Managing Risk in Tomorrow's Heterogeneous Environment

Scott Lowry, Sr. Director, AppDynamics

Professional Strategies – S13

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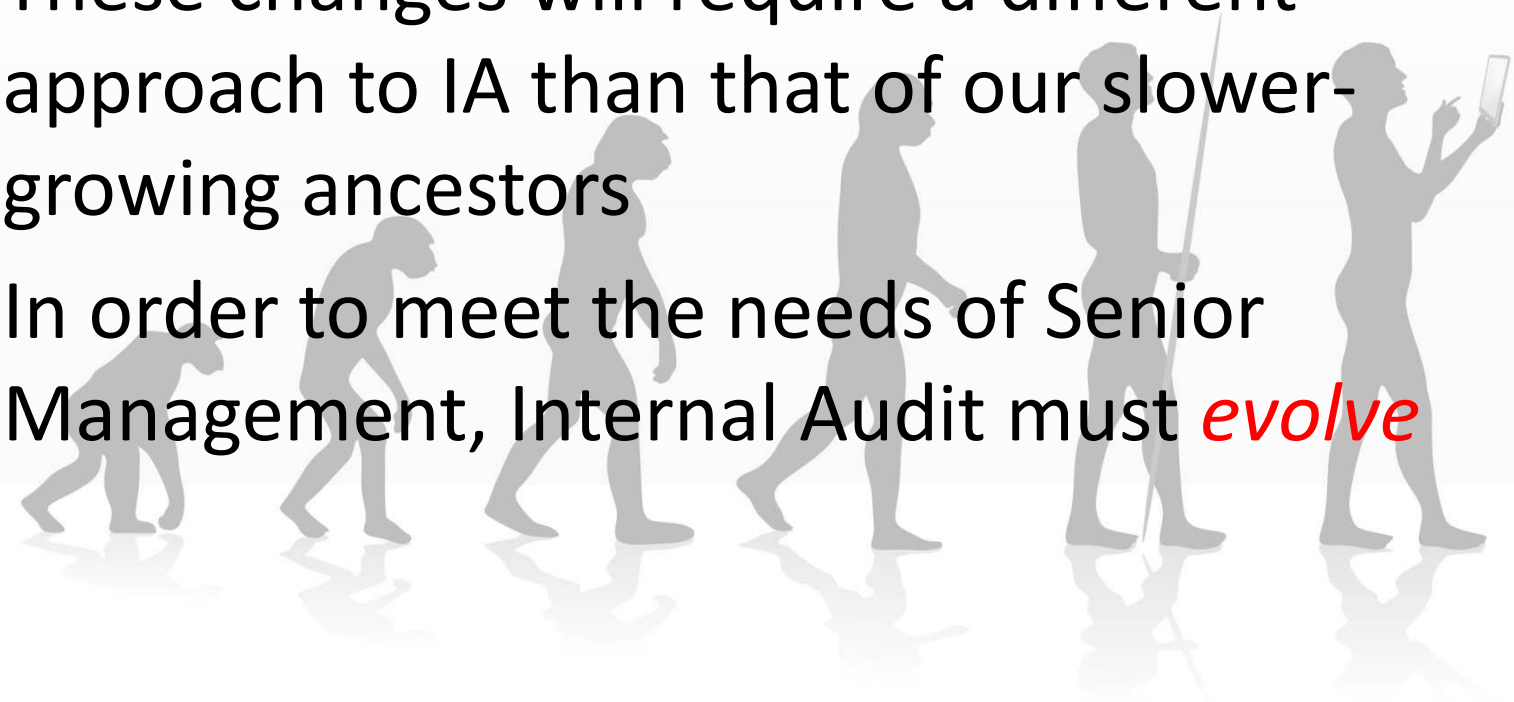
Takeaways

- Technology is changing in ways that aren't initially apparent
- These changes will require a different approach to IA than that of our slower-growing ancestors
- In order to meet the needs of Senior Management, Internal Audit must *evolve*



The only thing that is constant
is *Change*
– Heraclitas

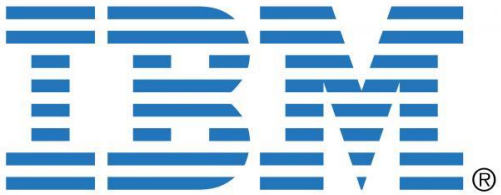
THE CHANGING NATURE OF

BUSINESS

Old School

(Your Father's Company)

- Juggernauts of yesterday
  - Oil, Autos, Banks, Insurance



Old School

(2015)

- Today' Giants
  - Familiar?

Old School

(Looking a little further under the covers)

What does IT look like in today's companies?

- IT Budgets growing by 3.3%
- Share of IT Projects dedicated to customer facing interface is growing from 15-17%
- Cloud Investment is increasing
  - (91% of companies used cloud solution)
- 22% growth in software developers

What's Happening?

Old School

(Looking a little further under the covers)

- Software-enabled companies are becoming "software-defined" companies

Old School

(Looking a little further under the covers)

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- What's Happening??

Massive Shift in the Nature of IT

Old School

Back office

Systems of record

% of Enterprise Application Investment Spending	
80%	45%
2011	2016

Source: Forrester

Digital front office

Systems of engagement

% of Enterprise Application Investment Spending	
20%	55%
2011	2016

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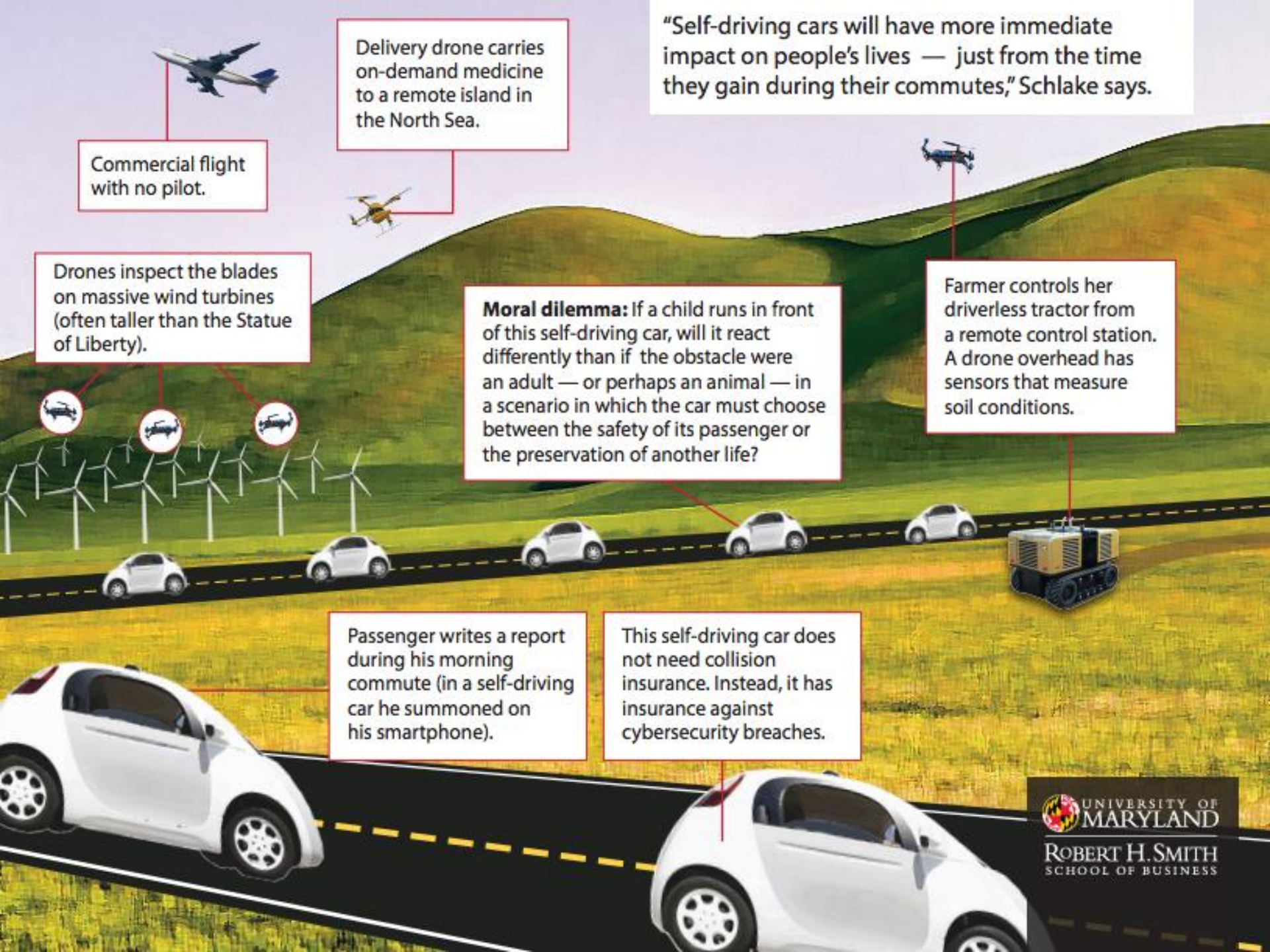
"Self-driving cars will have more immediate impact on people's lives — just from the time they gain during their commutes," Schlake says.
Delivery drone carries on-demand medicine to a remote island in the North Sea.
Commercial flight with no pilot.
Drones inspect the blades on massive wind turbines (often taller than the Statue of Liberty).
Moral dilemma: If a child runs in front of this self-driving car, will it react differently than if the obstacle were an adult — or perhaps an animal — in a scenario in which the car must choose between the safety of its passenger or the preservation of another life?
Farmer controls her driverless tractor from a remote control station. A drone overhead has sensors that measure soil conditions.
Passenger writes a report during his morning commute (in a self-driving car he summoned on his smartphone).
This self-driving car does not need collision insurance. Instead, it has insurance against cybersecurity breaches.
UNIVERSITY OF MARYLAND
ROBERT H. SMITH SCHOOL OF BUSINESS

What the experts say…

- All industries in all geographies are undergoing radical digital disruption

  - Gartner

- Businesses must think and act differently to succeed in this new environment

  - Accenture

- CIOs must enhance customer engagement with continuous business services

  - Forrester

Emergence of the Software-Defined Business

An enterprise or organization whose fundamental value proposition is defined, enabled or delivered through software.

The Software Defined Business

YESTERDAY

TODAY

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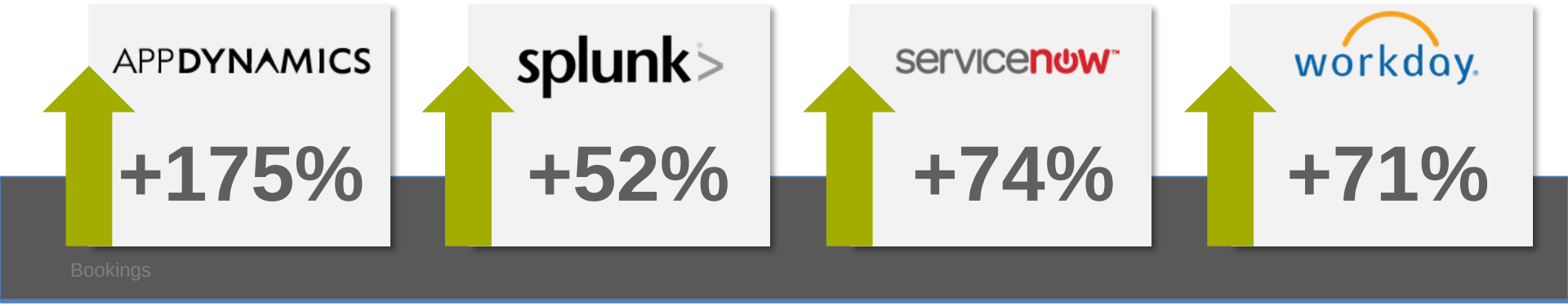
New vendors leading the transition

NEW GENERATION



LEGACY

Figures: IT Mgmt. Vendor 2013 Revenue Growth (YoY)

APPDYNAMICS

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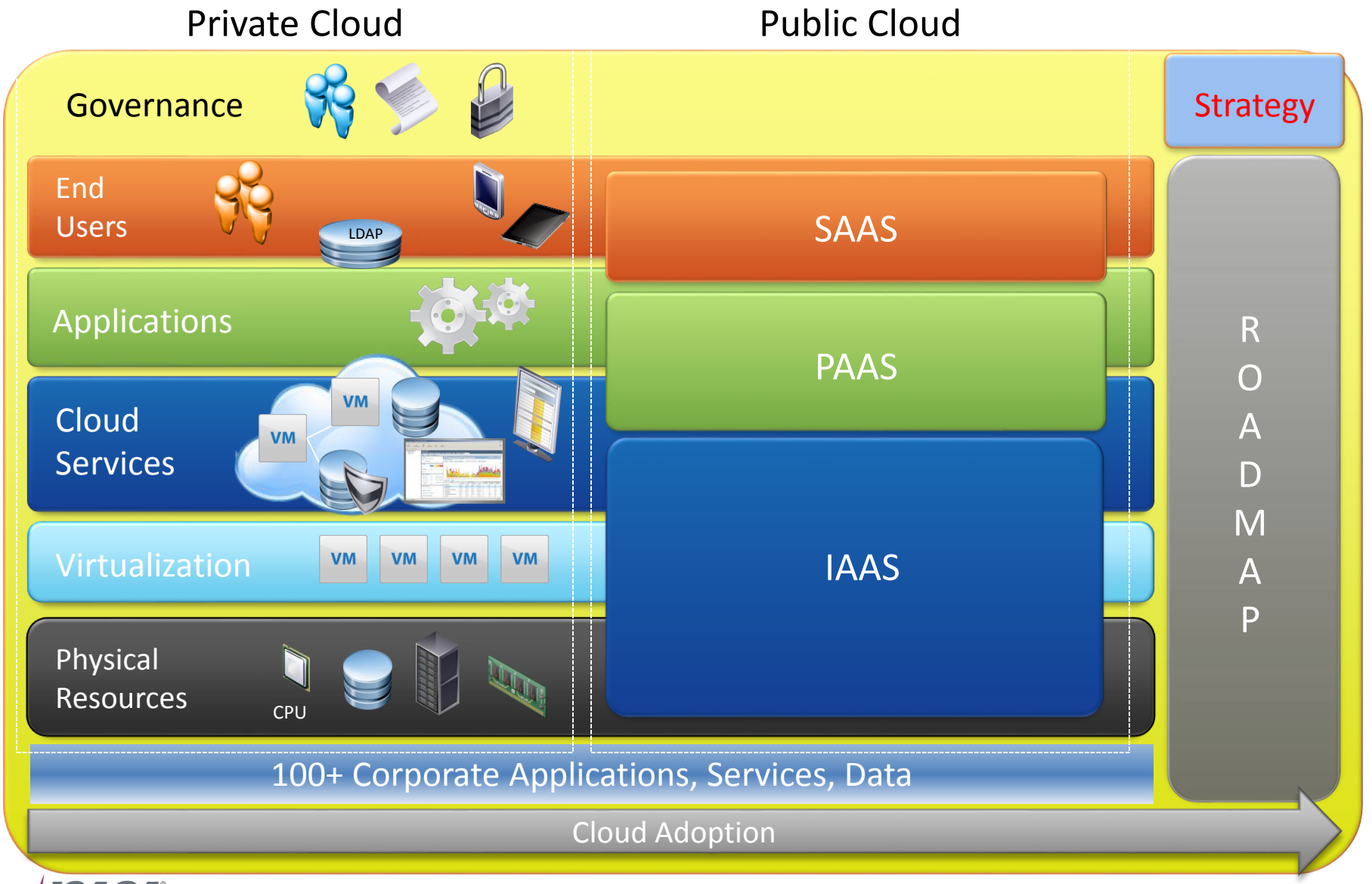
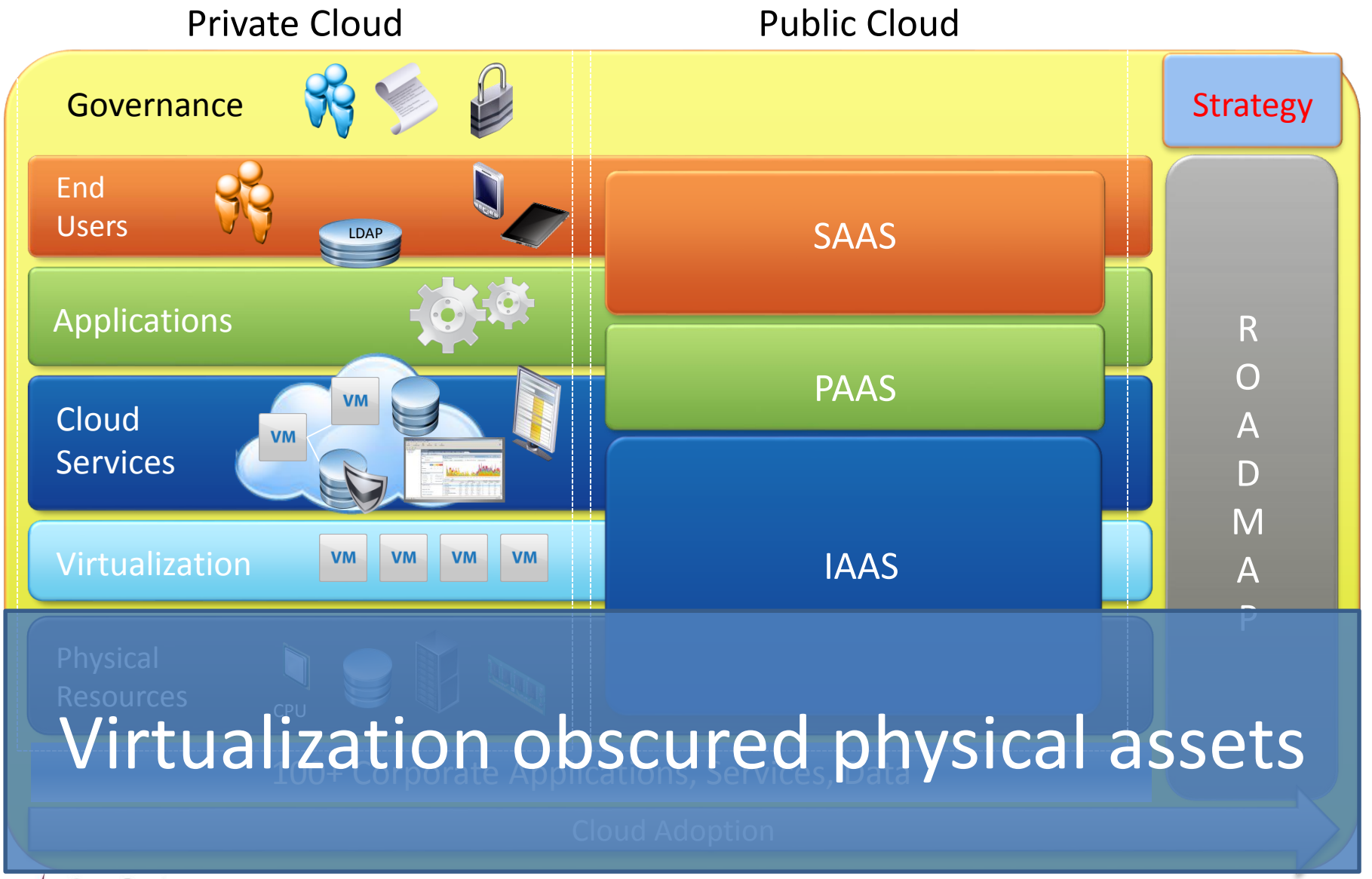
THE CHANGING NATURE OF

INFORMATION TECHNOLOGY

Cloud Computing Model – Simplified

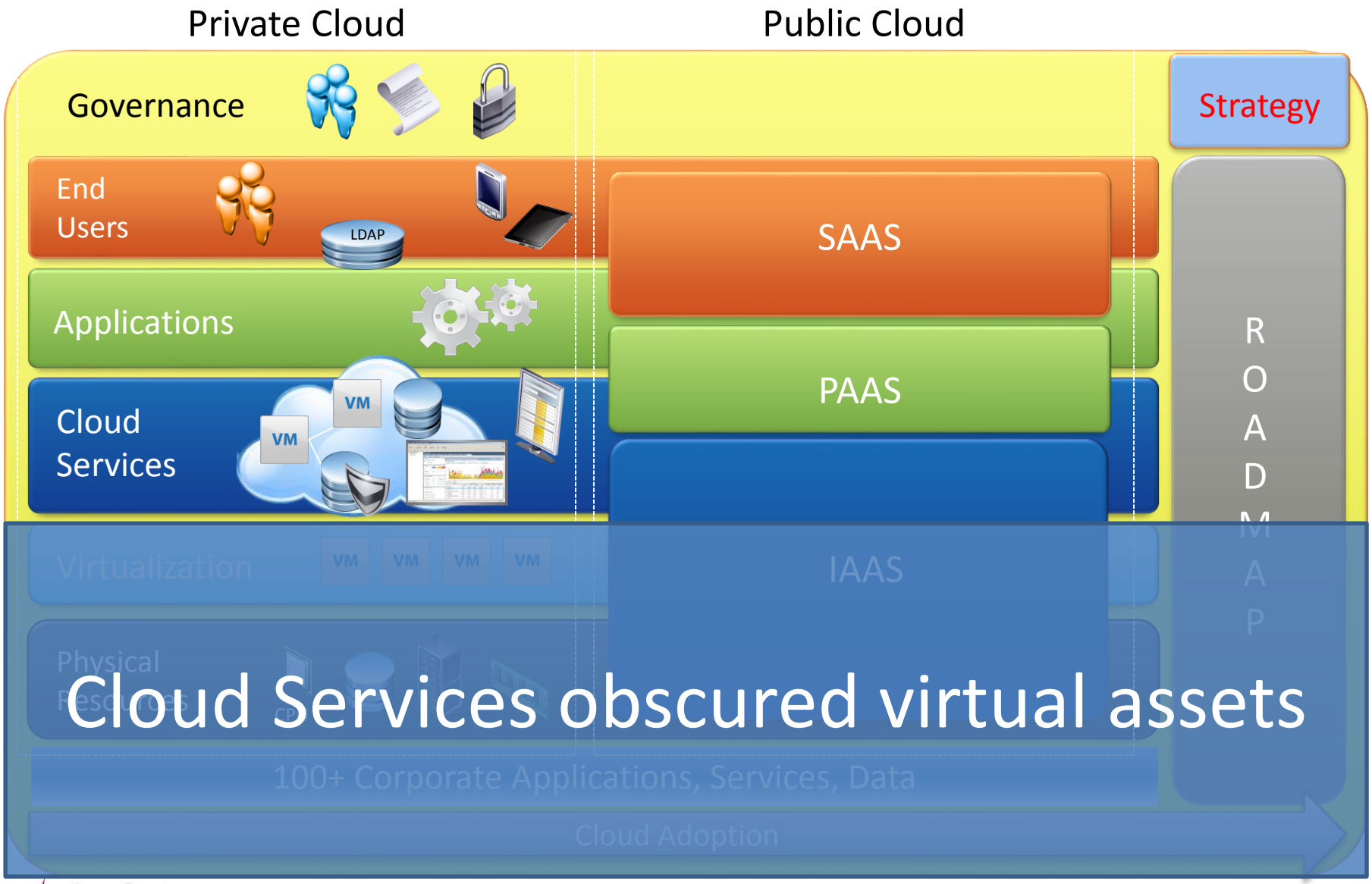


The Abstraction Layer is moving up



Virtualization obscured physical assets

The Abstraction Layer is moving up



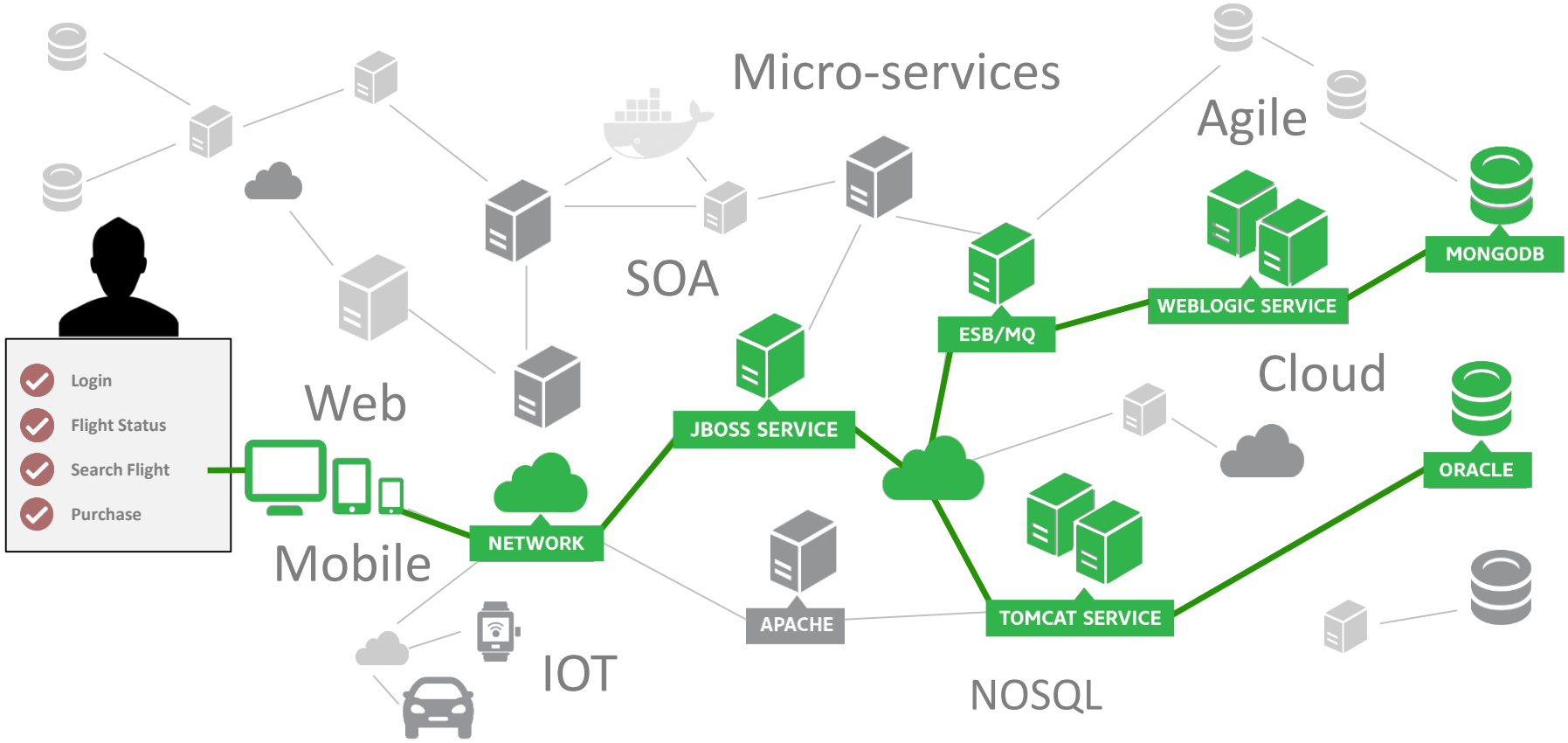
Cloud Services obscured virtual assets

The Abstraction Layer is moving up

It’s all about the Apps

- 66% of enterprises have implemented Agile
- 59% are using a DevOps model
- 1 click executes 10m lines of code
- Booking a flight touches 50 systems
- If a site takes > 3 seconds to load, 40% of users will abandon it
- Customers expect 100% uptime

Application Complexity is Exploding



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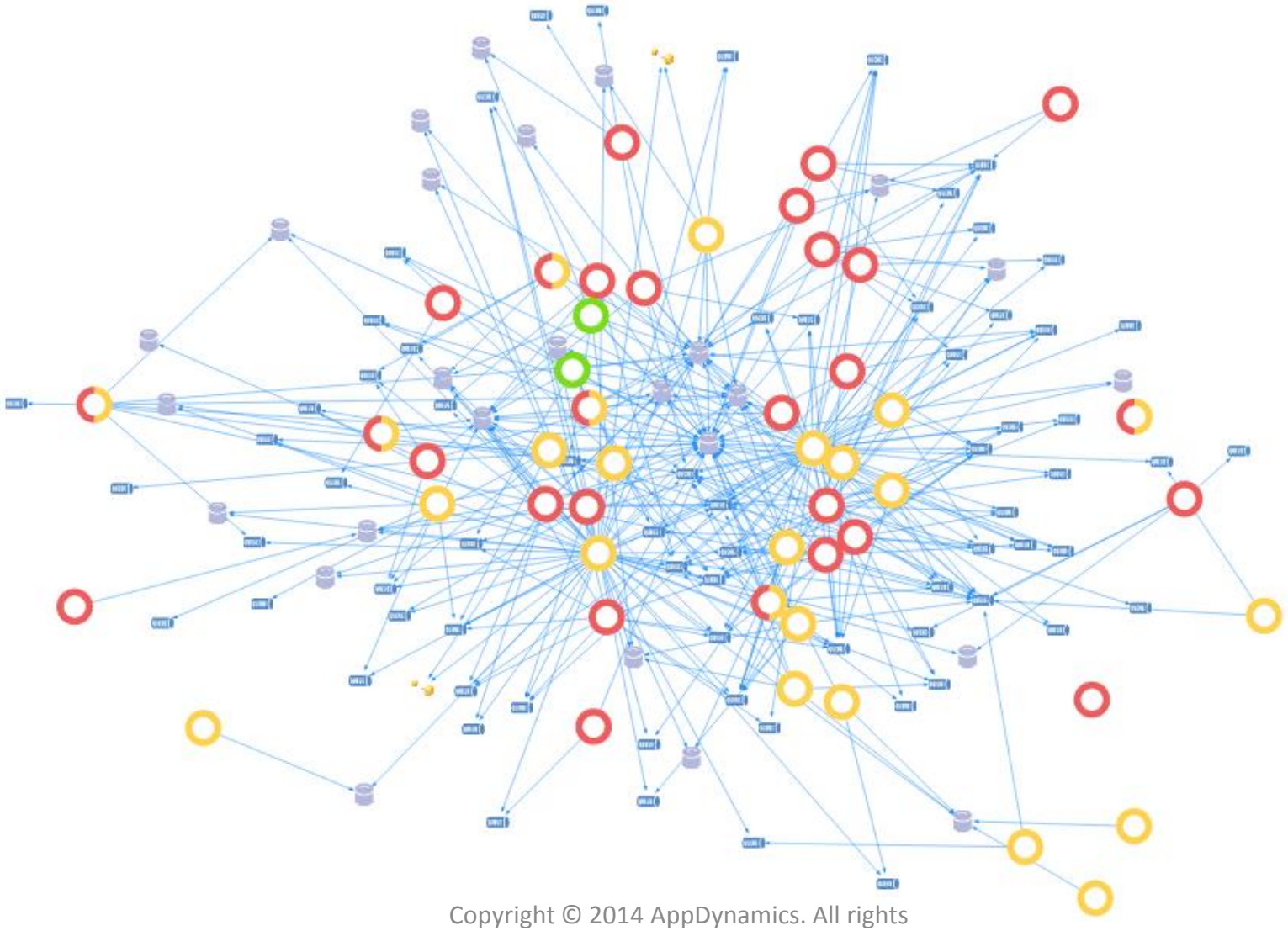
ONLINE RETAILER



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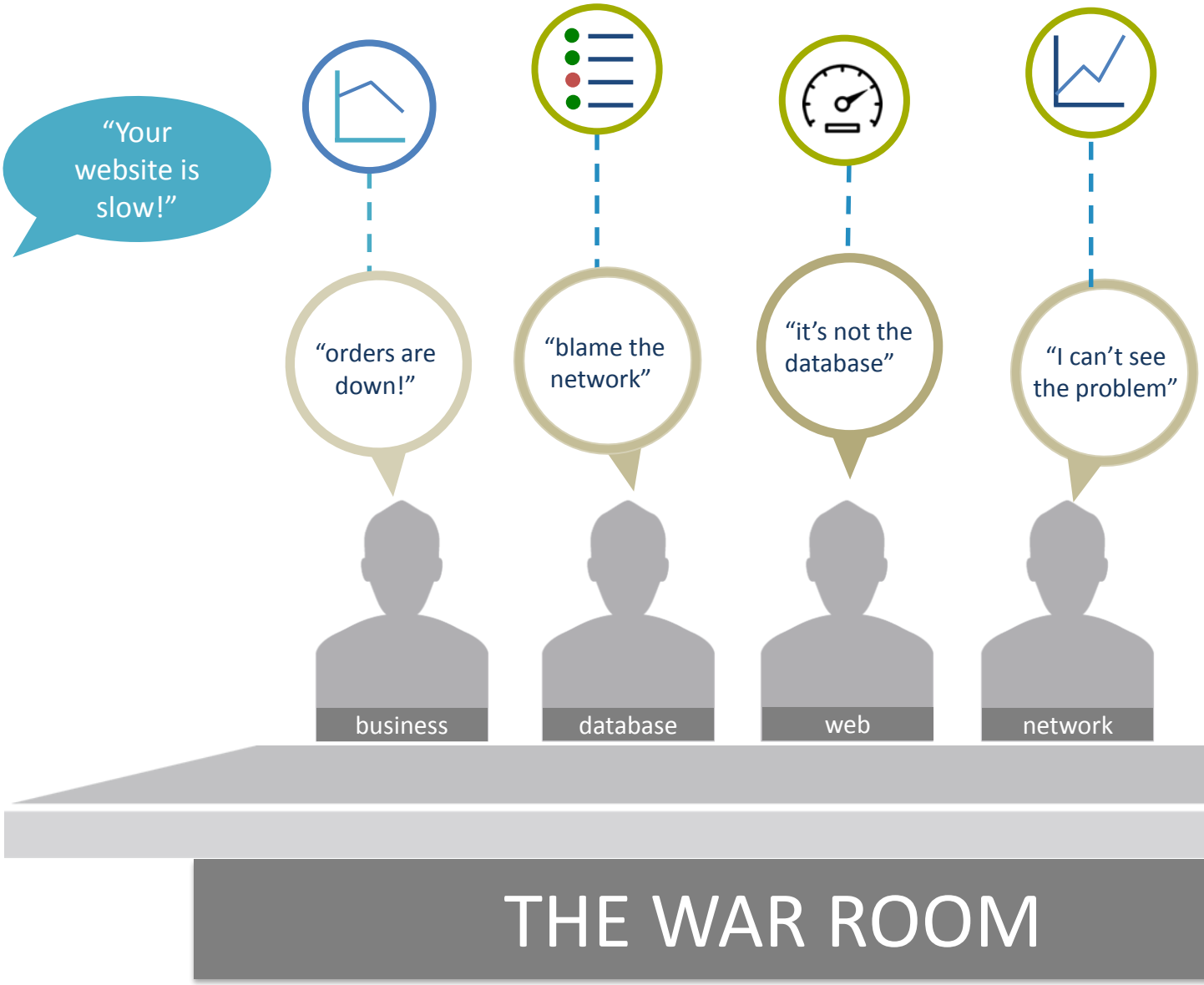
Mean Time To Innocence



BRAND LOYALTY

REVENUE

COST

PEOPLE | INFRASTRUCTURE

reserved.

A Complex, multi-service bank

What does this mean to the auditor?

EVERYTHING CHANGES…

…WHO MOVED MY CHEESE?

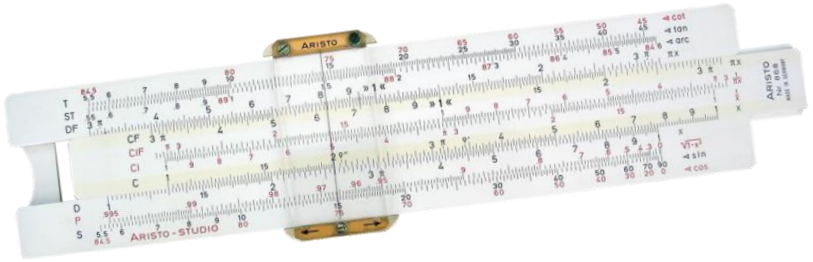
The History of Internal Audit

Beer
(How Audit Started)

Old School

(Your Father's Auditors)

- Assurance Focus
  - Financial Reporting
  - Fraud
- Operational Effectiveness
- Tangible Assets



Evolving School

(Technology Enabled)

- Assurance Focus
  - Systems Reliance
  - Internal Controls
- Operational Resiliency & Scalability
- Digital Assets

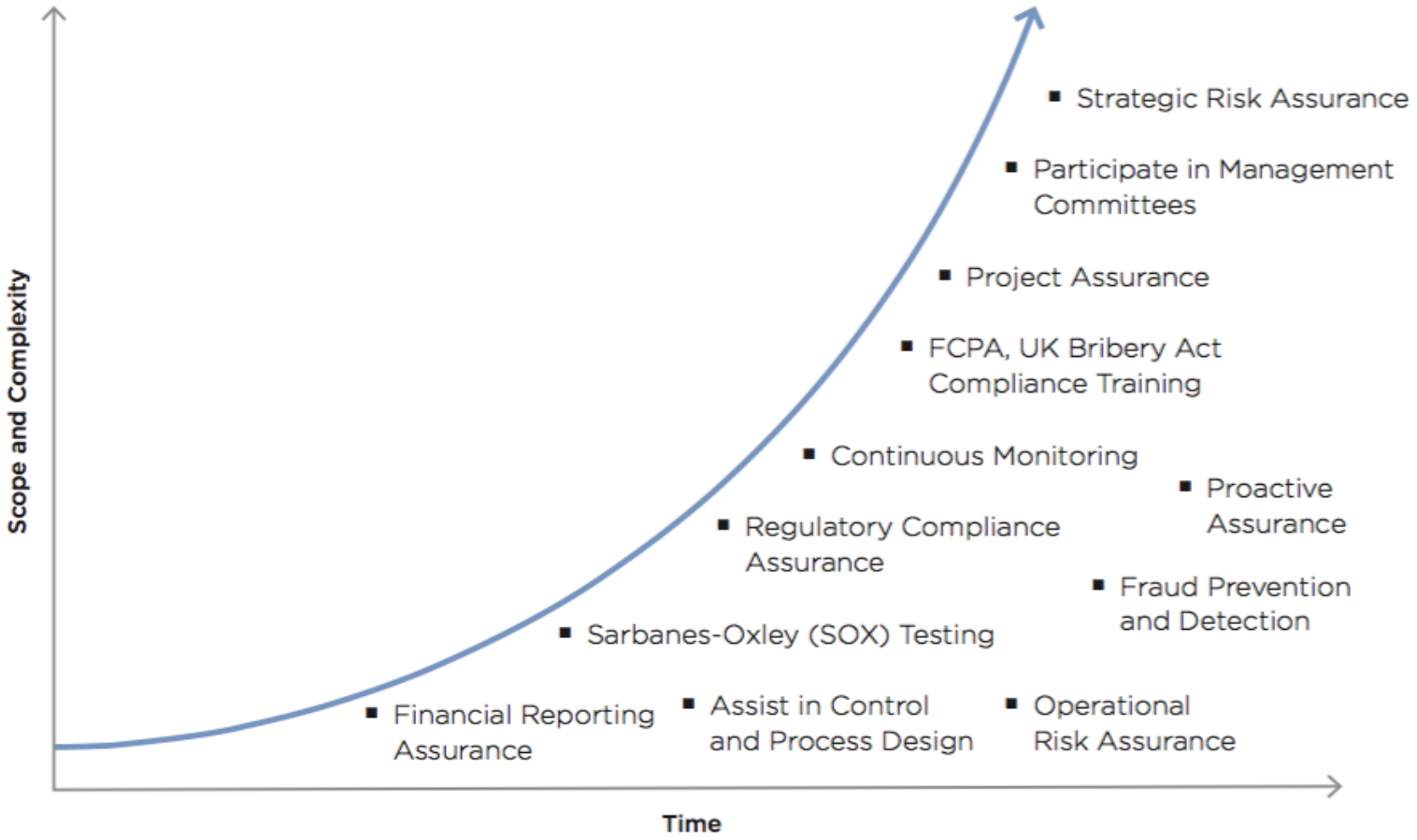
New School

(Technology Enabled)

- Risk Based & Forward Focused
  - Digitized
  - Transaction Centric
- Value Added
- Software-Defined
- Strategic Partnership

Audit's Expanding Role

Increase of Audit Activities Over Time



Forces Exacerbating the Speed and Intensity of the Expansion of Audit Activities

THE FUTURE IT AUDITOR…
…TOMORROW'S MOUSETRAP

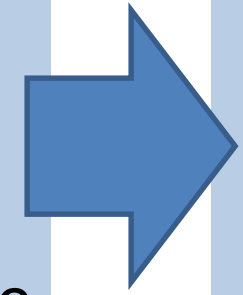
ISACA®
Trust in, and value from, information systems
San Francisco Chapter

CyberSizeIT

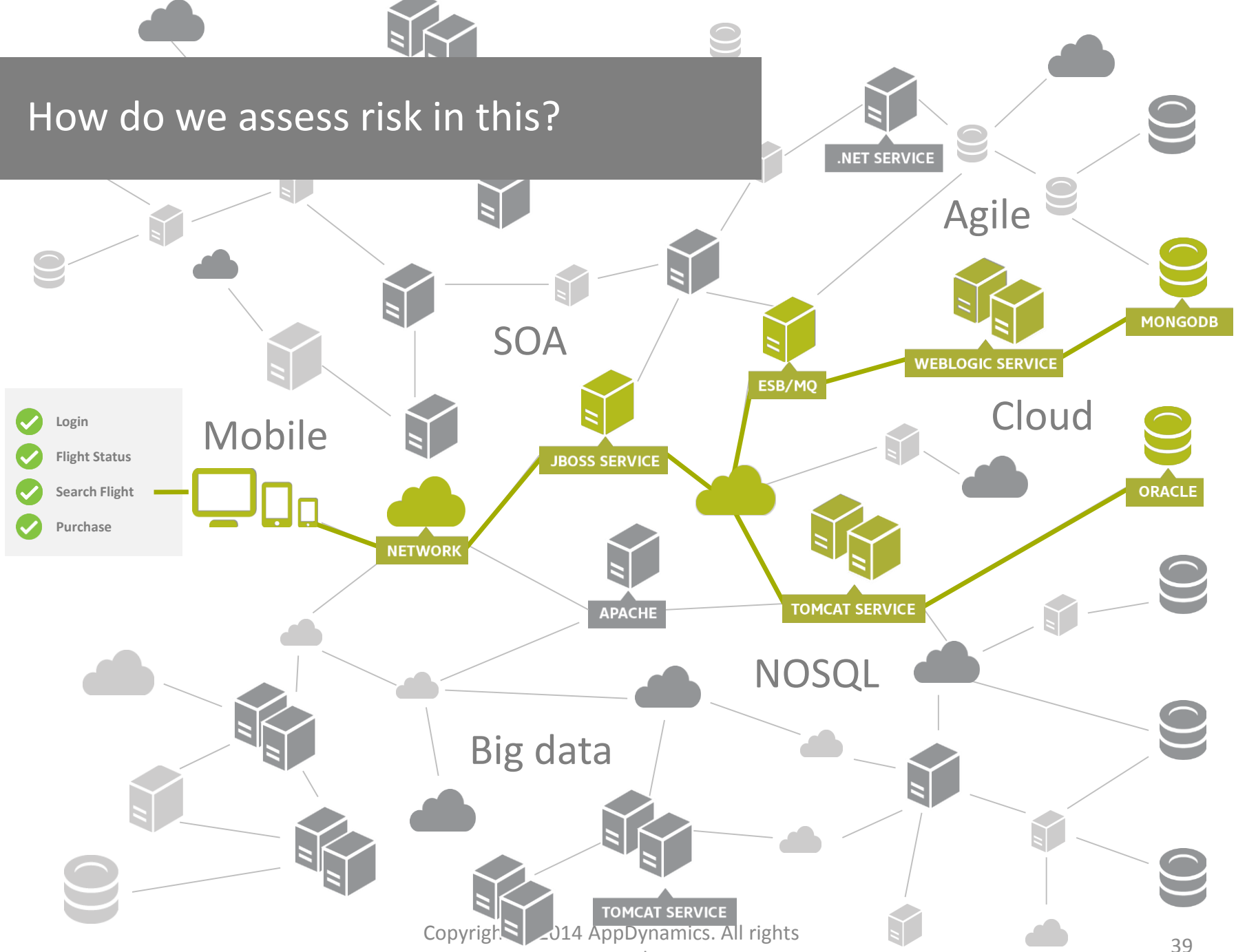
SF ISACA FALL CONFERENCE NOVEMBER 9-11, 2015 HOTEL NIKKO-SAN FRANCISCO

Changing Hot Spots

2012	2016
Information Security	Data Privacy
International Ops	CyberSecurity
Excess Cash	Third-Party Relationships
Corp Culture	Strategic Change Mgmt
Regulatory Compliance	BCP/DR



How do we assess risk in this?



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Closer to the Business

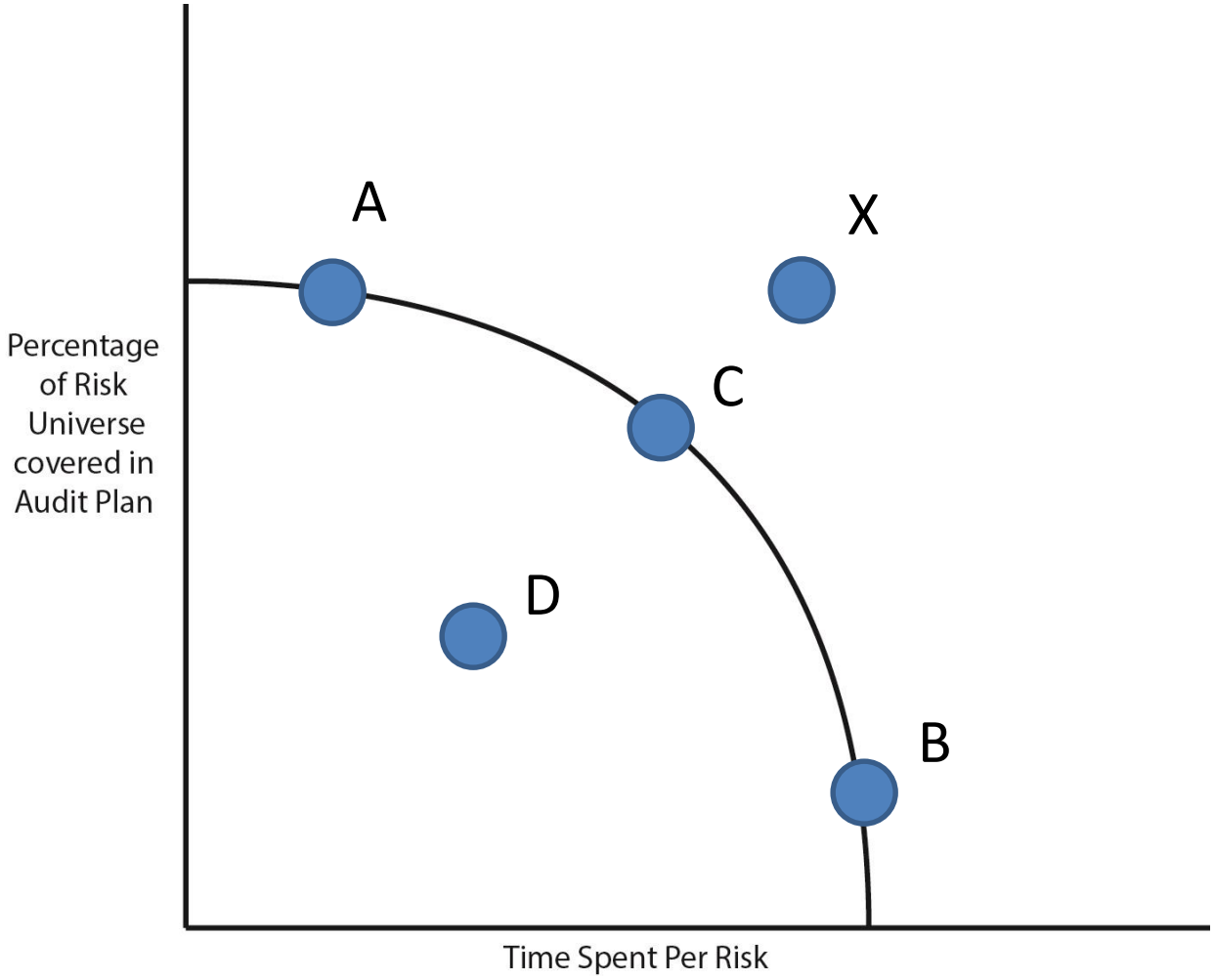
- The lines between IT and the business are blurring
  - SaaS has pushed this front and center
  - Business has a green light to run to the cloud
- Lines between Operational Audit and IT audit are blurring
  - Must understand business objectives

Closer to the Business

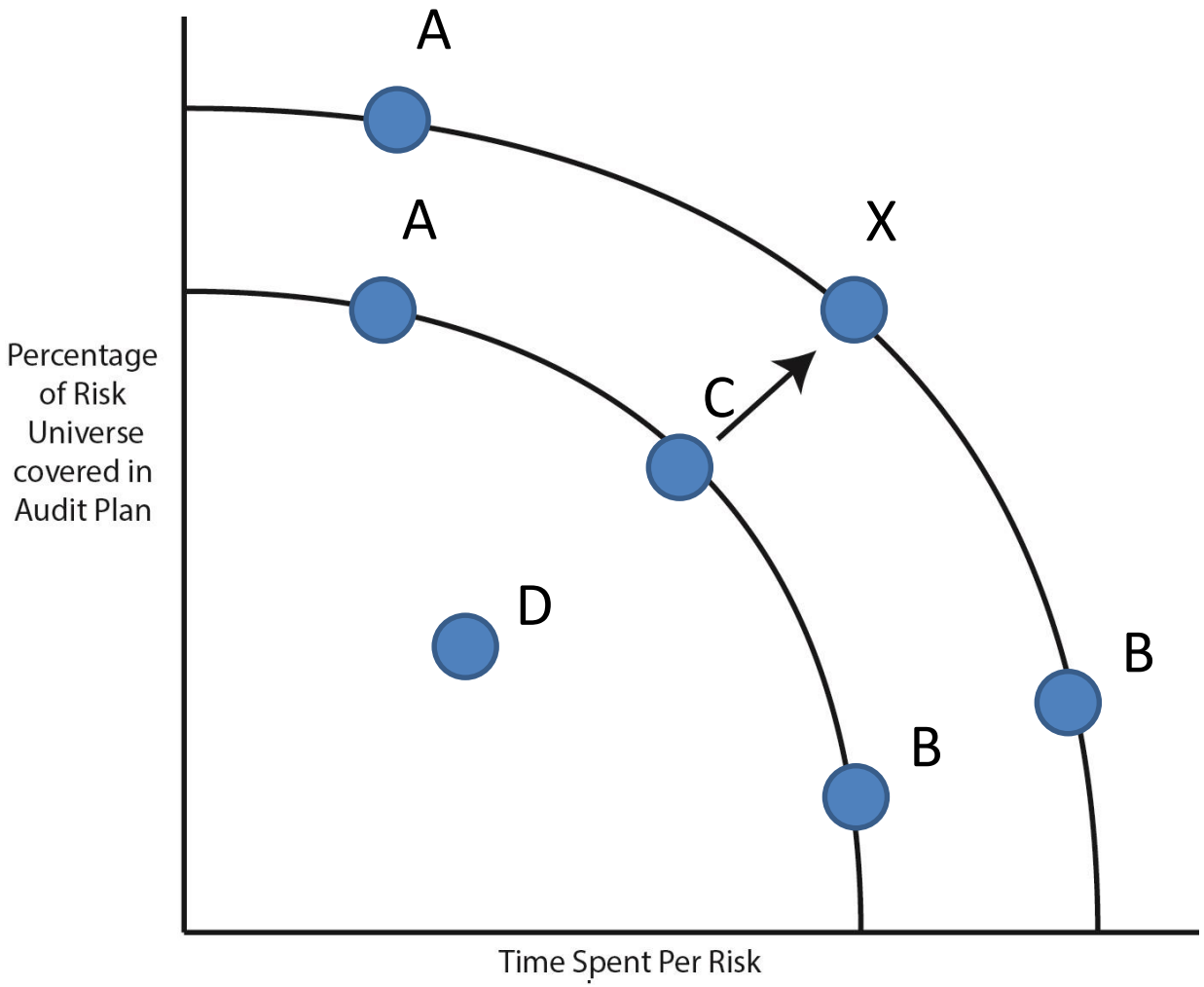
(what does it mean to us?)

- Embrace the role as Trusted Advisor
  - Provide the transparency the business needs to make informed decisions
- We can't look in the rearview mirror
  - To provide value, have to know where the business is going
- Push the audit curve up and right
  - Move assurance functions to the business

The Audit Trade-off



Push Risk Assurance to the Business



Touch what matters

- Address meaningful metrics
- Understand how your business is moving from back office to customer-facing
- How is the business connecting data
- What does it look like to the customer
- Different times require different questions

Focus on the Future

- How is the risk changing?
  - Don’t look for today’s gaps, instead understand how they are changing
- Focus on the areas that that create the greatest risk for tomorrow
  - Look for the root cause
  - Provide visibility and solutions
  - Look in areas where management isn’t

Conclusion

- The software-defined business is here
- It's more complex and fast-moving
- The role that IA will play is also changing
- Internal Auditors must evolve to play a role

Discussion