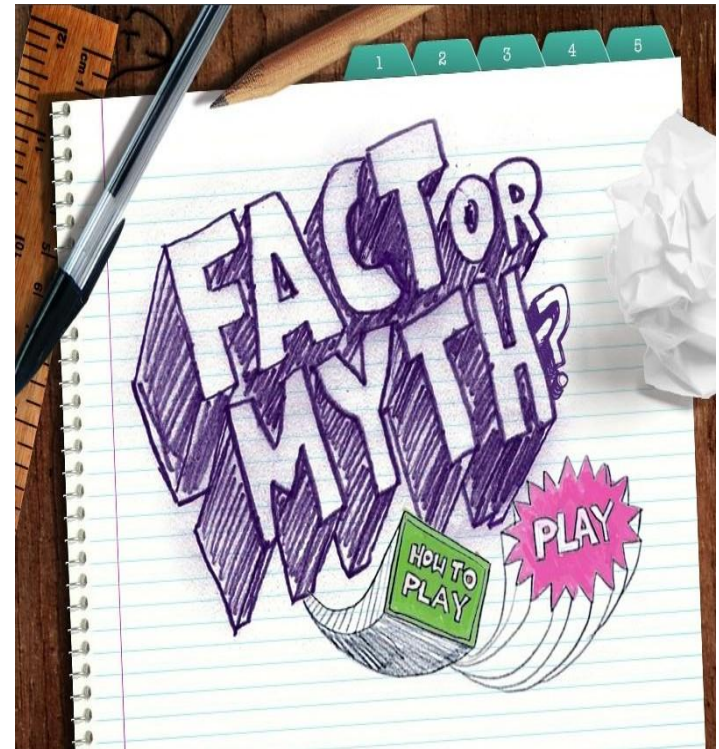# Maximizing Your Cloud Investment
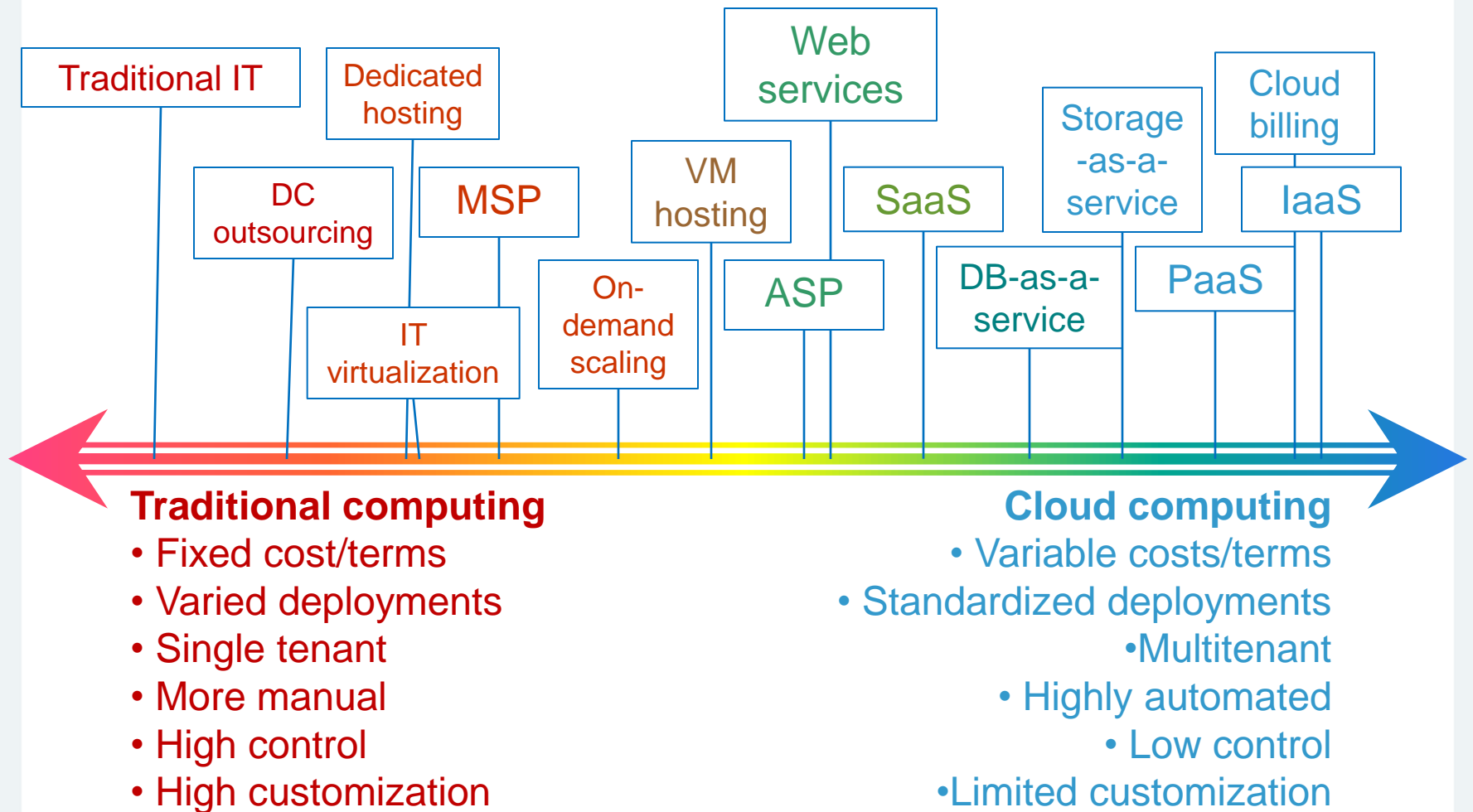
James Staten, VP & Principal Analyst

Pop quiz

1. *Is cloud just another name for outsourcing?*

2. *Is cloud the future of the data center?*

3. *Is the cloud always cheaper?*

Not everything is cloud. . .

Traditional IT

Dedicated hosting

DC outsourcing

MSP

IT virtualization

On-demand scaling

VM hosting

Web services

ASP

SaaS

DB-as-a-service

Storage-as-a-service

PaaS

Cloud billing

IaaS

Traditional computing
- Fixed cost/terms
- Varied deployments
- Single tenant
- More manual
- High control
- High customization

Cloud computing
- Variable costs/terms
- Standardized deployments
- Multitenant
- Highly automated
- Low control
- Limited customization

Most "SaaS" is not really SaaS

	Software-as-a-service	Application service provider	Application outsourcing	Traditional hosting	Managed services
Sample services	salesforce.com CRM	Oracle On Demand	Microsoft Exchange hosting (HP and others)	1&1 Internet hosting	Savvis managed hosting
Who administers what:					
The application	Vendor	Vendor	Vendor	You	You
The OS/middleware	Vendor	Vendor	Vendor	You	Vendor
The infrastructure (virtual and physical)	Vendor	Vendor	Vendor	Vendor	Vendor
What is dedicated to the client?	Nothing	App instance	App through infrastructure[†]	Some virtual infrastructure elements	Varies
What is shared among clients?	All services	Infrastructure[†]	Physical infrastructure[†]	Physical infrastructure[†]	Varies
How do you pay for the service?	Subscription; per user/month; 12-month contracts	Subscription: varies; one- to three-year contracts	Three- to five-year contracts	Per resource/month; one-year commit	Varies; one- to three-year commit
What can you control?	Your use of the application, high-level customizations	Limited control over upgrade timing, configuration, SLA	Significant control over upgrade timing, configuration, SLA, and more	Virtual infrastructure configuration, everything within the virtual infrastructure	Varies
SLA negotiability	Limited	Some	Significant	Some	Significant

*See the March 15, 2012, "Understanding Cloud Multitenancy" report
[†]Varies by offering and agreement but typically the infrastructure is shared

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SaaS Delivers Time and Cost Savings

Factor	Impact of SaaS vs. On-Premise
Estimated Implementation Cost	
SaaS solution	1 to 2x one year subscription fees
On-premise solution	3 to 5x license fees
Time-To-Deploy	
SaaS solution	6 to 9 months (phased approach)
On-premise solution	9 to 18 months (or longer)
Cost to add a new user SaaS app vs. on-premise solution	Decreased by 3x
Ramp-up time for new users for SaaS app vs. on-premise solution	Decreased by 50%
Employee utilization of SaaS app vs. on-premise solution	Increased by 9%
Support / help desk needs of SaaS app vs. on-premise solution	Reduced by 50%
Level-of-of effort for integration of SaaS app vs. on-premise solution.	Similar level of effort SaaS as on-premise solution doing if doing the same integrations -- but many organizations can simplify integrations by moving to a cloud model

Key Costs Of SaaS

Upfront costs	• Implementation • Single sign-on configuration • Third-party process consulting • Third-party content development • Competency development • External content (competencies)
Recurring/annual costs	• Subscription • Change management • Testing and certification • End user support and administration • Integration • Training

CRM SaaS Solves in 2 yrs: Total Economic Impact Analysis Summary

	Year 1	Year 2	Year 3	Year 4	Year 5	Total	Present value
Total benefit	$846,402	$925,104	$1,015,713	$1,087,261	$1,170,779	$5,045,258	$3,766,700
Total cost	$923,701	$777,555	$793,106	$808,968	$825,148	$4,128,478	$3,143,096
Net cash flow	-$77,299	$147,548	$222,606	$278,292	$345,632	$916,780	$623,604
Cumulative cash flow	-$77,299	$70,250	$292,856	$571,148	$916,780		
NPV	$623,604						
ROI	20%						
Payback	Between 12 and 24 months						

ERP SaaS May Not: Total Economic Impact Analysis Summary

	Year 1	Year 2	Year 3	Year 4	Year 5	Total	Present value
Total benefit	$1,839,659	$2,038,992	$2,252,645	$2,449,698	$2,661,231	$11,242,226	$8,375,573
Total cost	$2,158,865	$2,011,192	$2,051,416	$2,092,444	$2,134,293	$10,448,209	$7,920,401
Net cash flow	-$319,206	$27,801	$201,230	$357,254	$526,939	$794,017	$455,172
Cumulative cash flow	-$319,206	-$291,405	-$90,176	$267,078	$794,017		
NPV	$455,172						
ROI	6%						
Payback	More than 2 years						

Productivity Apps? Likely: Total Economic Impact Analysis Summary

	Year 1	Year 2	Year 3	Year 4	Year 5	Total	Present value
Total benefit	$906,787	$986,696	$1,078,537	$1,151,342	$1,236,142	$5,359,504	$4,004,053
Total cost	$923,701	$777,555	$793,106	$808,968	$825,148	$4,128,478	$3,143,096
Net cash flow	-$16,914	$209,141	$285,431	$342,373	$410,994	$1,231,026	$860,957
Cumulative cash flow	-$16,914	$192,228	$477,659	$820,032	$1,231,026		
NPV	$860,957						
ROI	27%						
Payback	Between 12 and 24 months						

Key ways to drive cost efficiency in SaaS

Consume it "as is"

More cost effective to train employees & adapt commodity processes to the SaaS model, than to customize the SaaS solution to match existing processes

Limit account requirements

Each named user is another $99

Accommodate read and dashboard access via web front-ends

Standardize integration means

Set architectural standards for integration

Leverage integration servers, ESBs, other elements that can broker these integrations

Know what an exit looks like

Monitor the service and thus business expectations

Most "Cloud Platforms" are not Cloud either

	Platform-as-a-service	Traditional hosting	Managed services	Infrastructure outsourcing	Infrastructure-as-a-service
Sample services	Engine Yard	1&1 Internet hosting	Savvis managed hosting	IBM GTS Strategic Outsourcing	AWS EC2
Who administers what:					
The application	You	You	You	Varies	You
The OS/middleware	Vendor	You	Vendor	Varies	You
The infrastructure (virtual and physical)	Vendor	Vendor	Vendor	Vendor	Vendor
What is dedicated to the client?	Varies*	Some virtual infrastructure elements	Varies	Everything	Nothing
What is shared among clients?	Varies*	Physical infrastructure†	Varies	Nothing	Infrastructure
How do you pay for the service?	Per resource/per hour; no subscription	Per resource/month; one-year commit	Varies; one- to three-year commit	Negotiated; three- to five-year contract	Per resource/per hour; no subscription
What can you control?	Application configuration, middleware service consumption, some virtual infrastructure configuration	Virtual infrastructure configuration, everything within the virtual infrastructure	Varies	Varies from everything above the infrastructure to nothing	Virtual infrastructure configuration, everything within the virtual infrastructure
SLA negotiability	Limited	Some	Significant	Significant	Limited

*See the March 15, 2012, "Understanding Cloud Multitenancy" report
†Varies by offering and agreement but typically the infrastructure is shared

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The basics of cloud platform economics

Elastic scale delivers just-in-time capacity

Pay-per-use keeps costs low

Self-service fuels productivity

How Netflix maxes cloud economics

Three key services

Movie encoding (movies/watt)

- Batch up encoding processes.
- Not time sensitive; can tap spot instances.
- Optimize storage formats to keep S3 costs low.

Video streaming service

- Store on S3, stream on multiple CDNs.
  - Optimize CDN choice by stream type and customer.
- Split customer login and device identification.

Log analysis — feeds BI system

- Leverage managed Hadoop from AWS.
- Re-architected BI from the ground up for best cloud efficiency

Key tools used:

- *Time*
- *Componentization*
- *Service choice*
- *Code optimization*

For more info, check out http://www.slideshare.net/adrianco/netflix-on-cloud-combined-slides-for-dev-and-ops and *Cloudscaling Blog (*http://cloudscaling.com/blog/cloud-computing/cloud-innovators-netflix-strategy-reflects-google-philosophy).

Recommendations:
Identify your "best cloud fit" workloads

Not everything is right for the cloud, nor should be

Look for:

- Applications that are virtualized and componentized
- Applications designed to be elastic and scale out
- Applications with variable and fluctuating demand

Then, model your costs for these applications first

Start with systems of engagement

Customers

Partners

Smart products

Employees

Systems of engagement touch people

- Serving customer, partners, and employees
- Enabled by smartphones, tablets, and smart products
- Focused on in-the-moment tasks and decisions

- Delivering in an individual's personalized context
- Providing analytics-driven experiences
- Leveraging social and cloud technologies
- Short, rapid, iterative release cycles

Systems of record host processes

- Targeting employees
- Supported by ERP packages and large databases
- Recording transactions and accounting data as part of core business processes
- Maintain state, status, and history
- Long development and deployment cycles

Source: February 13, 2012, "Mobile Is The New Face Of Engagement" Forrester report

Where the true costs of cloud come from: the uneven handshake

Vendor responsibility	Customer responsibility
Physical support infrastructure (facilities, rack space, power, cooling, cabling, etc)	Your use of the application
Abstracted services (SaaS application, hosted framework, customization platform, configurable security, etc)	Any technology supplementations (e.g., SSO,, BCDR, security)
Physical and virtual infrastructure security and availability (servers, storage, network bandwidth, etc)	Customization governance (who has authority / responsibility to make changes and how)
Basic monitoring	Lifecycle management (Upgrades, process change, integration changes)
Element management	Identity management, access control
	Business process monitoring, end user performance monitoring (visibility)
	Dependency mapping and tracking

Recommendations Cont.

Pennies per hour seem cheap but add up quickly

- Especially if you're not using what you're paying for

Right-size your workloads to fit the cloud

- Not the other way around

You can't immediately write down new investments

- Take refresh cycles into account when prioritizing

If you have the skills, try private cloud in parallel

- Build expertise with your own pay-per-use infrastructure

Revisit your assumptions often

- To continue to optimize your cloud spend

Thank you

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