



Career Advantage Webinars **Cloud Computing Series**



- Session 2: Security in the Cloud

10 December, 8:00 A.M. Pacific Standard Time, [Register Here](#)

- Session 3: Open Stack—what is it? Connecting ACI to Open Stack

26 January, 8:00 A.M. Pacific Standard Time, [Register Here](#)

Internet of Everything Webinar Series

TOPIC

IoE & Education

DATE

December 1st :

8:00 A.M. PST, [REGISTER HERE](#)

7:00 P.M. PST, [REGISTER HERE](#)

TOPIC

IoE & Smart Cities

DATE

December 2nd :

9:00 AM PST, [REGISTER HERE](#)



Computer Networking: Beyond Routing & Switching Series

- 3rd Session: *Going Wireless – Wireless Communications and Technologies* – Dec. 8th, 2015, 9:00 P.M. PST, [Register Here](#)

Recording for Session 1: Network Security & Cybersecurity, & Session 2: Intro to Data Centers, can be found [here](#)



Cisco Networking Academy

Beyond Routing & Switching

Mapping Your Path to Success

Upcoming Sessions:

- **Get Inspired!**

December 2nd 2015 – 9:00 PM PST, [Register Here](#)



Future Sessions cover Teamwork, and Communicating Effectively with Body Language

All previous sessions recordings and presentations for this series can be found [here](#)



What is the Cloud?

...and how will affect my network?

Tony Rice, CISSP

Senior Application Security Engineer

November 24, 2015



Webinar Series

- **What is Cloud? How will it affect me and my network?** Tony Rice (Nov 24th)
- Security in the Cloud – (Dec 10th) Lokesh Pidawekar
- Open Stack—what is it? Connecting ACI to Open Stack – (Jan 26th)

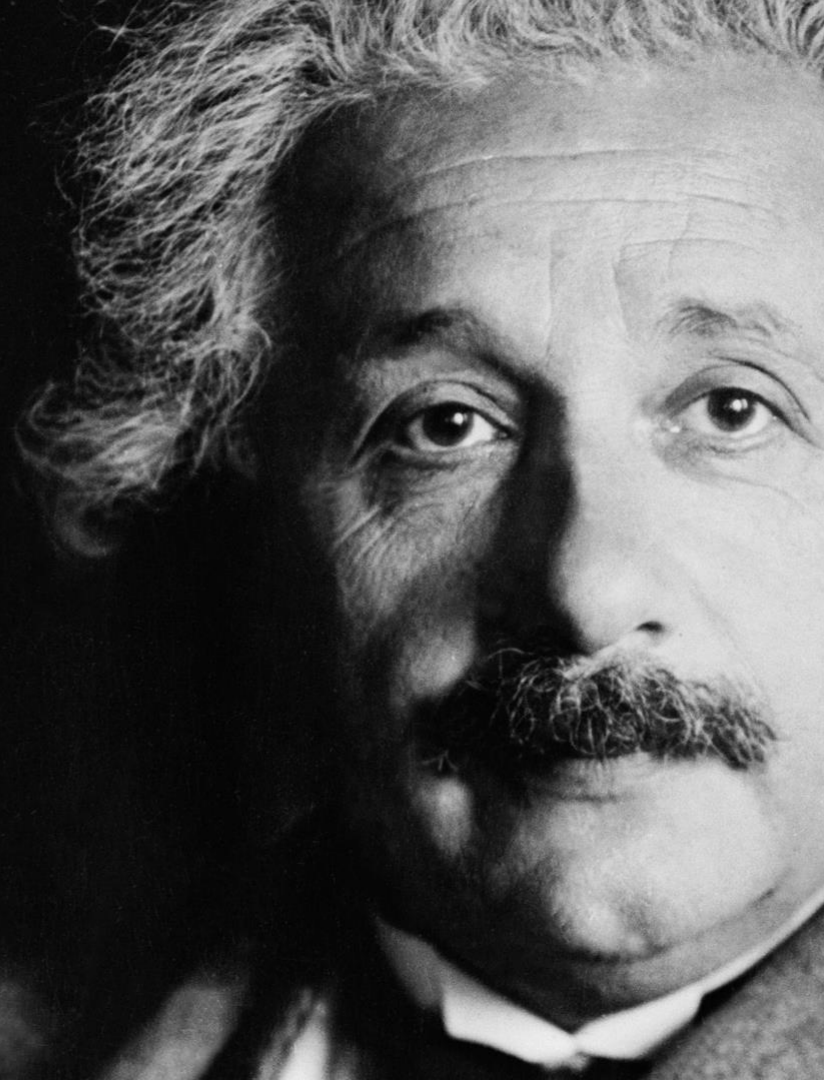
... and you are?

- Senior Application Security Engineer
Cisco Critical Business Security Services
- 15 years at Cisco
SCM, middleware, data center operations, DevOps, R&I
- CISSP license #517307
- US Patent #8732294 Method and System for
Managing Configuration Management
Environment

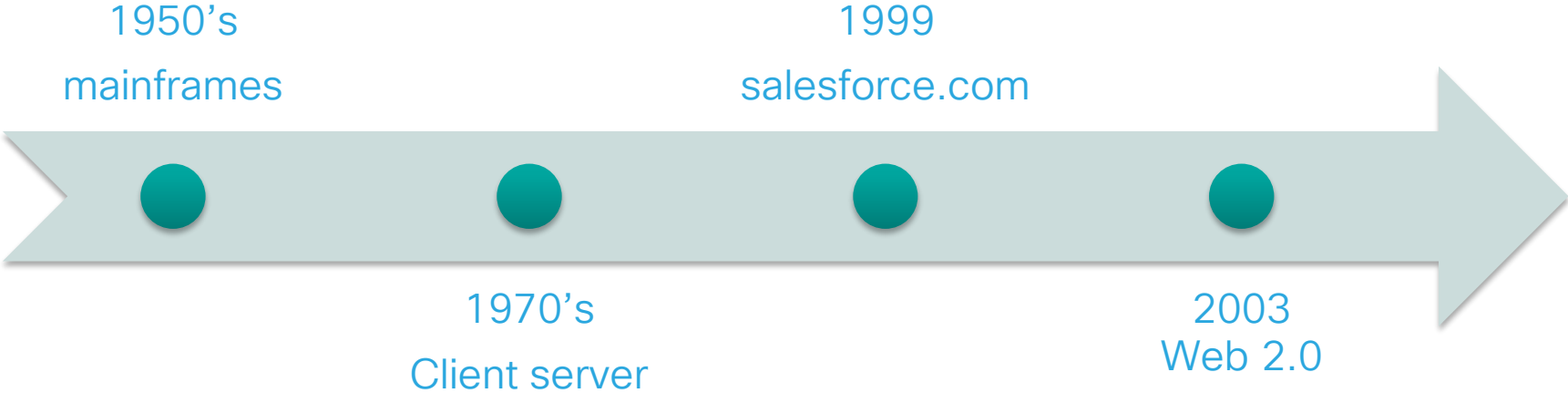


Explain it to your mom

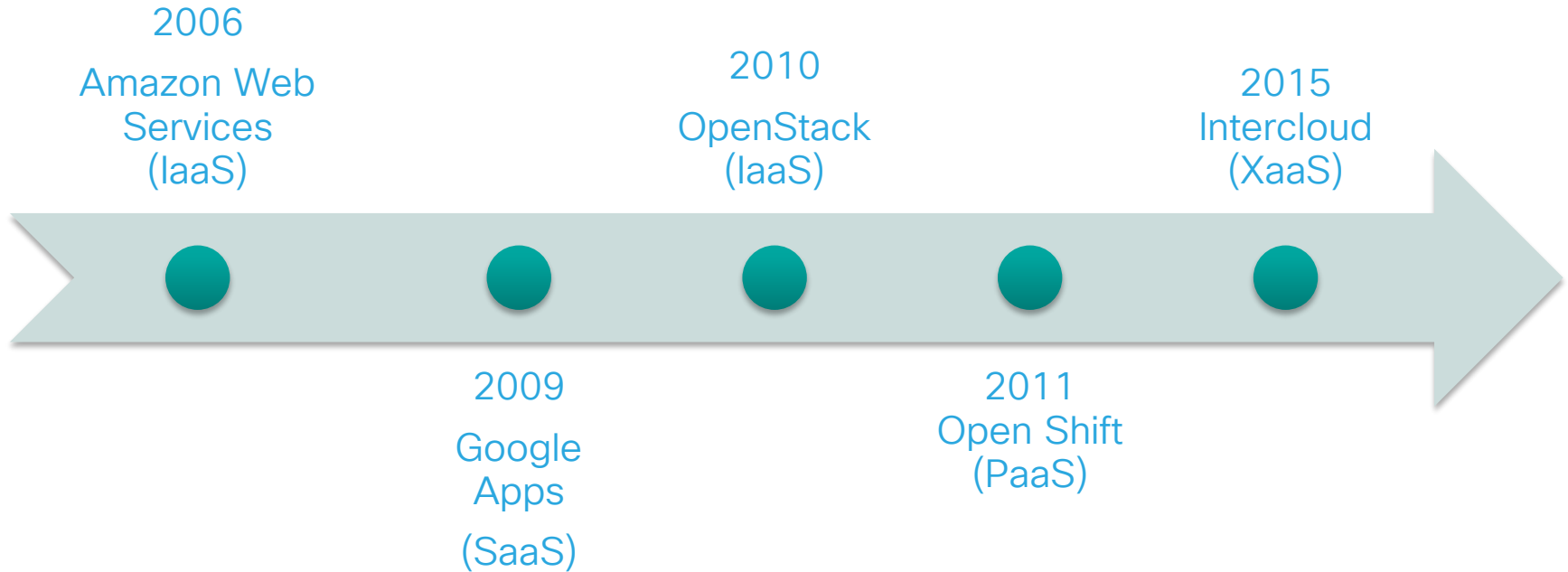
If you cant explain
something simply,
you don't understand it
well enough



Cloud Computing Milestones



Cloud Computing Milestones (continued)



What is the Cloud?

“I can’t think of anything that isn’t cloud computing with all of these announcements. ... Maybe I’m an idiot, but I have no idea what anyone is talking about. What is it? It’s complete gibberish. It’s insane. When is this idiocy going to stop?”

– *Larry Ellison, chairman, Oracle*



What is the cloud?

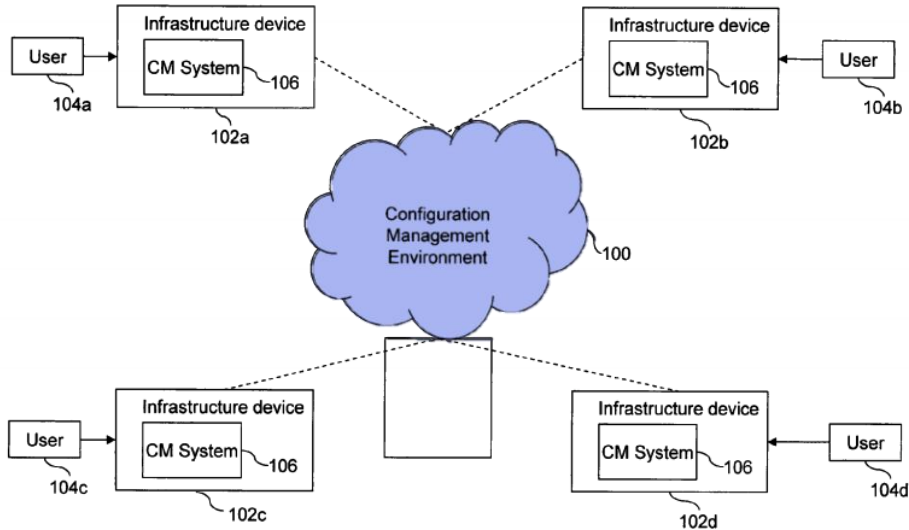


FIG. 1

The cloud is:

Where I put what I don't want to manage or even think about

What is the cloud?

Renting
someone else's
computer.

Cloud Computing Context

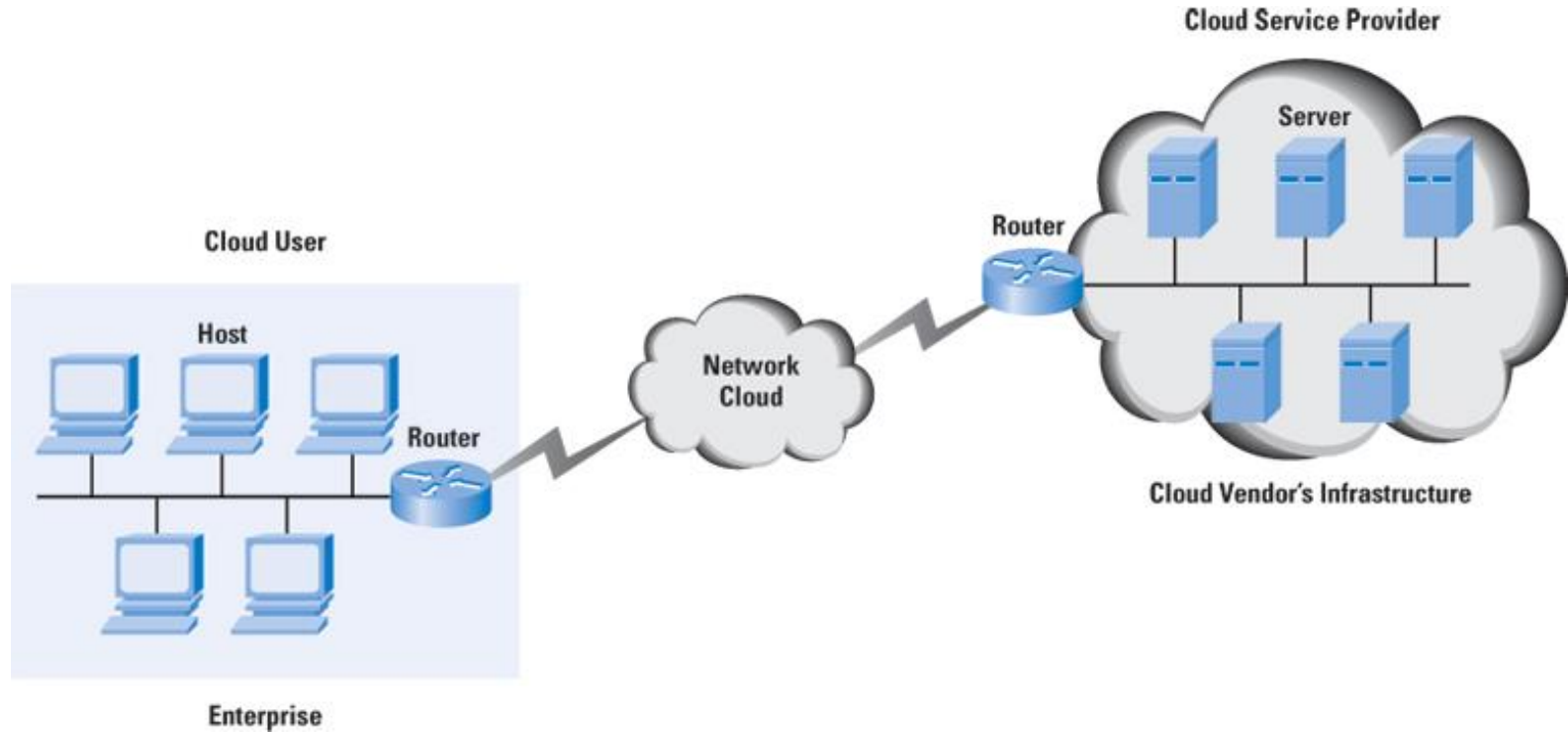


Image Credit: T. Sridhar

Why the cloud?

- The cloud is more reliable
- The cloud remembers to backup
- The cloud is (theoretically) infinite
- The (public) cloud is green
- The clouds enables collaboration
- The cloud is less costly

Separation of Responsibilities

On-Premises

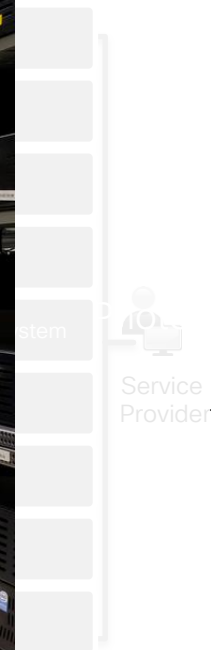
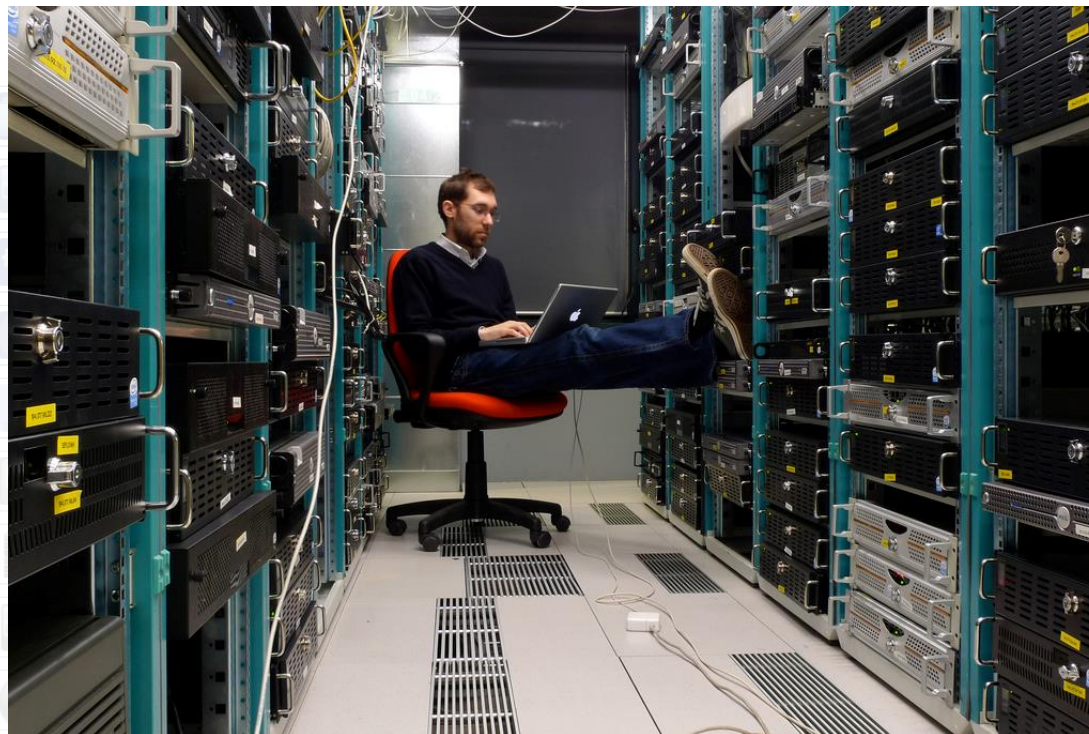
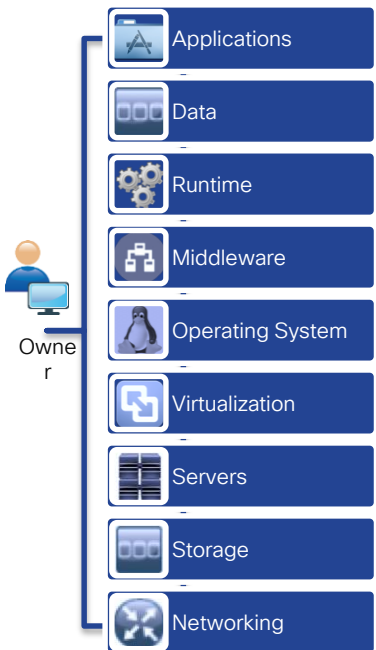


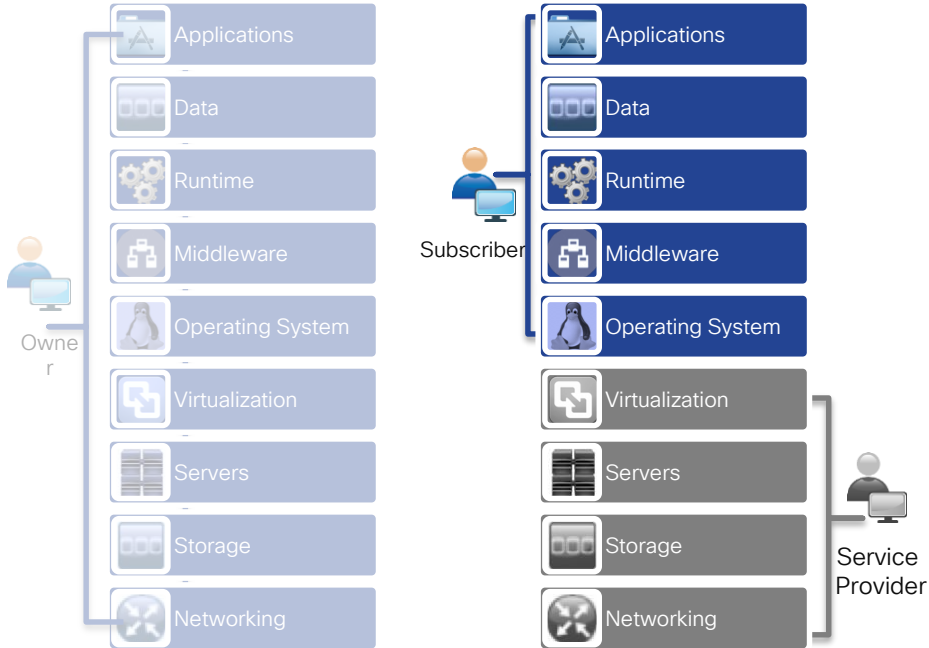
Photo: Leonardo Rizzi

Separation of Responsibilities

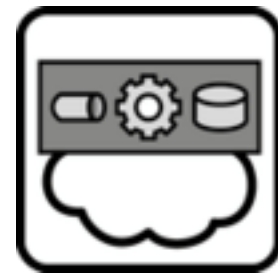


On-Premises

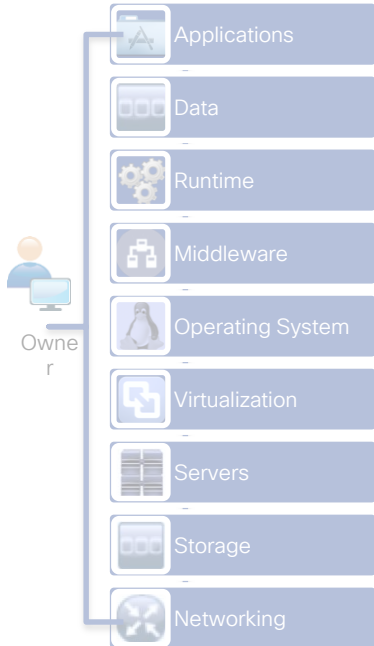
IaaS



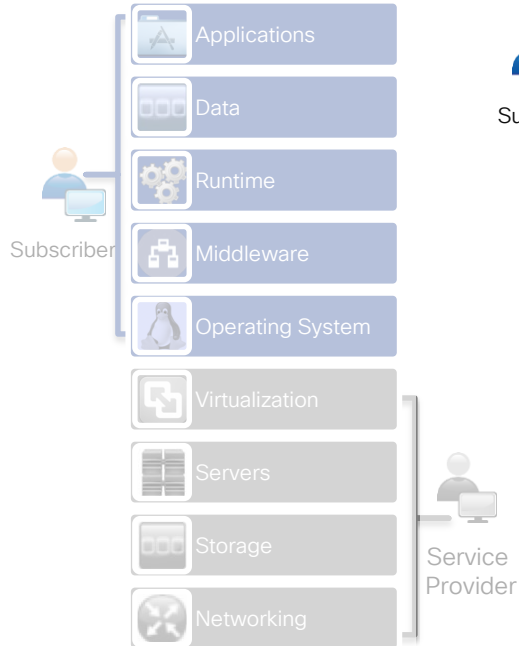
Separation of Responsibilities



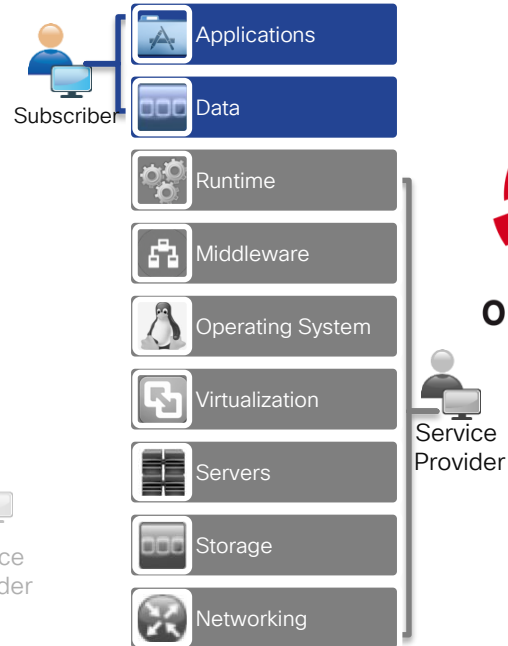
On-Premises



IaaS



PaaS



OPENSIFT



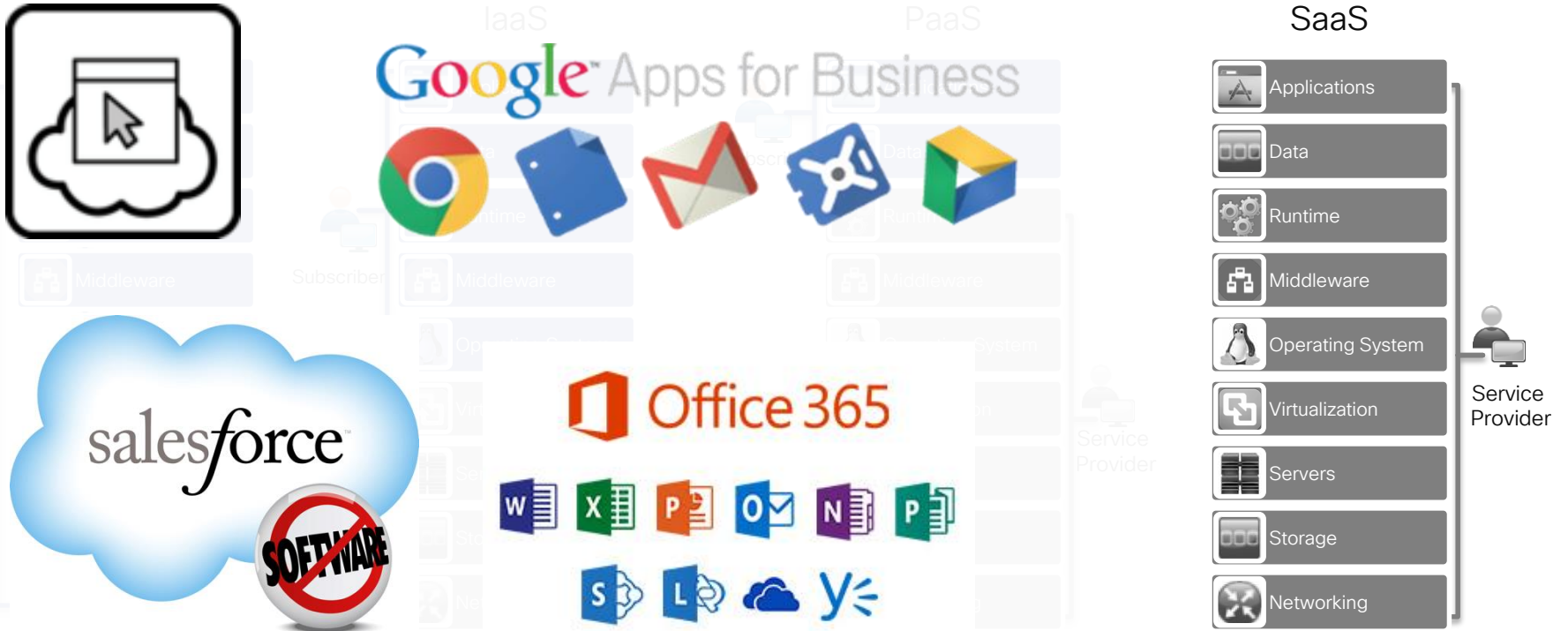
Google
App Engine



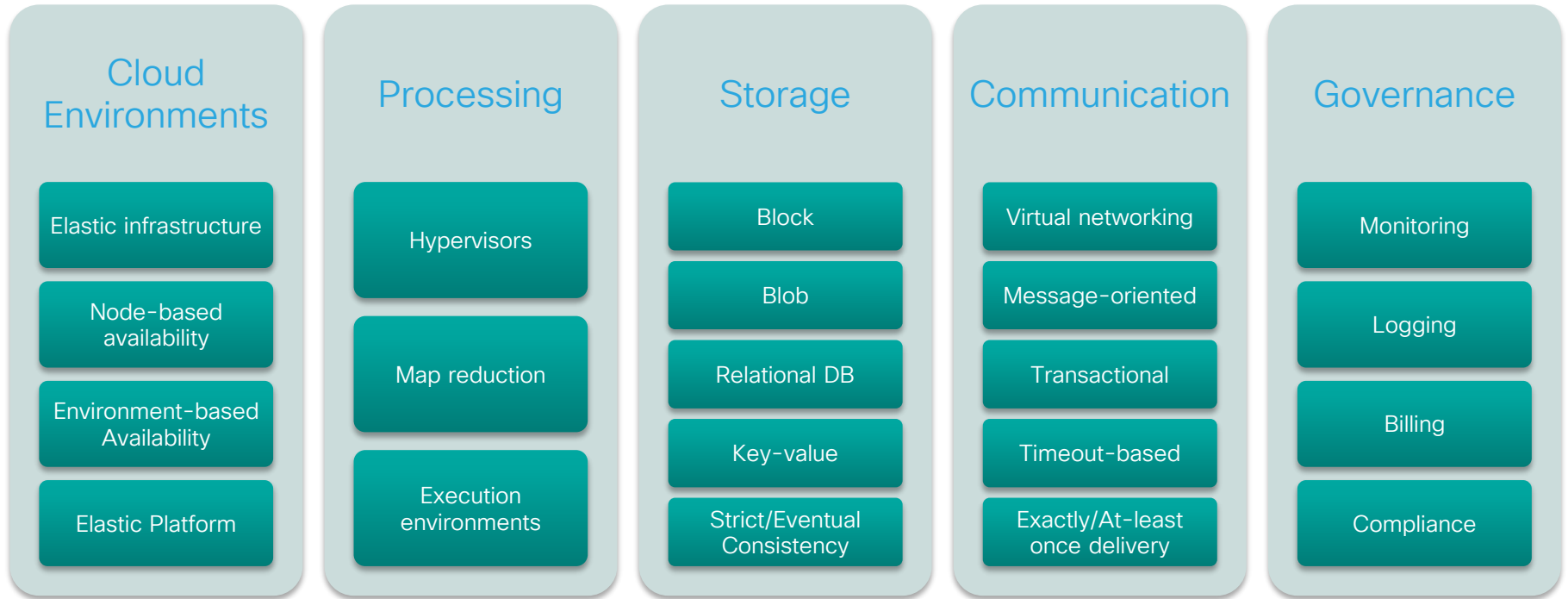
Service
Provider



Separation of Responsibilities

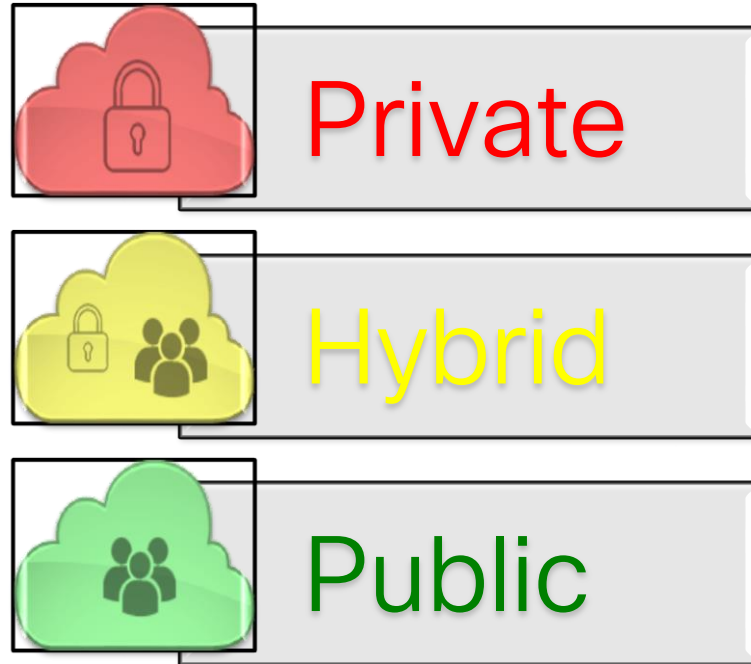
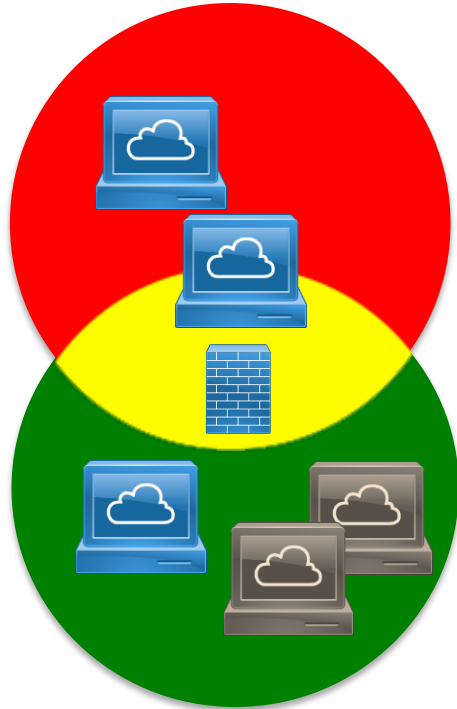


It's not just point and click

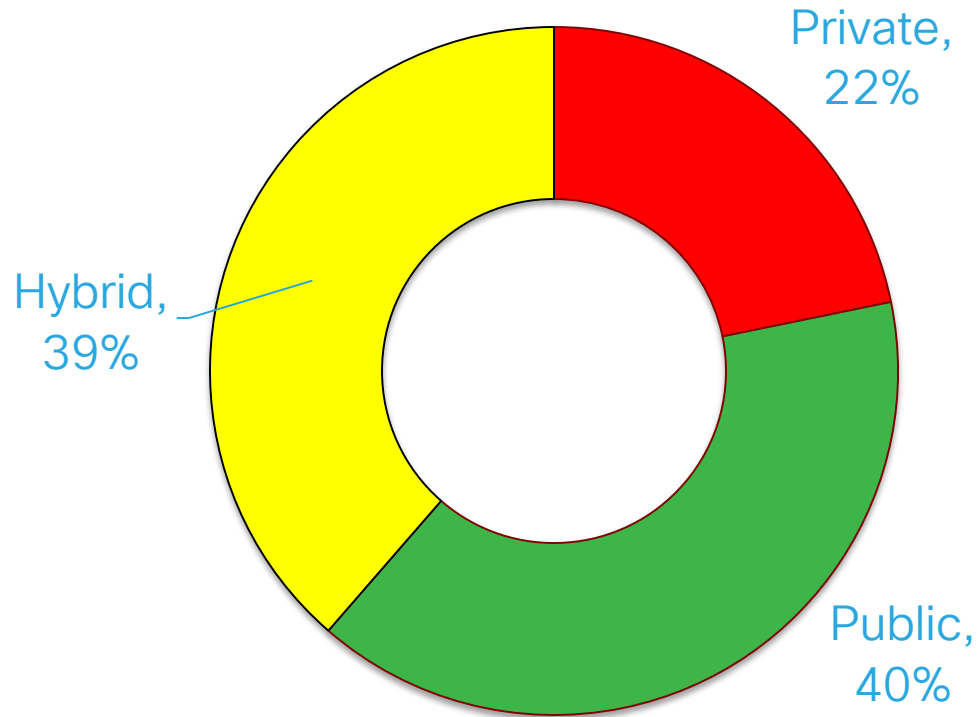


Source Fehling, Leymann

Types of clouds



Types of Clouds



Source: Caitlin White, [TechTarget](#), Dec 2013

The Intercloud

- Problem: Each cloud has physical limitations (geography, resources, etc.)
- Solution: A cloud of clouds!



Image Credit: T. Sridhar

What about security?

Coming December 10
"Security in the Cloud"

Standards compliance



Balancing the CIA Triad



Questions?

- Cloud Computing *National Institute of Standards and Technology:*
<http://www.nist.gov/itl/cloud/>

- Cloud Computing Patterns - *Arista*
<http://www.cloudcomputingpatterns.org/>

- Virtual Networking Concepts, *VMWare*
http://www.vmware.com/files/pdf/virtual_networking_concepts.pdf

Cloud Computing Patterns, Fundamentals to Design, Build, and Manage Cloud Applications
by Fehling, Leymann, Springer Publishing 2014, ISBN 978-3-7091-1567-1



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