

State of the Cloud Report



2015

BESSEMER
VENTURE PARTNERS

Byron Deeter



www.bvp.com/cloud

 @bdeeter

AGENDA

- State of the Cloud Industry: *Where are we today?*
- Metrics that matter: How are we doing?
- The outlook ahead: What does it mean for me as a cloud CEO?



WE'VE HAD SOME SKEPTICS ABOUT CLOUD COMPUTING THROUGH THE YEARS...



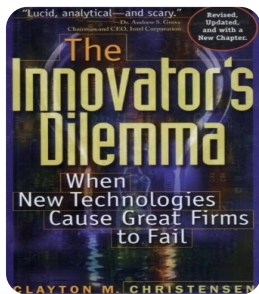
“Water Vapor” & “Nonsense”



“Mice Nuts”



“It will be gone in two years”



The Innovator's Dilemma

=



Vacation time

THEN...

2008 - Top 10 Public Cloud Companies

(\$ in mm)

Count	Company	MarketCap
1	Salesforce	\$7,404
2	Netsuite	\$2,332
3	Concur	\$1,590
4	DealerTrack	\$1,317
5	blackbaud	\$1,247
6	AthenaHealth	\$1,161
7	Ariba	\$805
8	The Ultimate Software	\$777
9	Taleo	\$749
10	Constant Contact	\$594

<\$25bn

Total Cloud Market Cap



THEN...

2008 - Top 10 Public Cloud Companies

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<\$25bn

Total Cloud Market Cap

...NOW!

Today - Top 10 Public Cloud Companies

(\$ in mm)

Count	Company	MarketCap
1	Salesforce	\$50,537
2	LinkedIn	\$26,285
3	Workday	\$16,915
4	ServiceNow	\$13,517
5	NetSuite	\$7,728
6	The Ultimate Software Group	\$4,924
7	Athenahealth	\$4,819
8	Veeva	\$4,186
9	Medidata Solutions	\$3,302
10	Proofpoint	\$2,847

~\$180bn

Total Cloud Market Cap

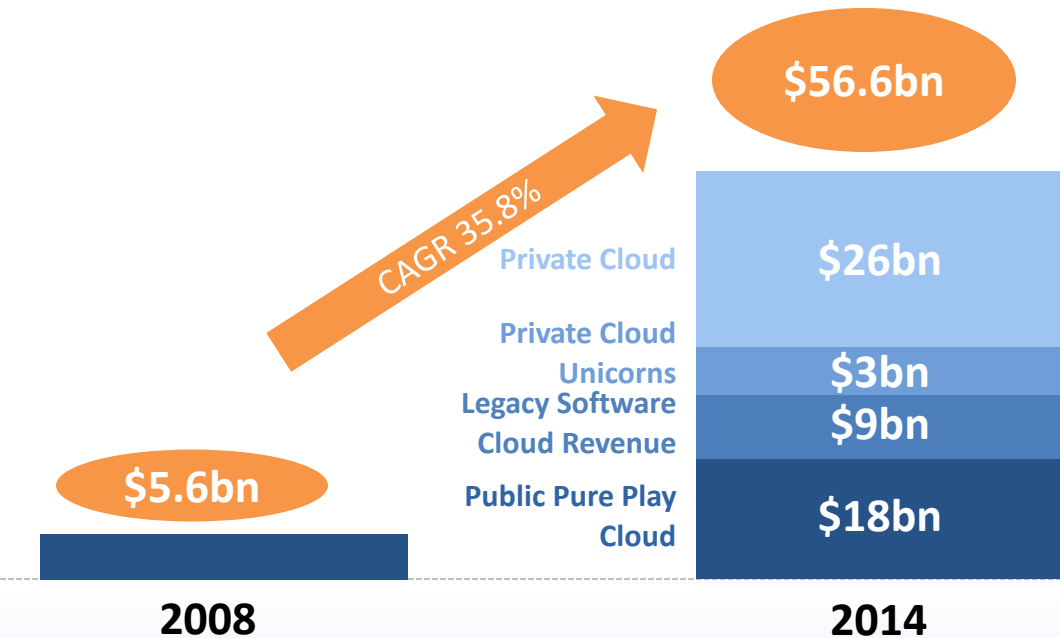


CLOUD REVENUE



Source: Market size IDC, 2014. Public company data per CapIQ. Legacy software cloud revenue per AppsRunTheCloud survey on 2013 revenue and assumed growth cut in half for 2014. Private cloud unicorn data assuming average 20x rev multiple. 2008 market size from Forrester.

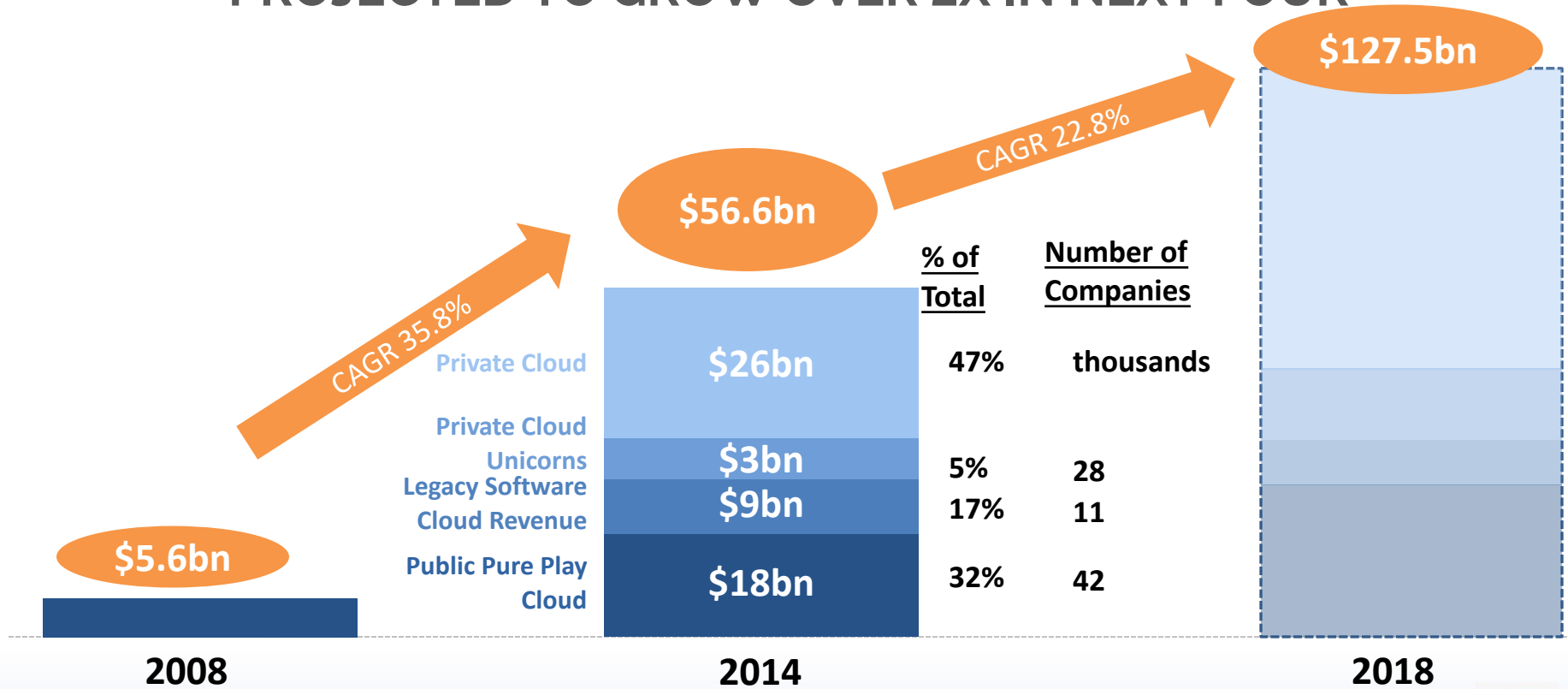
CLOUD REVENUE UP 10X IN LAST SIX YEARS



Source: Market size IDC, 2014. Public company data per CapIQ. Legacy software cloud revenue per AppsRunTheCloud survey on 2013 revenue and assumed half'd growth for 2014. Private cloud unicorn data assuming average 20x rev multiple. 2008 market size from Forrester.



CLOUD REVENUE UP 10X IN LAST SIX YEARS PROJECTED TO GROW OVER 2X IN NEXT FOUR

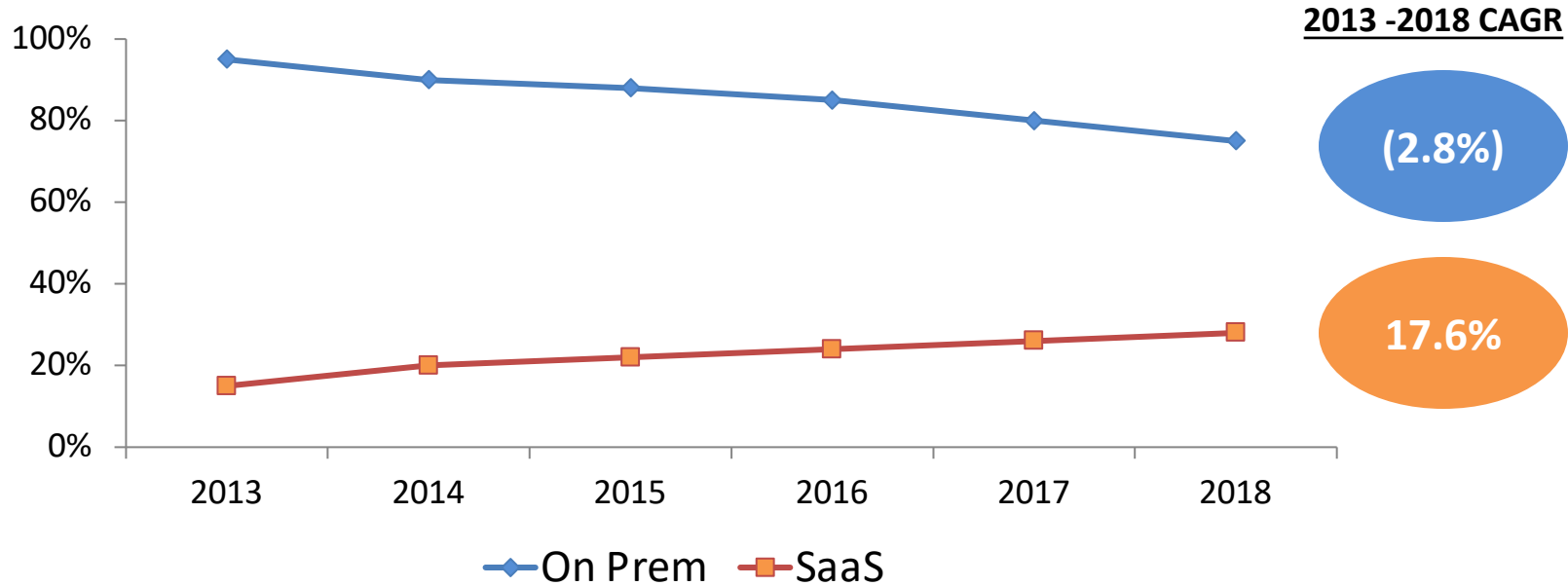


Source: Market size IDC, 2014. Public company data per CapIQ. Legacy software cloud revenue per AppsRunTheCloud survey on 2013 revenue and assumed half'd growth for 2014. Private cloud unicorn data assuming average 20x rev multiple. 2008 market size from Forrester.



SAAS APPROACHING 30% OF APPLICATION SPEND

SaaS vs On Prem Penetration into Total Application Spend



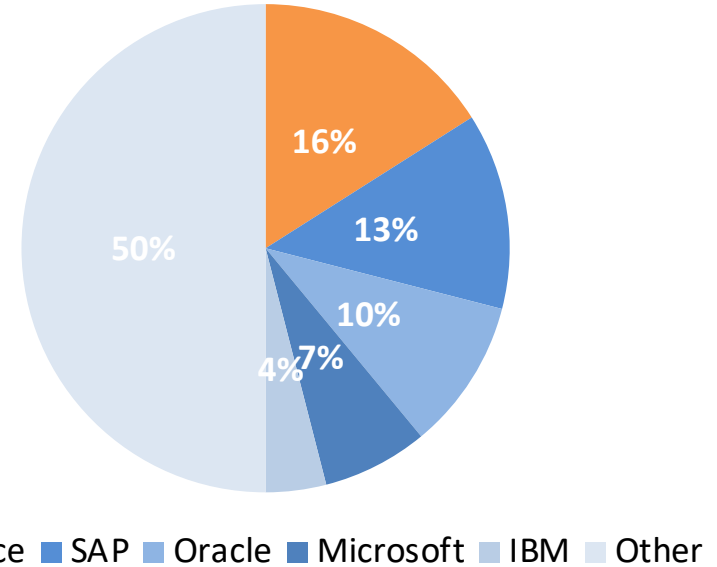
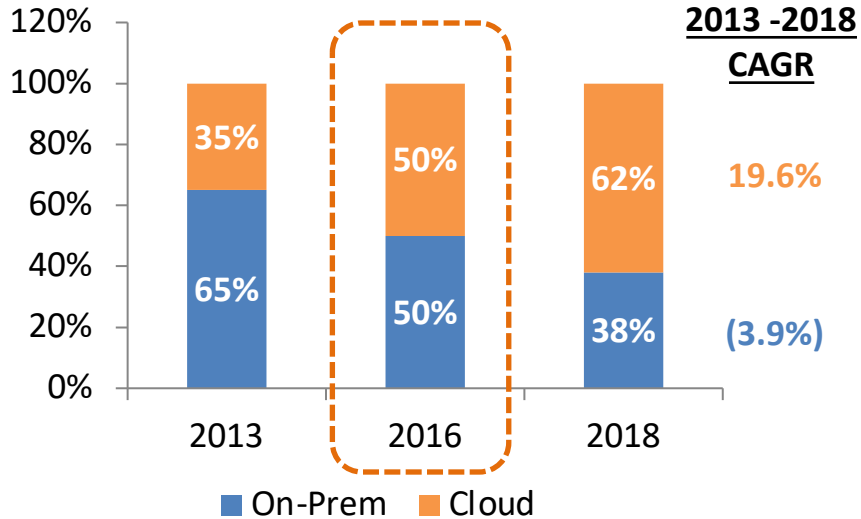
Source: IDC, Worldwide Enterprise Application Spend by SaaS and On-Prem, 2013-2018.



THE FIRST CATEGORY HAS FALLEN: CLOUD CRM IS AT A TIPPING POINT

Over 50% of CRM revenue will be cloud In 2016...

...and Salesforce is already the market share leader!



2015 CRM BATTLE - CLOUD 1 : ON PREM 0



WINNER!



WE'RE JUST SEEING THE TIP OF THE ICEBERG!



42 Public Pure Play
Cloud Companies



28 Private Cloud
Unicorns

thousands Existing Private Cloud
Companies



New Cloud Companies Yet To Be
Formed!

*Only 3 % Penetrated
in IT Spend*

Source: Gartner, estimates per 2013. Cloud spend of \$39bn includes SaaS, PaaS and IaaS. Overall IT spend of \$1.428tn includes Data Center Systems, Enterprise Software and IT Services

300 UP AND COMERS IDENTIFIED IN THE CLOUDSCAPE...

The BVP Cloudscape
Top 300 Privately Held Cloud Companies

Business Users

- Marketing:** action, HubsSpot, bize, AGILOKE, gigya, ensighten, SurveyMonkey, bloomreach, male street hub, Optimizely, Infusionsoft, BRIGHTEdge, INVOKA, Owliar, vidyard, CLICOTALE, KENHOD, yodle, kopost, SAALTHTU, NewCred, MOZ, MozMetrics, TRAVEN, Lattice, hootsuite, DIBALIE, DoubleClick, unbounce, doubleclick, REELIVERYASSET, Tealium, DYNAMIC FIELD, Spredfast, jonjon, sprinklr, infer, Zuberance, MailChimp, Simply Measured
- Sales:** clearslide, insidesales.com, xactly, toutapp, ConnectAndSell, clari, hearst, social, hoopla, RelateIQ, WorkingBox, nrmble, SW, Steelwedge, insightly, InsideView, Yesware, BOXER, SUGARCRM, pipedrive, seligy, badgeville, CROSBURY
- Service & Support:** Intercom, TOA, NEWVOICE MEDIA, gainsight, Lithium, TOTANGO, liveops, MEDALLIA, Preact, BLUENOSE, satisfaction, SERVICE MBOX, uservoice
- Finance:** Adaptive insights, payroll, anaplan, FROYDOON, aria, hostanalytics, kyriba, Avalara, Chargeify, Intacct, BILL.com, BLACKLINE, coupa, tidemark, SARSU, UORA, Expensify, wave, FINANCIAL FORCE.COM, Recurly
- HR:** HireVue, entelo, SmartRecruiters, Parklet, LEVER, ZipRecruiter, greenhouse, evolvi, bambooHR, workable, Jobvite, sumtotal, SilkRoad, PEOPLEMATTER, REPLICON, jobscience, Resumator, Avature, Maxwell | Health.
- Vertical:**
 - Healthcare:** DocuTap, ClearCare, Welltok, hcl, omado, comprehend, WebPT, CareCloud, TigerText, MedAnalytics, evantier, PointClickCare, GRAND ROUNDS, PROPELLER HEALTH, navicure, practicefusion
 - Education:** KNEXTON, INSTRUCTURE, edemy, BETTERLESSON, Vericificint, KINERA, Desire2Learn, edmodo, top school, BrightBytes, HISTORY, U, greenbox, U, schoolzilla, coursera
 - Real Estate:** HIGHTOWER, 42 Floors, Rentlytics, YARDI, PROCORE, VIEW THE SPACE, ppfolo, Rainmaker, propertybase, Gafney Technologies
 - Other:** Anagua, ooxtime, MINDBOON, clio, inbino, REI, ONESTOP, socialtables, Kenandy, LRPLY, Bigcommerce, Socrata, ROCKET.LAWYER, JUDICATA, StyleScat, PLEX, nology

Collaboration: box, EVERNOTE, 37signals, Alfresco, DESKWAY, clarizen, Atlassian, ActTask, HIGHTAIL, huddle, Redbooth, sendthisfile, EGNYTE, LiquidPlanner, SugarSync, BUBBLE, WatchDog

BI / Analytics: Domo, Chartbeat, FLURRY, birst, INSIGHTS SQUARED, UPSIGHT, SUMAL, pentaho, GOOD DATA, mixpanel, Datameer, Localytics, KISSmetrics, kognitio, looker, bime, PivotLink, SpatialKey, visier, Rosslyn Analytics

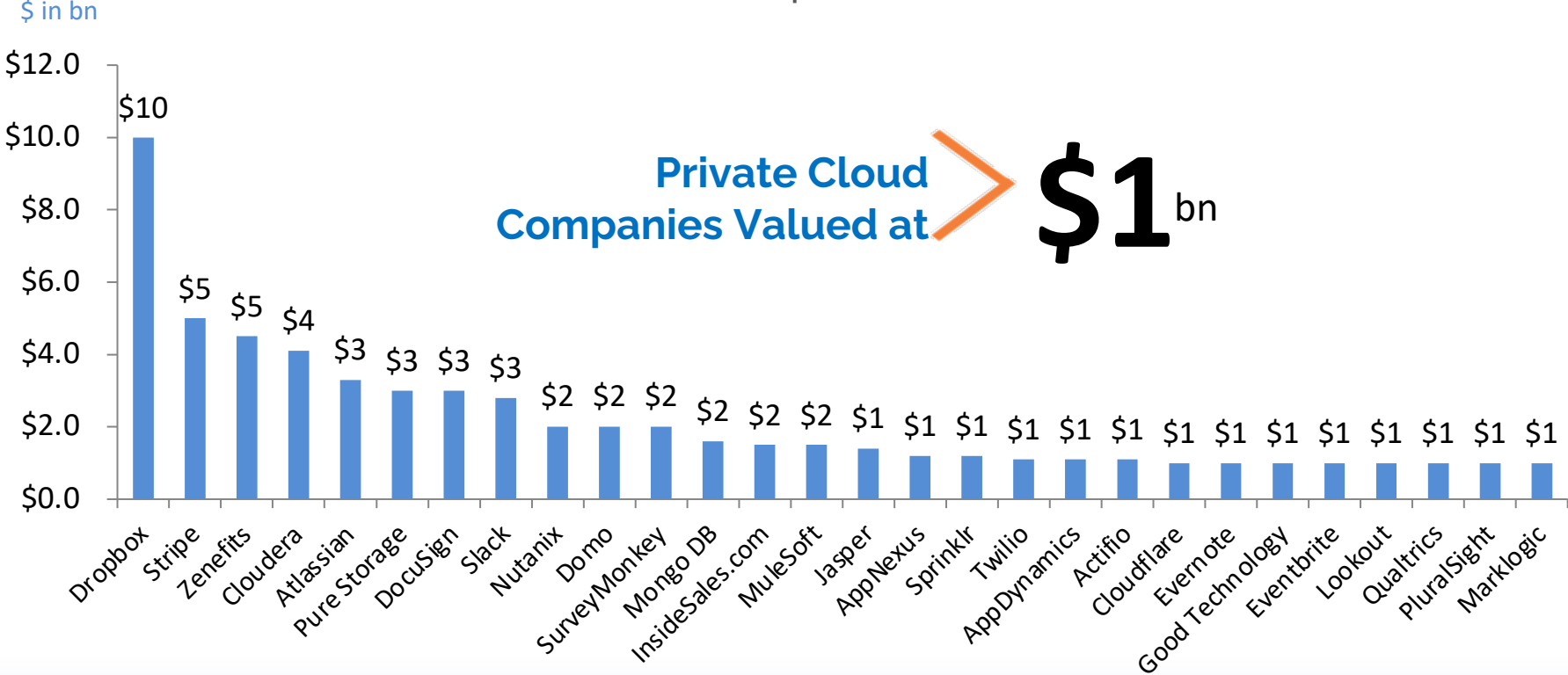
Developers: twilio, zapier, SendGrid, PRGEMOUTH, Skypat, RIGHTSCALE, Cloudius, ravello, sumologic, IID, CloudLock, defense.net, PPM, CrowdFlower, Iron.io, cloudera, VectorOps, APPERIAN, bunoby, MarkLogic, wandera, Auth0, distill, CipherCloud, ppenda, NITROUS, PICLOUD, ACQUIA, Hootworks, actifo, Bluejeans, APPTIO, cloudshape, snaplogic, AXICIENT, simplified, anelagin, Cloudflare, WhiteHat, stripe, PANTHEON, APPDYNAMICS, Acronis, Zerto, GIGASPACE, MuleSoft, Vaultify, RAPID7, Veracode, Lookout, CloudBees, Engine Yard, CRITTERISM, abiauo, BMC, Scalaplex, Thinking Phone Networks, circleci, Sauce Labs, SOASTA, Veeam, Jotent, MobileIron, loggly, AUTOMATTIC, DigitalOcean, linode.com, nebula, PaaS, IaaS

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Download a digital copy or nominate your company: www.bvp.com/cloud



...28 OF WHICH HAVE GROWN INTO PRIVATE CLOUD \$1B+ BUSINESSES ...



Source: Valuation estimates based on publically reported press releases.



THE CLOUD INDUSTRY HAS OUTPERFORMED

BVP Cloud Index Performance In the Last 3 Years

Growth

~160%

69% above the Nasdaq in same time period

Exits

32

Cloud IPOs

9

Public cloud acquisitions totaling \$18.8bn in value

Market Cap

+\$140bn

Of new market cap: from \$40bn to ~\$180bn

BVP Has Funded...

10

Representing

IPOs in BVP Cloud Index

~\$40bn

Representing

Public Cloud Market Cap

~1 / 4

Of the 42 Public Cloud Companies

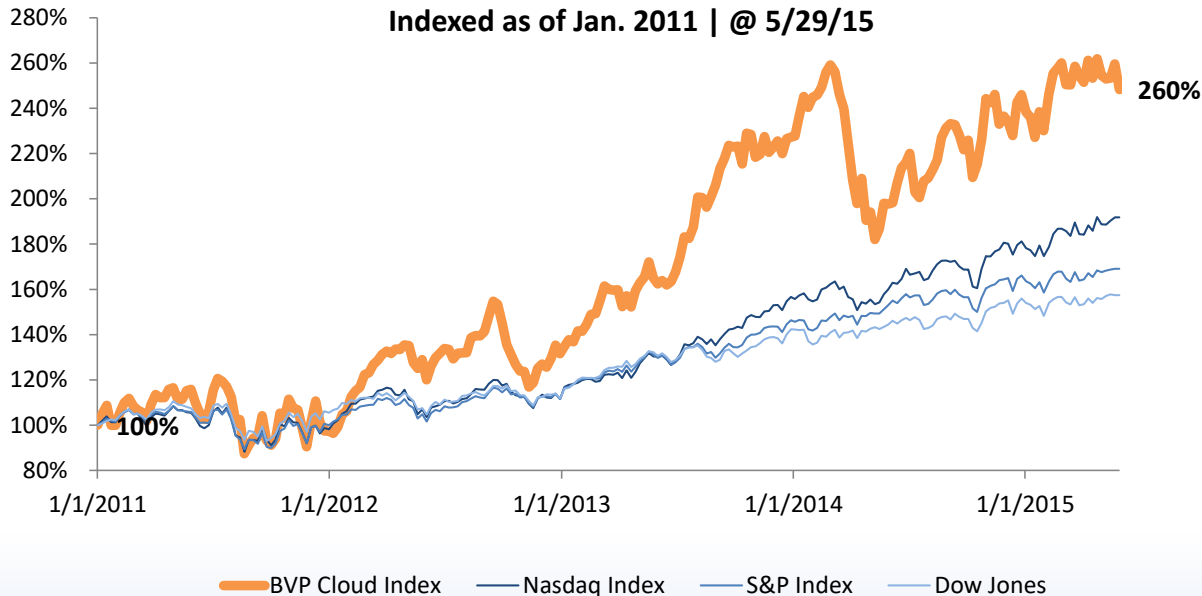


STRONG BVP CLOUD INDEX PERFORMANCE IN LAST YEAR

THE

BVP Cloud Computing Index

42 Publicly Traded Cloud Companies
Indexed as of Jan. 2011 | @ 5/29/15



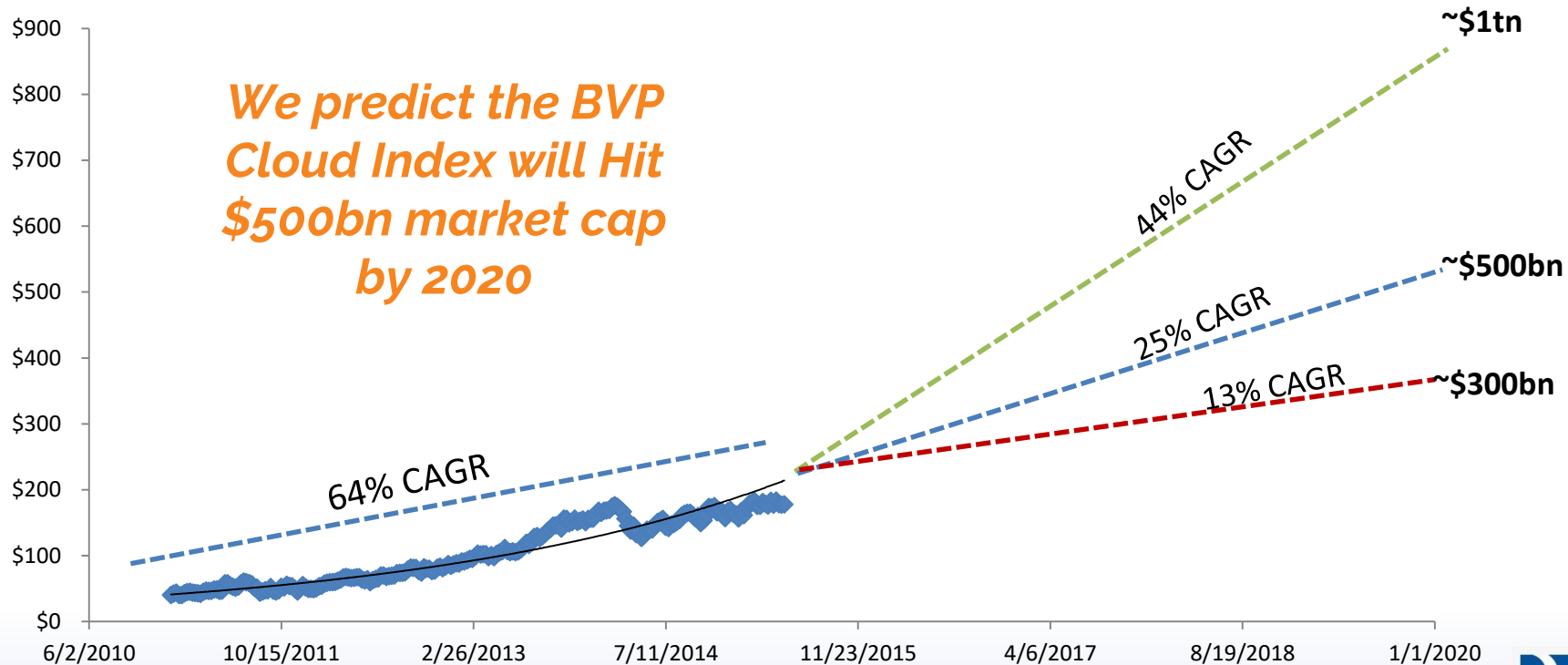
*Welcome Shopify to
the BVP Cloud Index!*

*42 Pure Play Public
Cloud companies*



BVP CLOUD INDEX EXPECTED TO 3X IN 5 YEARS

Public Cloud Market Cap



AGENDA

- State of the Cloud Industry: Where are we today?
- Metrics that matter: How are we doing?
- The outlook ahead: What does it mean for me as a cloud CEO?



PROFITS & CASH FLOW ARE ULTIMATELY KING

For All Types of Businesses...



Oil Producer



Retailer



Cloud Company

SIX KEY CLOUD VALUATION METRICS

ARR

% ARR Growth

Retention / Upsell

CAC Payback

% Gross Margin

Burn Rate / FCF

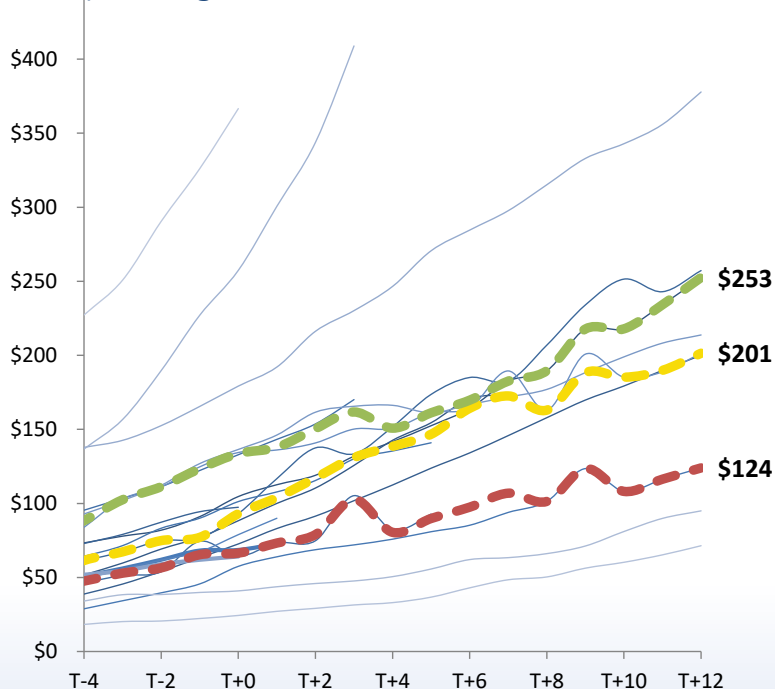


ARR AND ARR GROWTH ARE BEST LEADING INDICATORS

Inevitably growth decelerates with scale

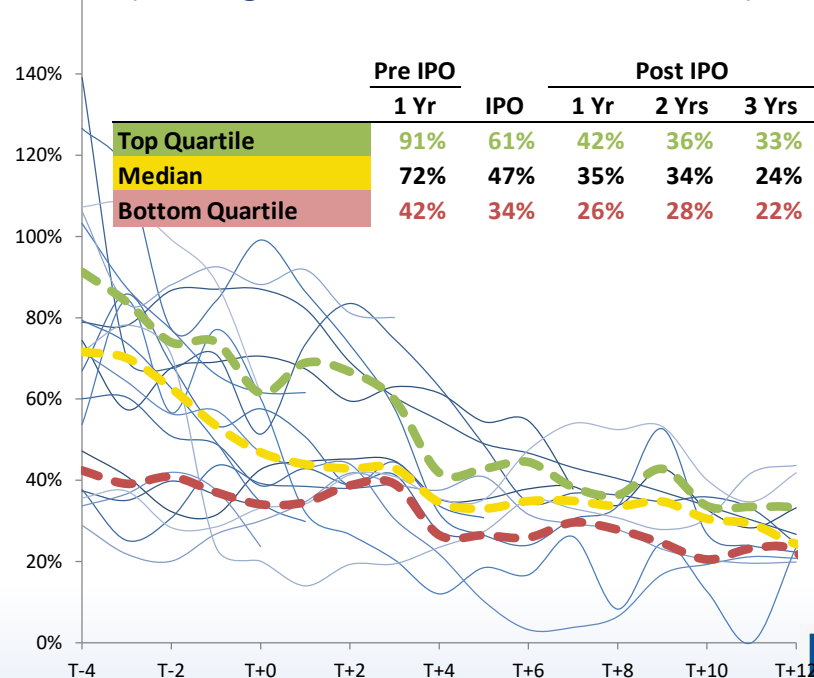
Public Cloud Company Runrate Revenue

(Starting From Four Quarters Prior to IPO, \$ in m)



Public Cloud Company YoY Growth

(Starting From Four Quarters Prior to IPO)

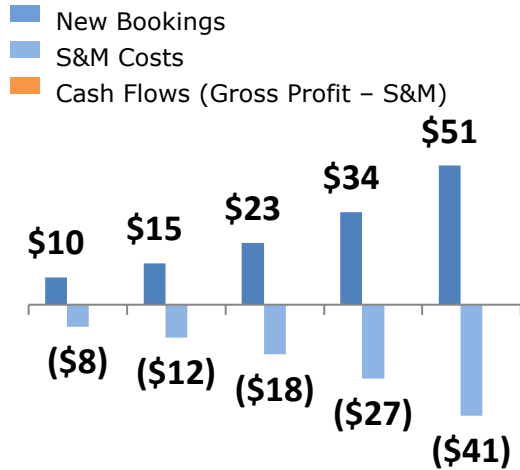


CAC PAYBACK

Resulting P&L for 3 companies growing at 50% new bookings with different CAC paybacks

1 Yr CAC Payback

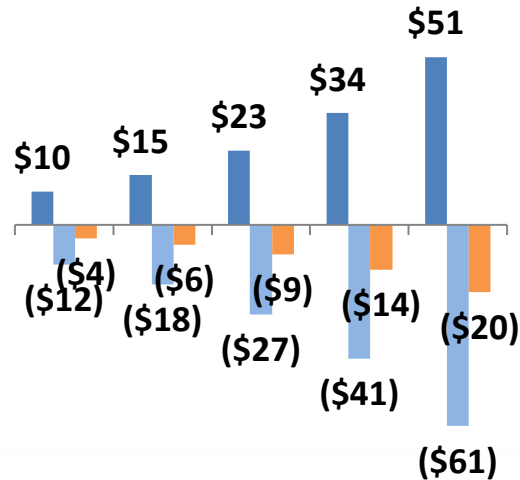
Total cash burn: \$0M



Year 1 Year 2 Year 3 Year 4 Year 5

1.5 Yr CAC Payback

Total cash burn: \$53M



Year 1 Year 2 Year 3 Year 4 Year 5

2 Yr CAC Payback

Total cash burn: \$106M

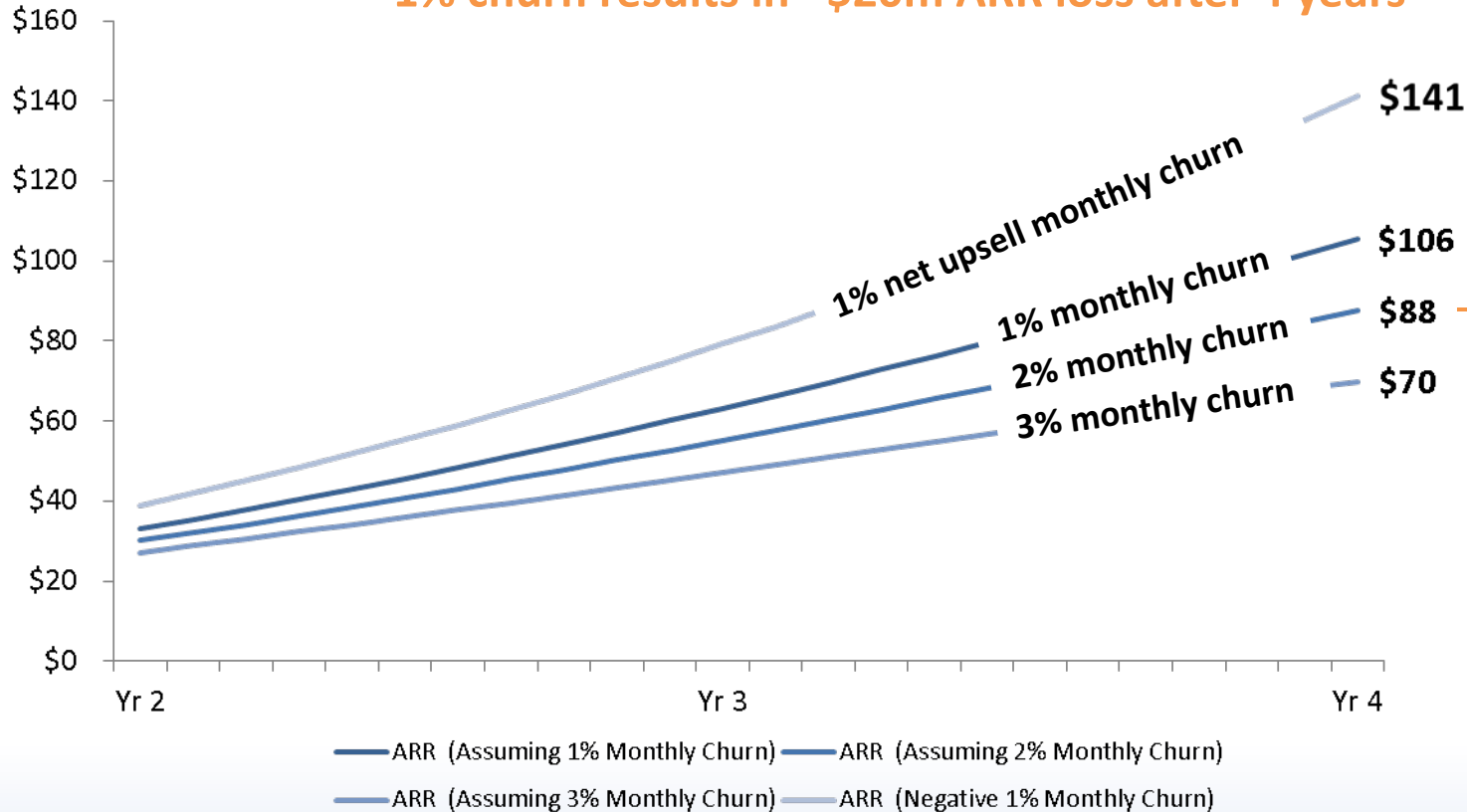


Year 1 Year 2 Year 3 Year 4 Year 5

Note: Assumed 50% growth in new bookings every year, 80% gross margin, and no other expenses.

RETENTION / UPSELL

1% churn results in ~\$20m ARR loss after 4 years



1% net upsell churn drives additional \$35mm ARR

~\$20m ARR delta between 1% and 2% monthly churn

Note: Assumes monthly new bookings increases by \$10k per month.

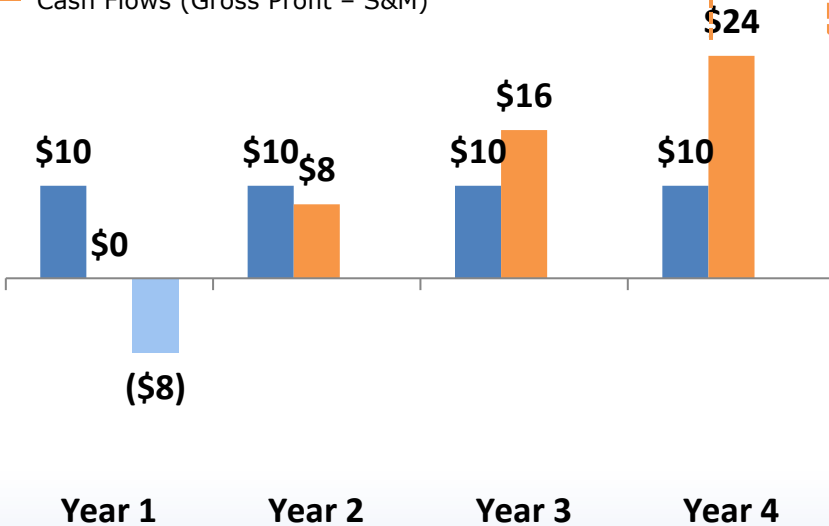
CAC PAYBACK

CAC payback and retention are inter-related - strong upsell can counteract high churn

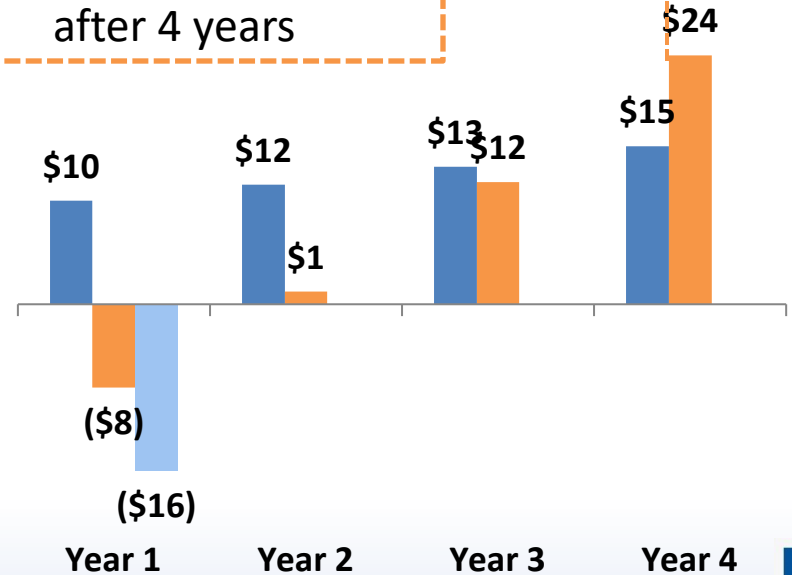
1 Yr CAC Payback, 100% Retention

2 Yr CAC Payback, 115% Retention

- Revenue
- S&M Costs
- Cash Flows (Gross Profit - S&M)



Results in same cash flow after 4 years



Note: Assumed 80% gross margin, and no other expenses.



CLOUD METRICS THAT PUBLIC AND PRIVATE INVESTORS ARE VALUING TODAY

ARR

% ARR Growth

Retention / Upsell

CAC Payback

% Gross Margin

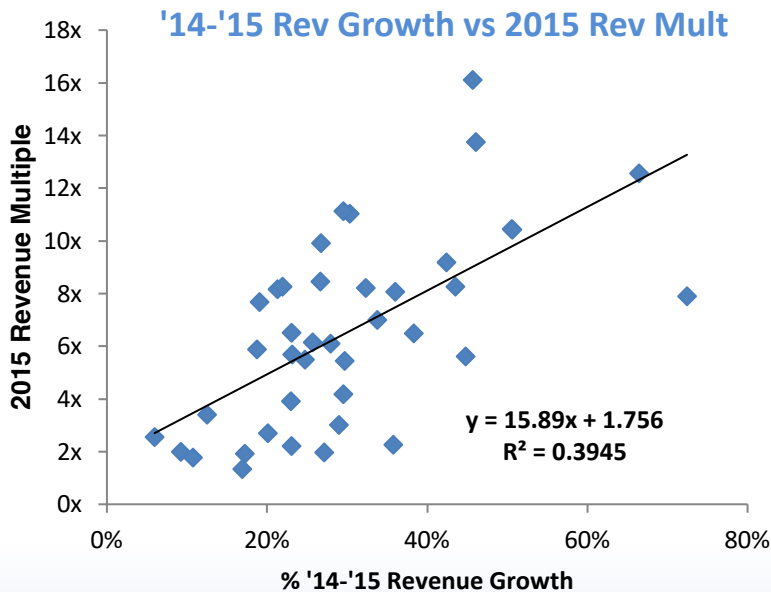
Burn Rate / FCF



GROWTH IS THE BIGGEST DRIVER OF CLOUD VALUATION

Public Cloud Companies

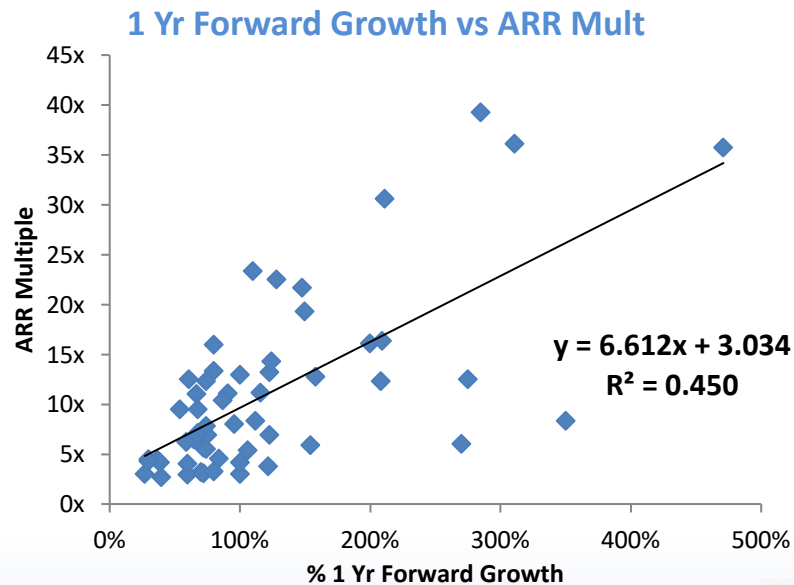
+10% Growth Results in +1.5x Rev Mult



Source: 42 companies in BVP Cloud Index as of 5/29/2015. CapIQ

Private Cloud Companies

+10% Growth Results in +0.6x Rev Mult

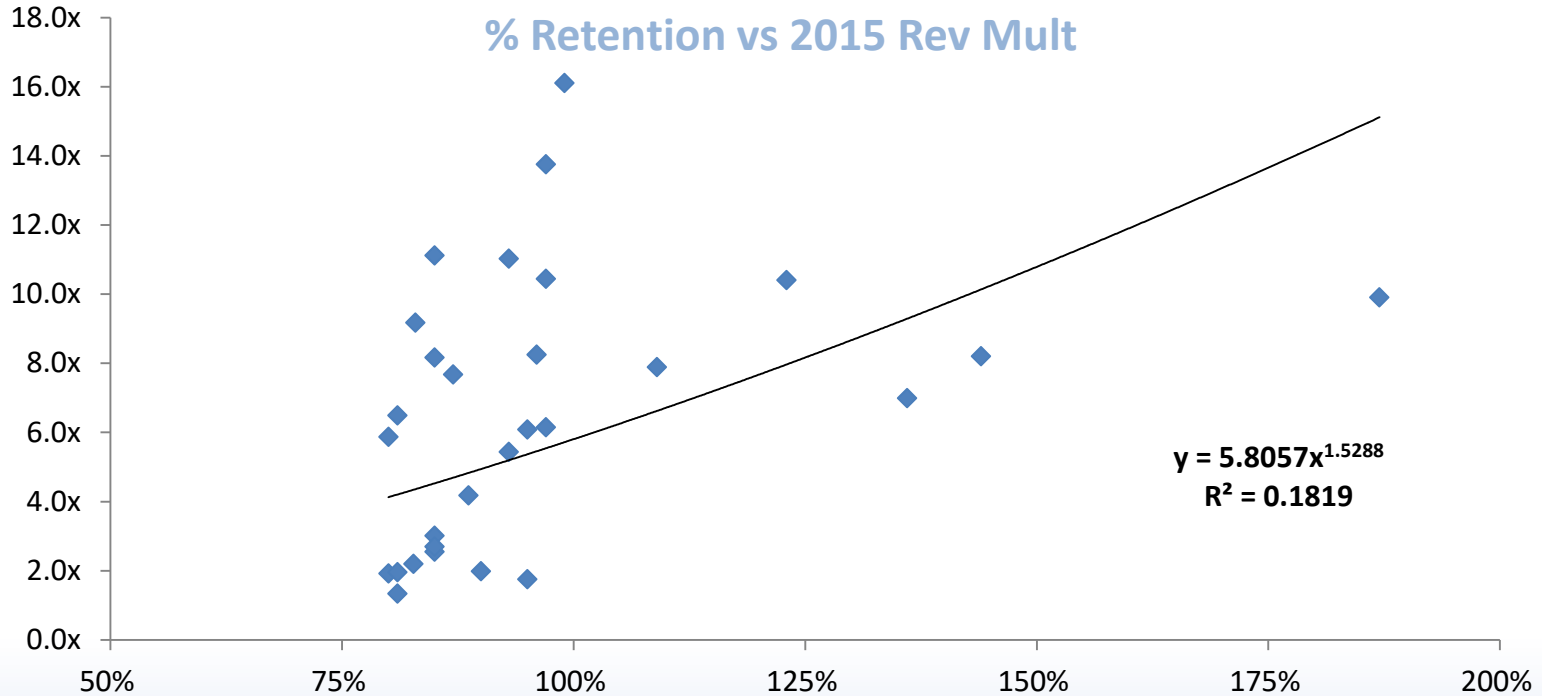


Source: 55 private company transactions



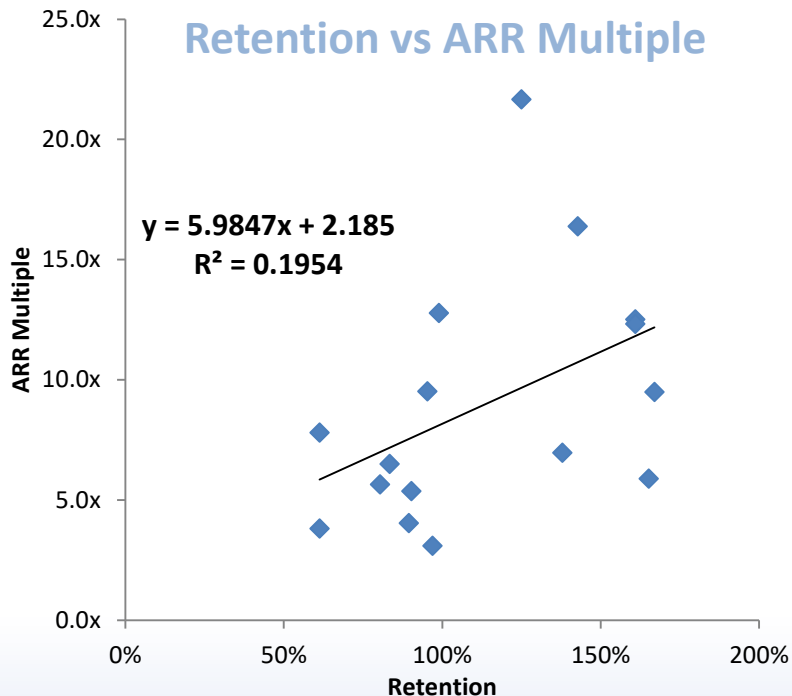
RETENTION IS TYPICALLY THE 2ND MAJOR DRIVER ON VALUATION

2015 - Public Cloud Companies

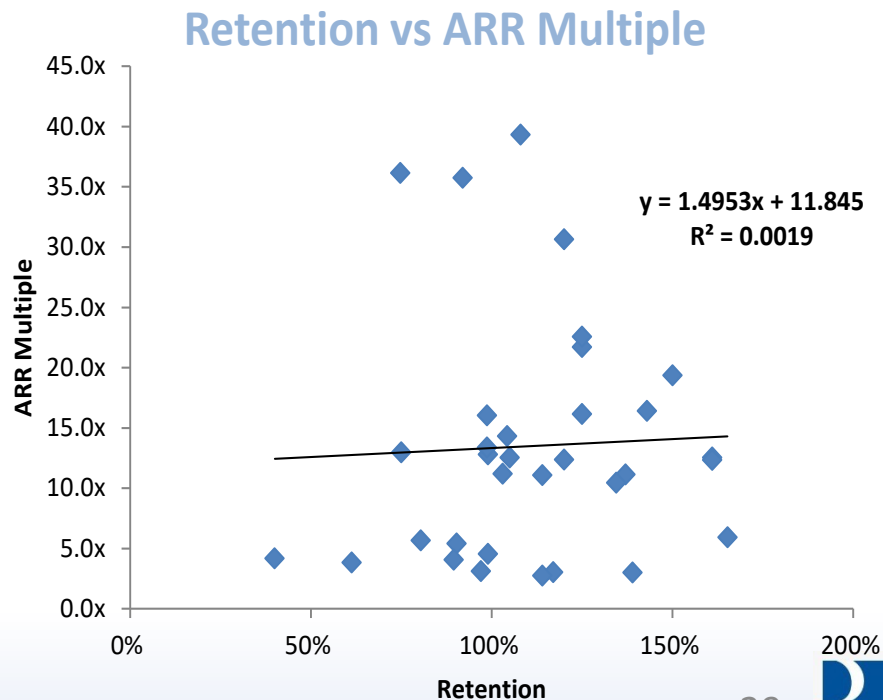


PRIVATE MARKETS ARE LESS FOCUSED ON RETENTION RATES IN CURRENT ENVIRONMENT

2013 – Private Cloud Companies



2015 – Private Cloud Companies



Source: 17 private company transactions

Source: 55 private company transactions



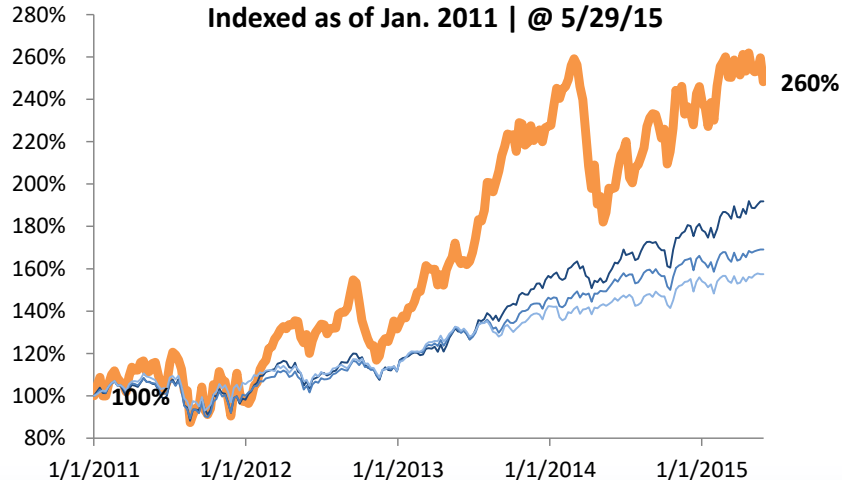
STRONG BVP CLOUD INDEX PERFORMANCE IN LAST YEAR

THE

BVP Cloud Index up ~40% in the last year...

BVP Cloud Computing Index

42 Publicly Traded Cloud Companies
Indexed as of Jan. 2011 | @ 5/29/15



— BVP Cloud Index — Nasdaq Index — S&P Index — Dow Jones

Source: 42 companies in BVP Cloud Index as of 5/29/2015. CapIQ. Legacy software includes Microsoft, IBM, Oracle, Cisco, SAP, HP, EMC, Adobe, Citrix, ADP.

NTM represents next twelve months.



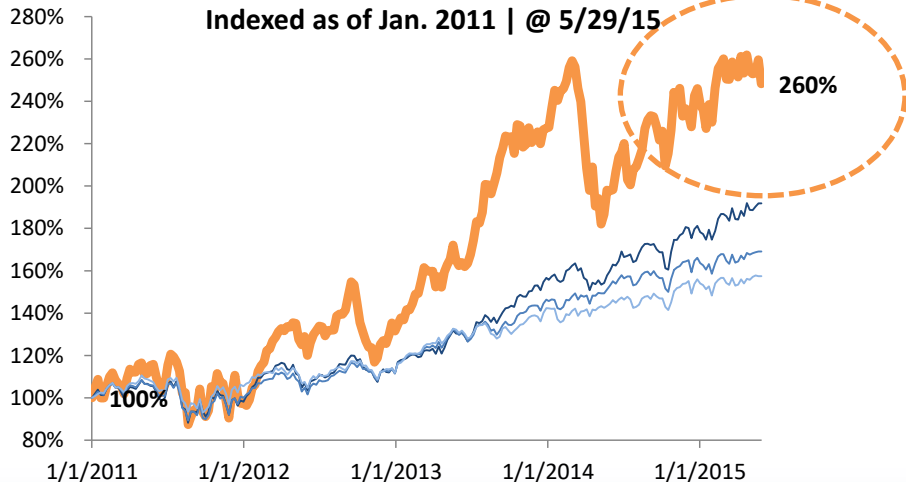
BVP CLOUD INDEX GROWTH DRIVEN FROM ORGANIC GROWTH NOT MULTIPLE EXPANSION

BVP Cloud Index up ~40% in the last year...

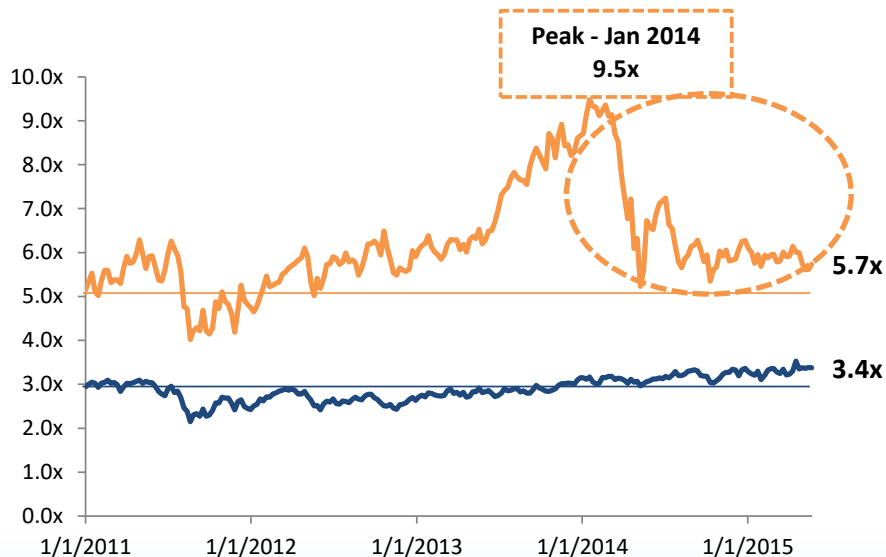
...Cloud multiples back down to historical averages

BVP Cloud Computing Index

42 Publicly Traded Cloud Companies
Indexed as of Jan. 2011 | @ 5/29/15



NTM Multiples Over Time



— BVP Cloud Index — Nasdaq Index — S&P Index — Dow Jones

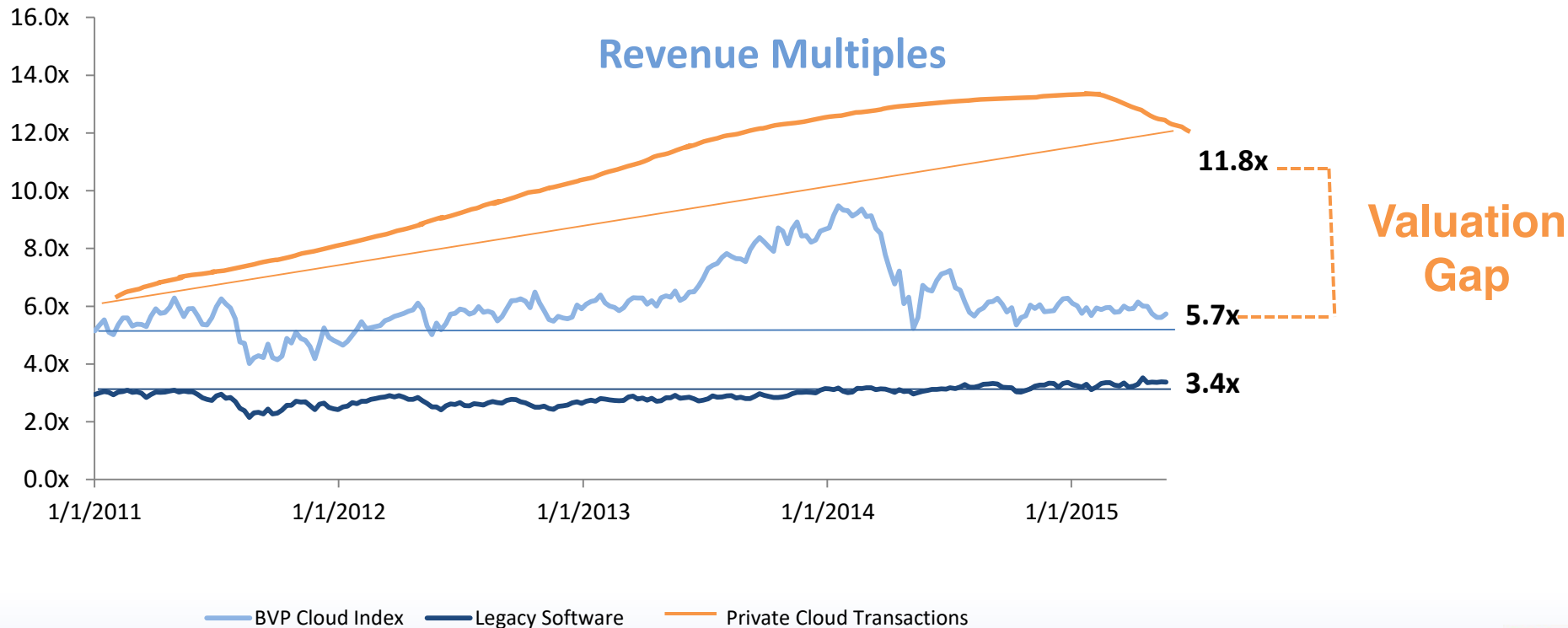
— BVP Cloud Index — Legacy Software

Source: 42 companies in BVP Cloud Index as of 5/29/2015. CapIQ. Legacy software includes Microsoft, IBM, Oracle, Cisco, SAP, HP, EMC, Adobe, Citrix, ADP.

NTM represents next twelve months.



PRIVATE CLOUD MULTIPLES ARE TRADING AT A PREMIUM TO PUBLIC CLOUD MULTIPLES



Source: 42 companies in BVP Cloud Index as of 5/29/2015. CapIQ.

Note: Private cloud transactions based on 55 private transactions in the last 6 months where 11.8x is average ARR run rate multiple. BVP Cloud Index multiple and Legacy software multiples are both NTM GAAP revenue.



TAKEAWAY: GUARDRAILS FOR VALUATION

Representative SaaS Business (\$20mm ARR)

Key Factors	Team	TAM	Product	Competitive Dynamics
	Good	Better	Best	
1 Yr Fwd Growth	50%	50-100%	100%+	
Gross \$ Retention	85%	85-95%	95%+	
Upsell Retention	minimal	100-125%	125%+	
CAC Payback	24 mos	12-24mos	<12 mos	
Gross Margin	50-60%	60-75%	75%+	



AGENDA

- State of the Cloud Industry: Where are we today?
- Metrics that matter: How are we doing?
- The outlook ahead: What does it mean for me as a cloud CEO?



THE OUTLOOK AHEAD

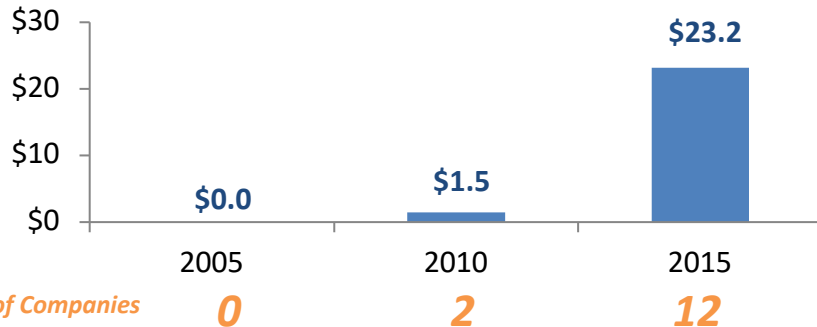
- **The Cloud Wins**
 - First category (CRM) goes over 50% cloud in 2016
 - Now at 42 public cloud companies in BVP Cloud Index – Welcome Shopify!
 - BVP Cloud Index crosses \$500bn by 2020
- **Major Trends & Coming Disruptions**
 - Industry cloud comes of age
 - Cyber security a threat and an opportunity
 - B2D opportunity for developers and entrepreneurs
 - Further commoditization of IaaS
 - Cornered animals: More M&A from legacy vendors ahead
 - The dawn of enterprise mobile



INDUSTRY CLOUD ON THE RISE

Public Industry Cloud Companies

Market Cap (\$ in bn)



Source: Capital IQ

Note: Public vertical SaaS companies include 2U, Athenahealth, Benefitfocus, Dealertrack Technologies, Fleetmatics Group, RealPage, Textura, Veeva, Q2 Holdings, Opower, Guidewire, Shopify

Drivers of Industry Cloud

- 1 Software adoption moved from “nice to have” to “table stakes”
- 2 Winner take most dynamic – can win 50% of a market
- 3 Mobile expands the non-desk workforce by 80%

Notable Private Industry Cloud Companies



CYBER SECURITY: A HOT MARKET AND A KEY

Security for Startups: 10-Step Plan to Surviving in Cyberspace

“If a business thinks that it’s too small to matter to cybercriminals, then it’s fooling itself with a false sense of security.” BRIAN BIRCH, SYMANTEC

1 Pick Your Battles

You can’t secure everything. Quantify the monetary damage, likelihood, and mitigation cost of each threat to prioritize your time and resources.



THREATS

- TOR Dump Email
- Insert Back Doors
- Infect Customers
- DDoS Shut Down
- Steal Credentials
- Steal Funds
- Steal IP
- Steal Business Intel
- Steal Infrastructure
- Deface Web Site
- Defraud

2 Establish a Security Culture

Show your team that security is important through communication and example. Provide periodic training, pen testing, and password management tools.

3 Pick Secure Platforms

Select compute platforms with strong security, such as Linux Chromebooks, iOS, Google Apps and open source systems.

4 Email is the Key

Control an inbox, and you control a life. Your email service should enforce multi-factor authentication, malware/phishing filters and encryption. Use SPF and DKIM.

5 Be Open with the Public

Honesty is the best policy. Be transparent not only about cyber risks, but also about everything. You will provoke fewer attacks, and build up some good will for when you screw up.

6 Plan for Failure

Breaches are inevitable, so don’t wait. Understand your legal obligations and business risks. Prepare a plan to investigate, report and mitigate breaches.

7 Physical Security

Easy win. It’s now cheap to equip offices with buzzers, badges and surveillance.

“Cyber attacks have escalated from common malware to sophisticated campaigns using military-grade techniques that target your crown jewels.” DAVID COWAN, BVP

8 Control the Internal Network

Track every IT asset. Install securely configured images on all computers. Lock down all Admin accounts. Use a DMZ Proxy and light SIEM. Automate patching. Encrypt and test your backup systems.

9 Secure Coding

Bake it in now – retrofits won’t work. Hire a DevOps security expert. Train your coders to avoid traps, and use code analysis tools and third party security APIs.

10 Your Website is the Front Door

Protect your storefront and customers with a Web Application Firewall, anti-DDoS service, Device ID and payment API.

“When our API collapsed under a DDoS attack, we experienced more churn in that one day than we had in our entire history.” UN-NAMED BVP PORTFOLIO CEO

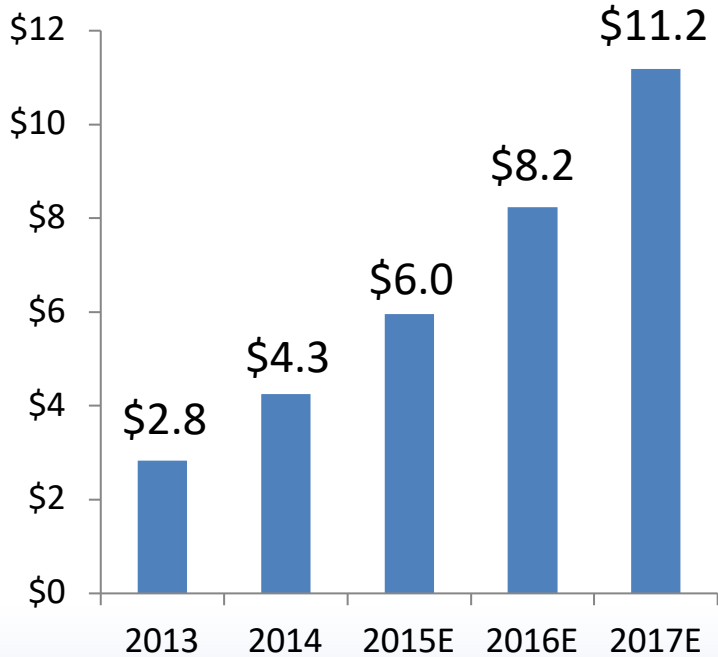
B2D MARKET TAKING OFF

20 MILLION GLOBAL SOFTWARE DEVELOPERS



FURTHER GROWTH OF IAAS - GREAT FOR SAAS

AWS Revenue (\$ bn)



Source: Robert Baird & Co, 2015. Monthly uniques per Comscore, Feb 2015.

A screenshot of the Pinterest homepage. The page features a grid of various pins, including recipes, home decor, fashion, and lifestyle images. A large, stylized red 'Pinterest' logo is overlaid across the center of the page. Below the logo, the text reads: '~80mm unique visitors a month' and '50 billion "pins" on Pinterest'. The top navigation bar includes links for 'Pinboards You Follow', 'Most Discussed', 'Everything', and 'Gifts'. The 'Recent activity' section shows pins that have been repinned by users.



MORE M&A AHEAD

Legacy Software vendors are cornered animals today



- Classic Innovator's Dilemma allowed cloud entrants to thrive
- Too late to build
- Too expensive to buy
- Will be fatal to many

MOBILE IS A GAME CHANGER FOR THE ENTERPRISE

**EVERYONE IN ENTERPRISE B2B
NOW HAS A SMARTPHONE**

85%

Americans between 18-29

GLOBAL PENETRATION

1 → 73%

Global Mobile Penetration 1995 - 2014

**INTERNET USAGE TIPPED TO
MOBILE**

50%

Internet usage on mobile vs desktop

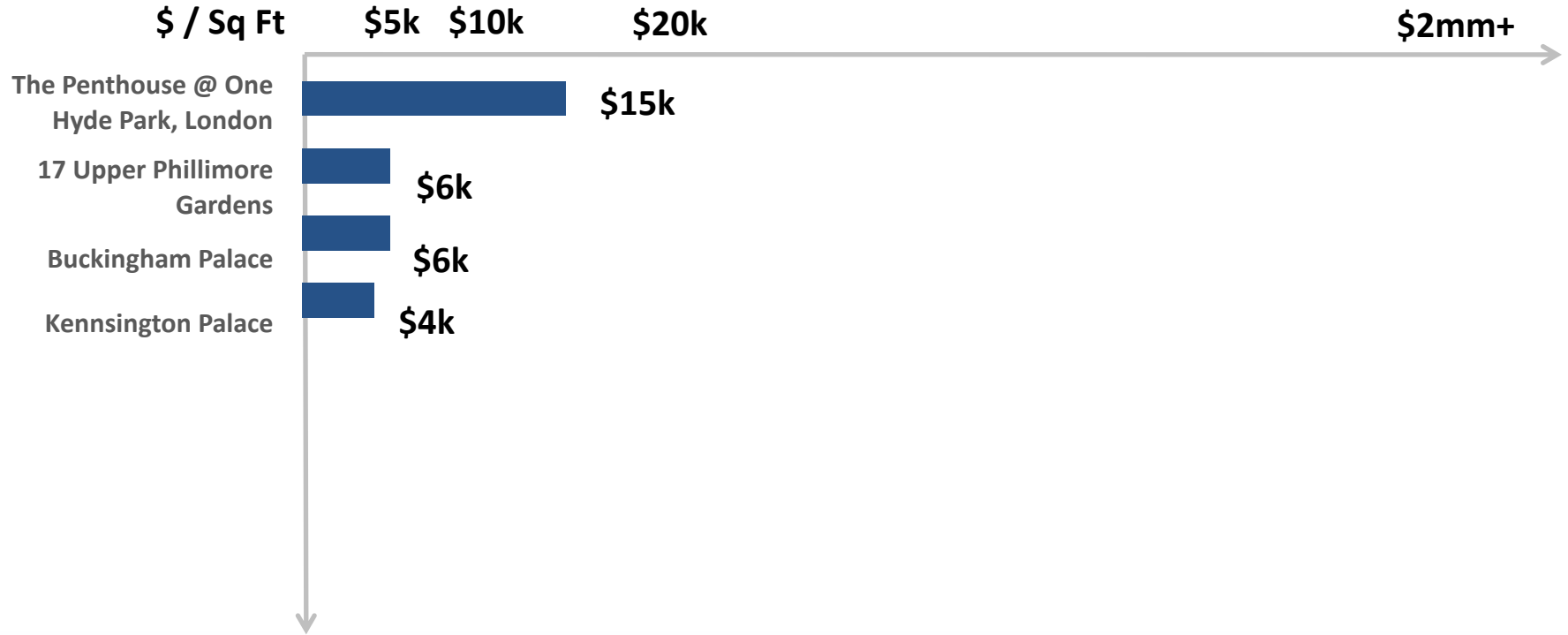
**REACHES AN UNTOUCHED
WORKFORCE**

80%

Workforce are non-desk workers



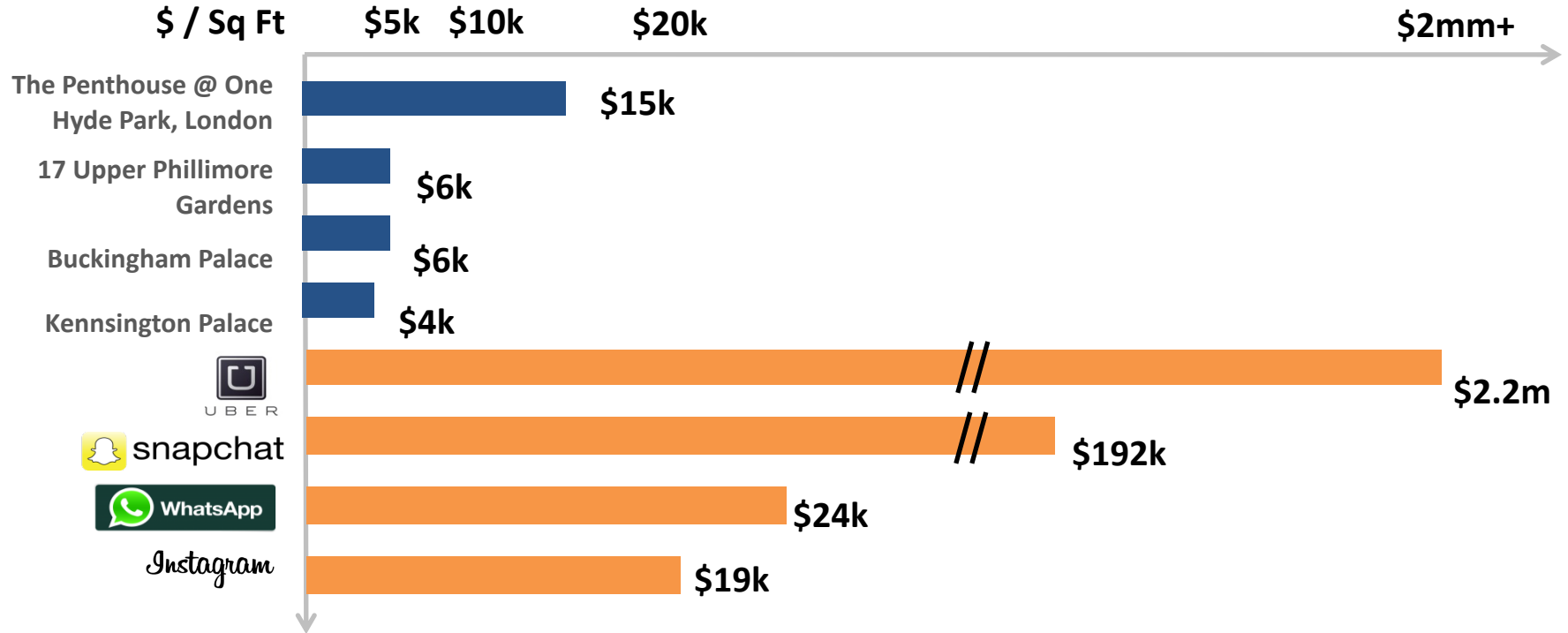
THE MOST EXPENSIVE REAL ESTATE IN THE WORLD



Note: Assume each mobile icon is ½" (so 1 sq ft is equal to 576 mobile icons). Assume MAU is equal to mobile app installs.
Uber - 450k WAU, 900k MAU (assume WAU x 2 = MAU) as of 12/2013. Valuation of \$3.5bn as of 08/2013
Snapchat - 30m MAU at \$10bn valuation as of 08/2014
Whatsapp - 450m MAU at \$19bn valuation as of 02/2014
Instagram - 30m MAU at \$1bn valuation as of 04/2014



THE MOST EXPENSIVE REAL ESTATE IN THE WORLD



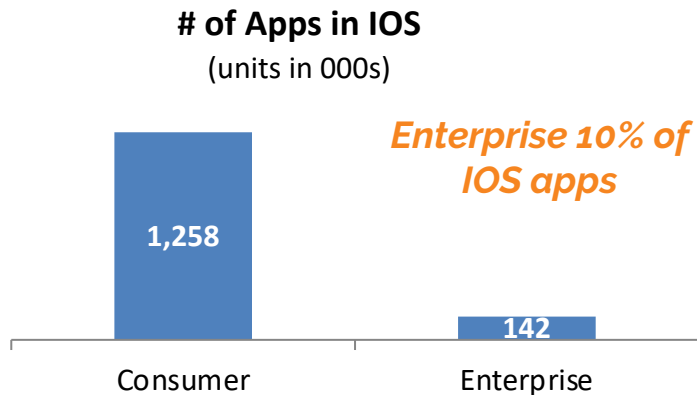
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 Uber - 450k WAU, 900k MAU (assume WAU x 2 = MAU) as of 12/2013. Valuation of \$3.5bn as of 08/2013
 Snapchat - 30m MAU at \$10bn valuation as of 08/2014
 Whatsapp - 450m MAU at \$19bn valuation as of 02/2014
 Instagram - 30m MAU at \$1bn valuation as of 04/2014



ENTERPRISE MOBILE HAS MORE MONETIZATION POTENTIAL THAN CONSUMER MOBILE

1

There are 10x more consumer apps than enterprise...



2

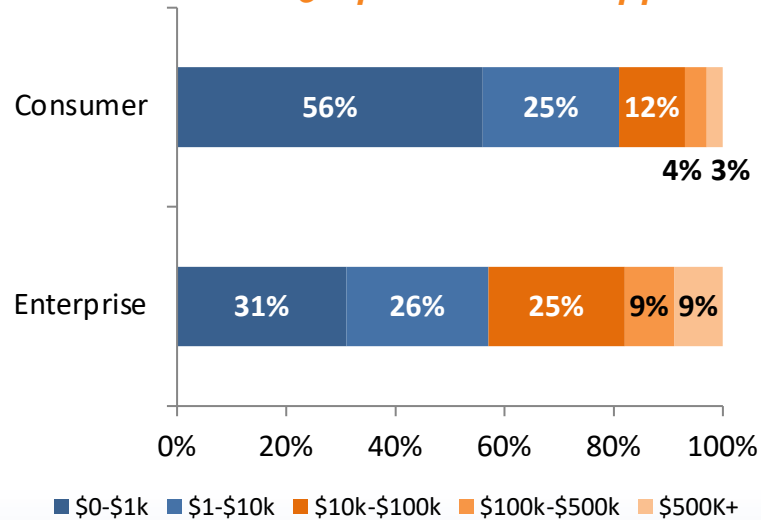
...but enterprise apps are exploding

- # of enterprise mobile apps growing over 210% in 2014
- 20% of all developers globally are targeting enterprises, up from 16% just six months ago

3

...and enterprise apps have higher monetization potential

43% of enterprise apps make >\$10k / mo vs 19% for consumer apps



ENTERPRISE MOBILE WILL DISRUPT CLOUD

Become great on mobile, or your next challenger will!

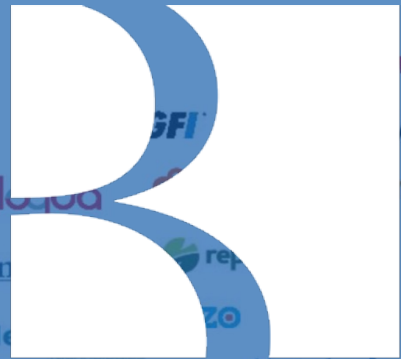


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