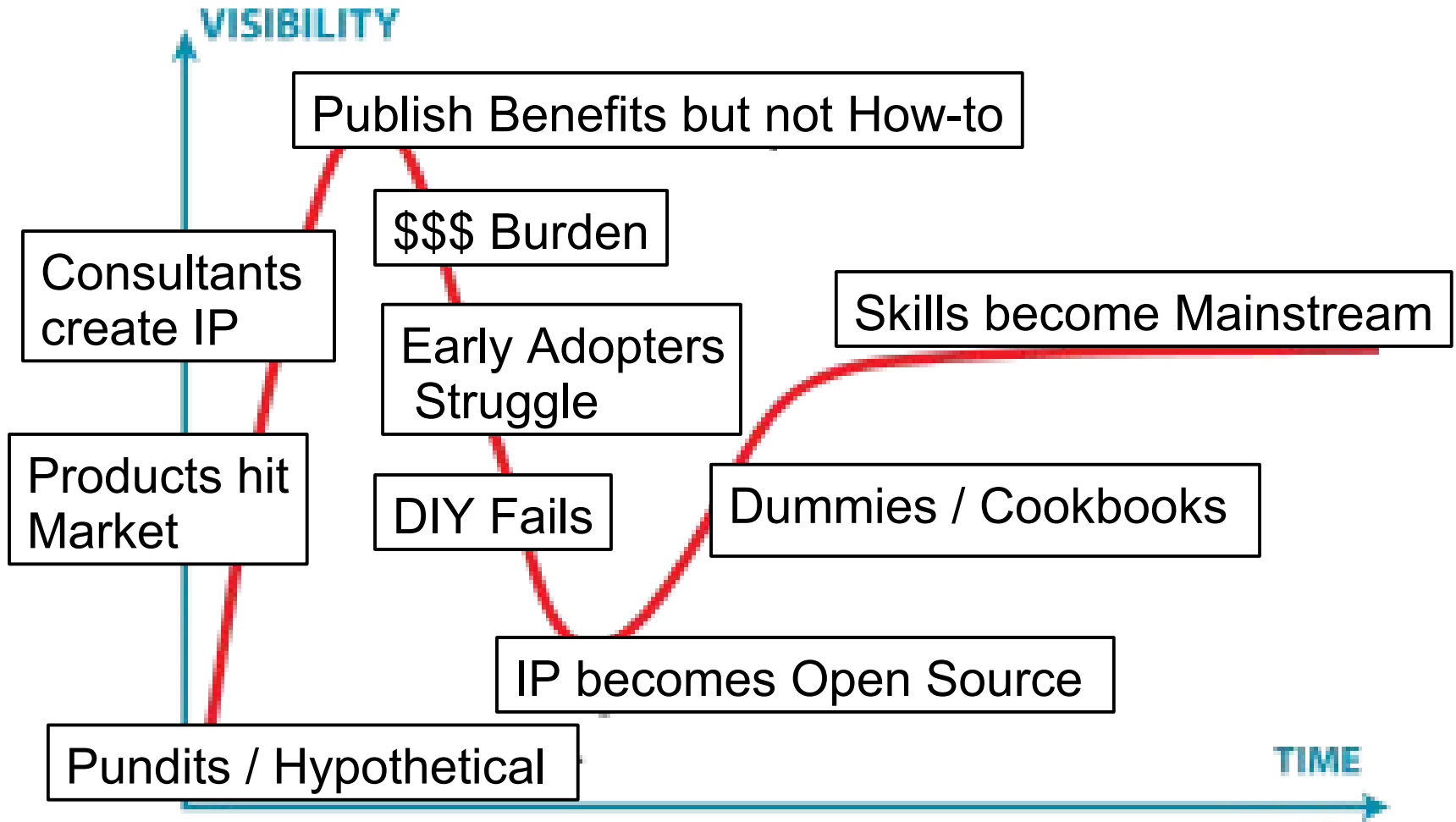
# CEO View of Hype Cycle



# Vendor's View Hype Cycle



# Knowledge Hype Cycle



# Innovation: Wag the Dog

**Thank You !**