Migración hacia la Nube (el Cloud)

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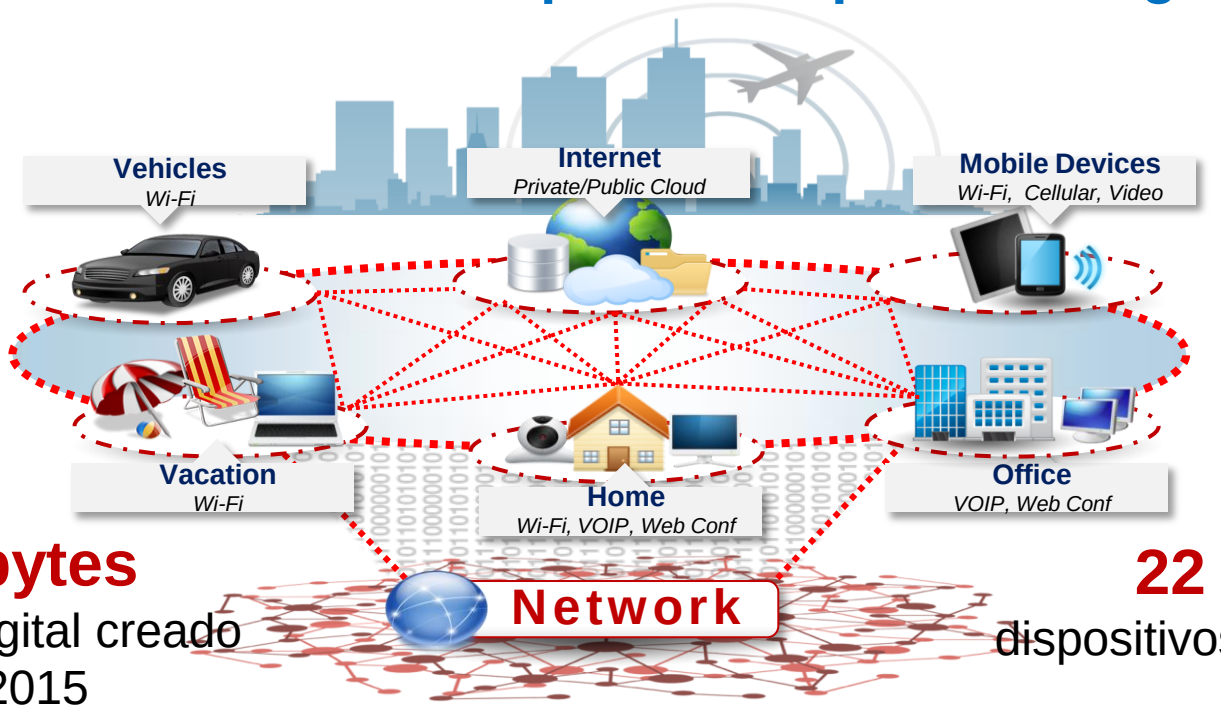
Las Redes son más críticas que nunca para los negocios de hoy



8 zettabytes
de contenido digital creado para el 2015

22 billion
dispositivos conectados al 2020

El mundo está cambiando: Las Personas necesitan conectarse **a Cualquier Hora, en Cualquier Lugar,** desde **Cualquier Dispositivo**

 (1) Cisco, “Cisco Visual Networking Index: Forecast and Methodology, 2011-2016,” May 30, 2012.

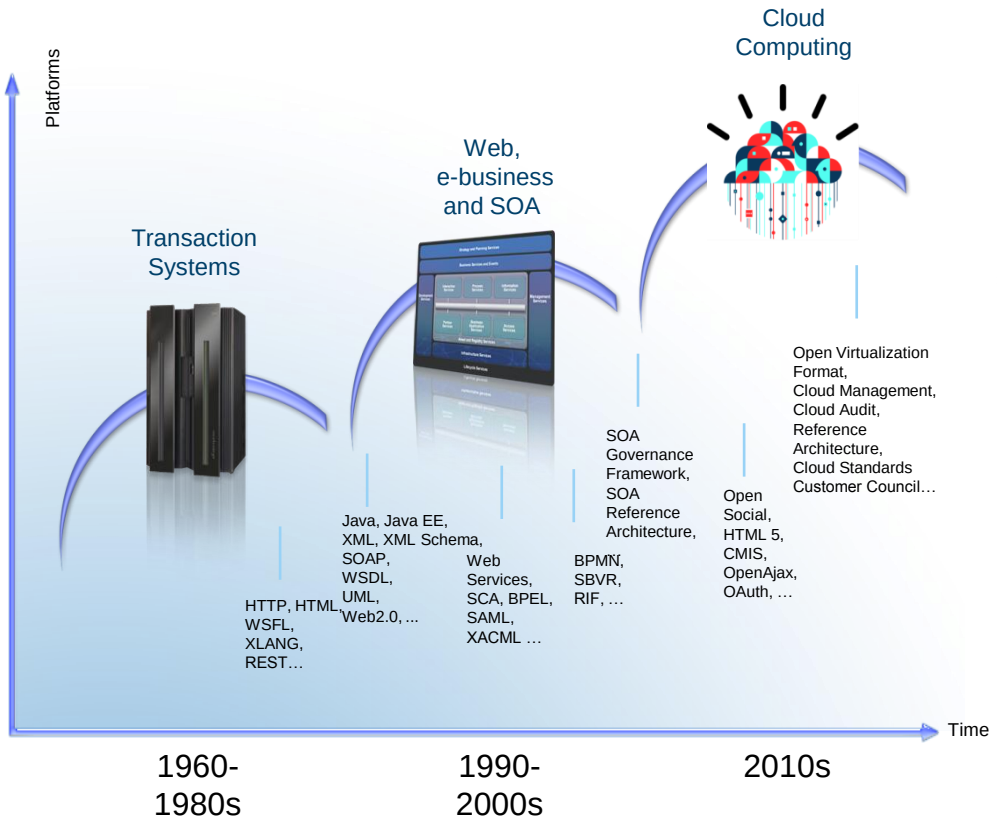
Introducción al ‘Cloud Computing’.

El Cómputo en la Nube (Cloud Computing) es un **modelo** mediante el cual recursos de **aplicaciones, procesamiento, almacenamiento y comunicaciones** se ofrecen como **servicios** mediante protocolos de Internet, que permiten a los usuarios acceder tales servicios sin necesidad de conocer (ni de controlar) la infraestructura que los soporta.

La perspectiva de IBM acerca de “Cloud Computing”…

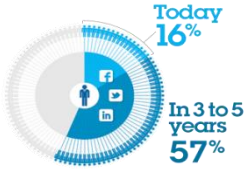
“La computación en la nube representa un nuevo modelo de prestación de servicios, para las empresas y consumidores. Logra importantes economías de escala, mayor agilidad del negocio y mejor control de los costos.”

Historia



Mobile

90% de usuarios moviles tienen su dispositovo a la mano cerca de **100%** del tiempo



Social

% de **CEOs usan Social** para conectarse a sus clientes

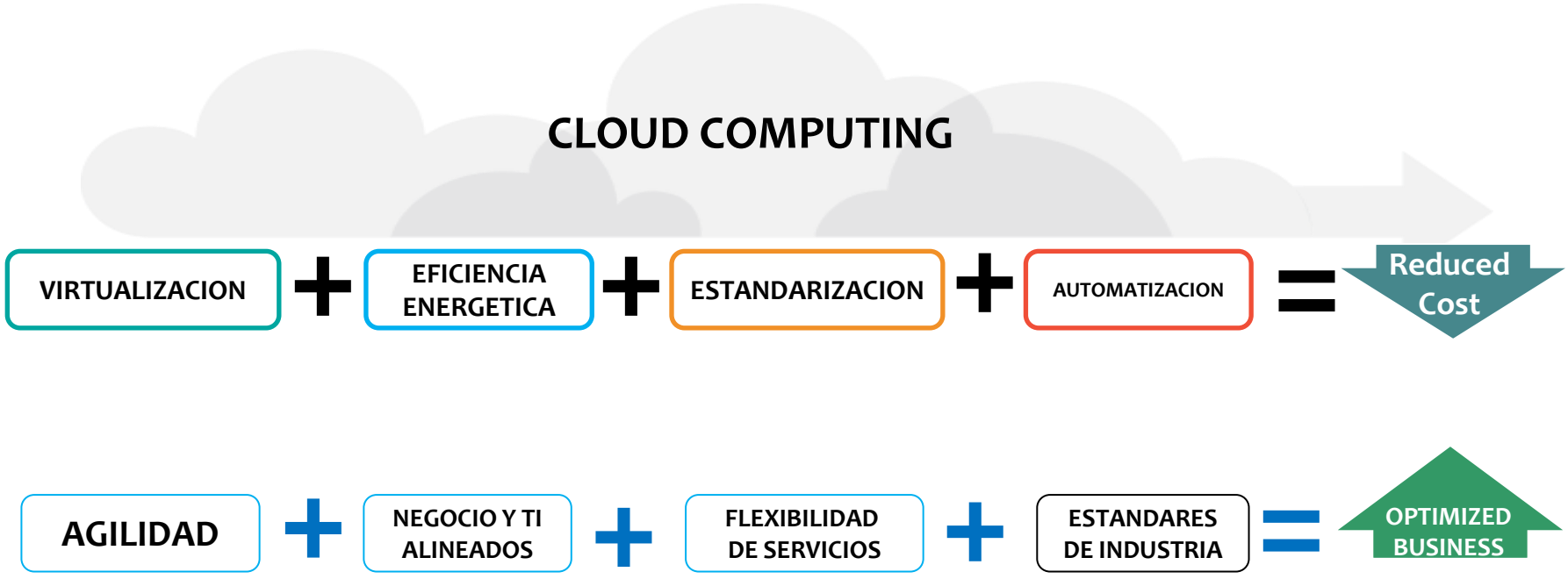
Big Data & Analytics

8 zettabytes de contenido digital content creado para 2015

Entregado vía el Cloud

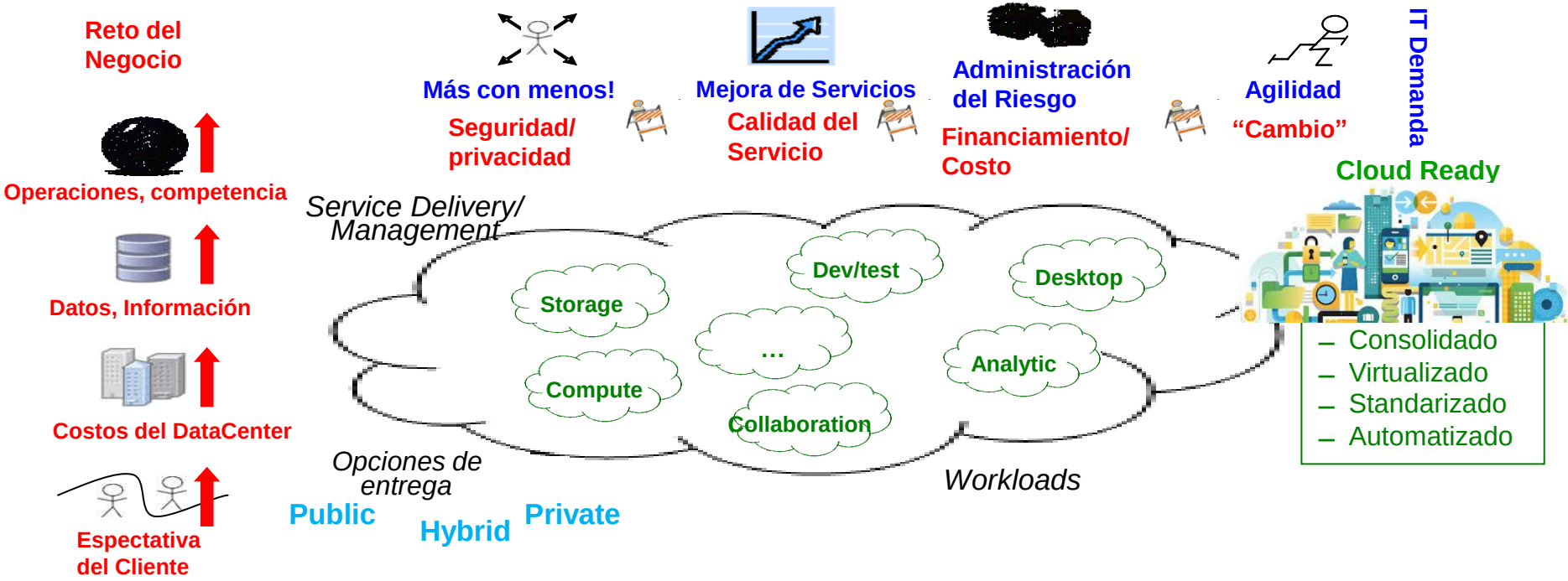
62% of workloads en los datacenters existentes serán “**cloud based** “ para 2014

Cloud-onomics…



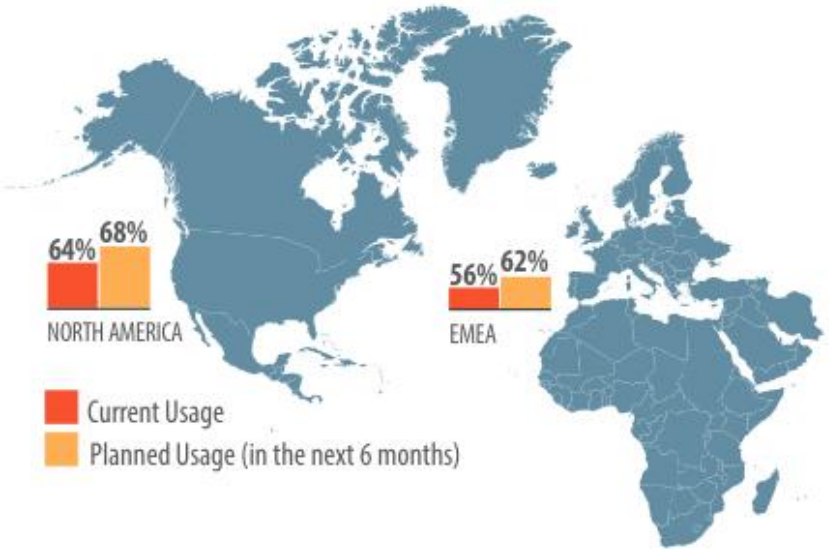
El Valor de una solución basada en Cloud

Entregando Valor de Negocio mediante Cloud Computing



La adopción del Cloud

Norteamérica y Europa



Centroamérica

NO LO CONSIDERO AUN COMO UNA OPCION	LO ESTOY EVALUANDO
63%	23%

LO ESTOY PROBANDO	LO ESTOY UTILIZANDO
10%	4%

Crecimiento 2012-2013

20%+

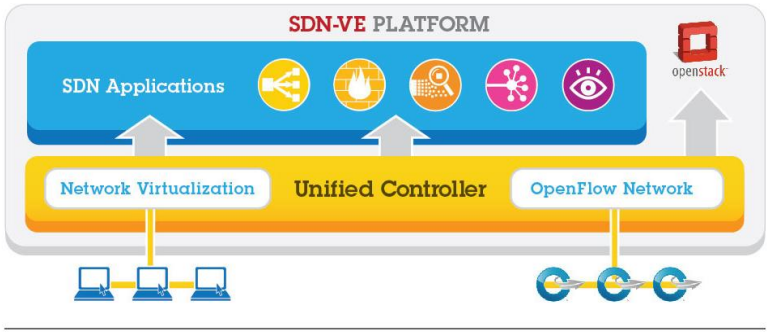
Fuente: IDC Central America IT Spending Trends Demand Side, 2009, 2011 y Spiceworks State of SMB IT 1H 2013

Software Defined Environment?

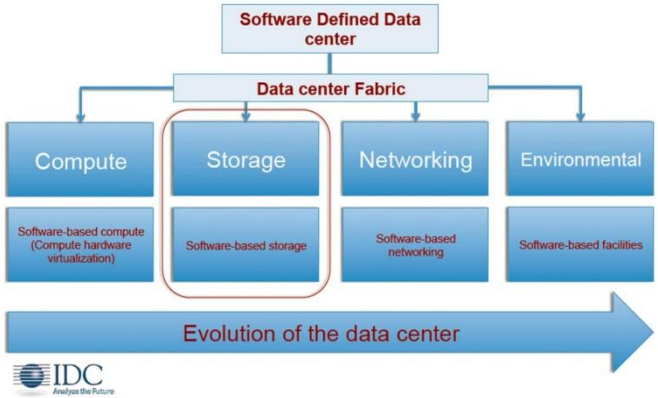
Software ..... Abstracción de los recursos de infraestructura de TI virtualizados y gestionados por el **software**

Defined ..... Las Aplicaciones automáticamente **definen** los requisitos de infraestructura y la configuración

Environments ..... Infraestructura de TI que se extiende a múltiples entornos (**environments**) para ir más allá del centro de datos



http://www-03.ibm.com/systems/networking/sdn/

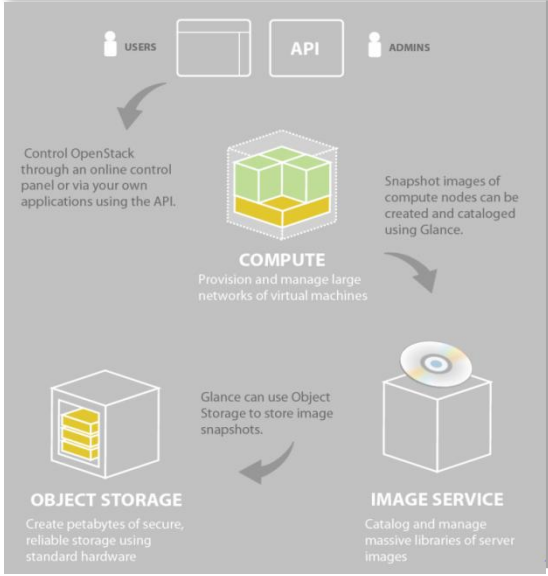


Open technologies?

What is OpenStack?

OpenStack is a global collaboration of developers and cloud computing technologists that seek to produce a ***ubiquitous Infrastructure as a Service (IaaS) open source cloud computing platform*** for public and private clouds. OpenStack was founded by Rackspace Hosting and NASA jointly in July 2010. 160 companies and close to 3,000 developers.

http://openstack.org/



- **OpenStack Compute (Nova)**
  Provision and manage large networks of virtual machines
- **OpenStack Object Storage (Swift)**
  Create petabytes of secure, reliable storage using standard hardware
- **OpenStack Image Service (Glance)**
  Catalog and manage massive libraries of server images
- **OpenStack Identity (Keystone)**
  Unified authentication across all OpenStack projects and integrates with existing authentication systems.
- **OpenStack Dashboard (Horizon)**
  Enables administrators and users to access & provision cloud-based resources through a self-service portal.

Design tenets – scale & elasticity, share nothing & distribute everything

OpenStack es gobernada por una fundación sin fines de lucro, conformada por una directiva, comité técnico y comité de usuarios.

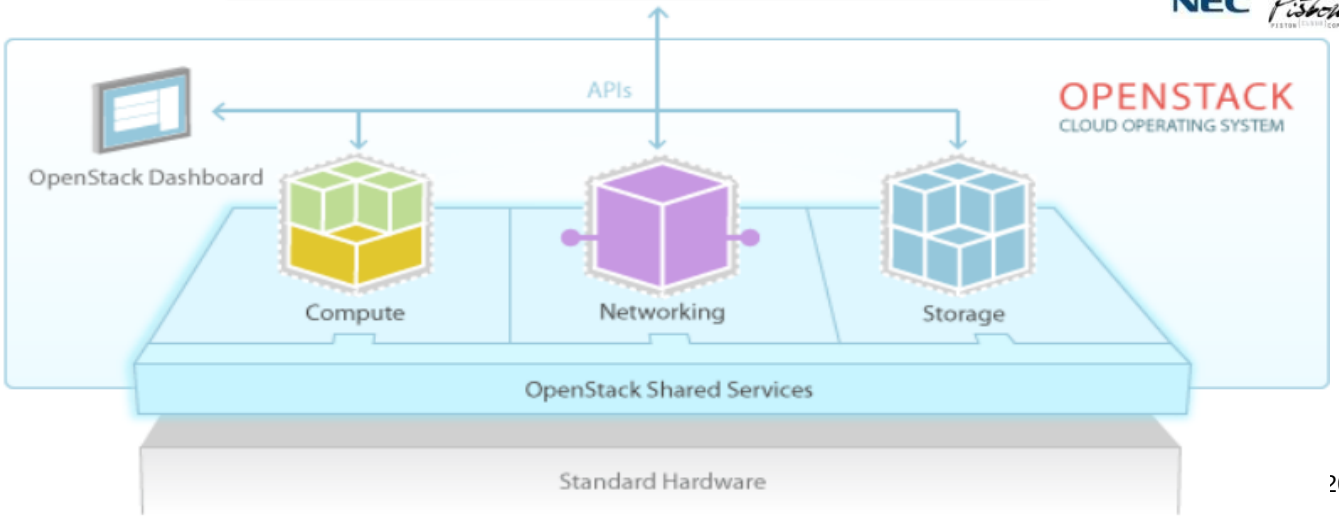
Platinum Sponsors

nebula, rackspace, redhat, suse, IBM, hp, at&t, ubuntu

Abril 2012	*Crecimiento exponencial en 1 YR*	Abril 2013
150 Contribuidores 2600 Individuos		859 Contribuidores 9100+ Individuos

Gold Sponsors

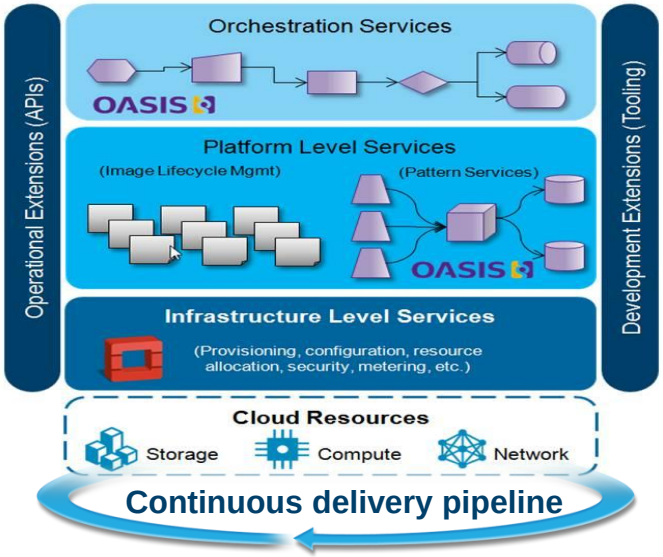
NetApp, cisco, YAHOO!, DreamHost, intel, DELL, MIRANTIS, MORPHLABS, vmware, NEC, Piston, cloudscaling



Servicios de Orquestación

OASIS es un consorcio sin fines de lucro que reúne a las personas a ponerse de acuerdo sobre las formas inteligentes para el intercambio de información a través de Internet y dentro de sus organizaciones.

Capacidades
• Cloud Orchestration • Provisioning • Usage & Accounting / Metering • Monitoring • Capacity Management



Sponsors

- Alfresco Software Inc.
- ASG Software Solutions
- Atego Systems Ltd. (Atego)
- AtHoc
- Australian Department of Industry
- Axway Software
- Blackberry
- Boeing Commercial Airplanes
- CA Technologies
- Cisco Systems, Inc.
- Citrix Systems
- Cloudsoft Corporation Limited
- Comtech Services
- Connectis
- Covisint Corporation
- Cryptsoft Pty Ltd.
- Dell
- EMC Corporation
- Environment Canada
- Forte Research Systems, Inc.
- Fujitsu
- Futurex
- General Services Administration
- GigaSpaces Technologies
- Hewlett-Packard Company
- IJIS Institute
- Intel
- Jahia Solutions Group SA
- Kaazing
- Liferay, Inc.
- LogMeIn, Inc.
- Machine-to-Machine Intelligence (M2MI) Corporation
- Mentor Graphics Corporation
- NEC Corporation
- NetApp
- Nokia
- North American Energy Standards Board
- Oracle
- Program Manager Information Sharing Environment
- Progress Software
- PTC
- Radiant Logic, Inc.
- Red Hat
- SafeNet, Inc.
- SAP
- SDL International
- Software AG
- SureCllinical
- Symantec Corp.
- TELUS
- Thales e-Security
- Tibco Software
- TIMSI SP Z.O.O.
- US Department of Defense (DoD)
- US Military Health Services (TATRC)
- US NIST
- US Veterans Health Administration
- Venafi, Inc.
- ViewDS
- VMware, Inc.
- Vormetric, Inc.

Learn & engage

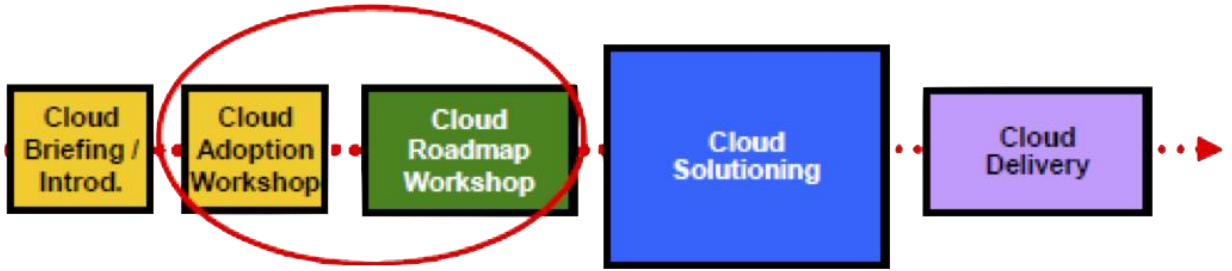
cloudfoundry.com

openstack.org

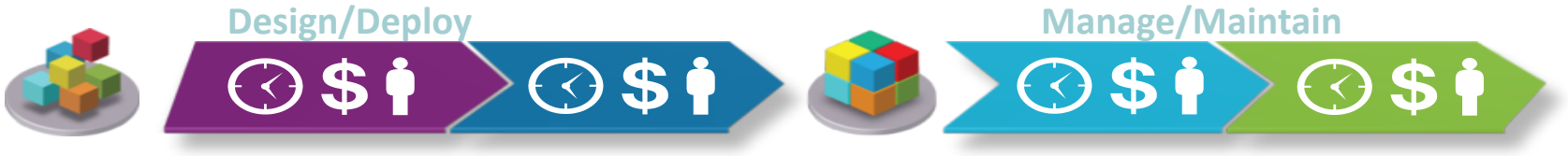
cloud-council.org

Un enfoque paso a paso para la construcción de una estrategia de Cloud Computing

1. Comprenda las oportunidades de Cloud por industria
2. Identifique los objetivos de negocio y TI y la estrategía
3. Identifique potenciales proyectos de adopción
4. Priorice proyectos con los objetivos de Negocio
5. Visualice perspectivas arquitectónicas de Cloud
6. Evalúe el estado actual de TI para la adopción de Cloud
7. Establezca una hoja de ruta de adopción e implemente las soluciones de Cloud



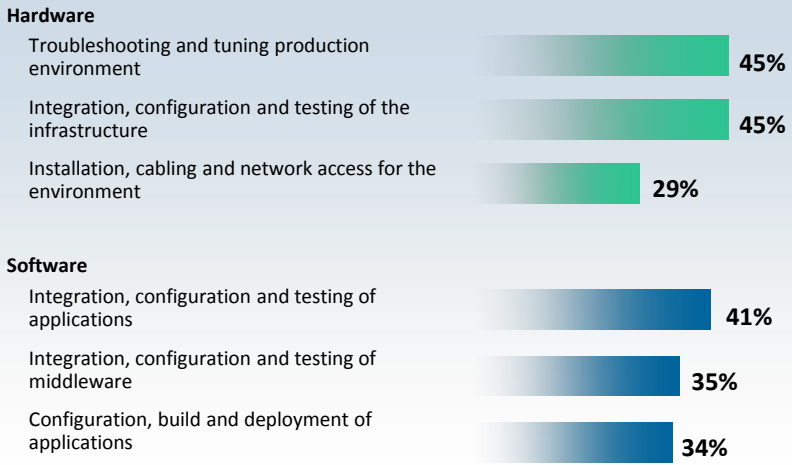
Los clientes luchan por superar las barreras de tiempo, costo y riesgo



Typical IT Project Time and Budget

Phase	Time (days)	Budget
Specify/design	73 - 96	14% - 16%
Procure	57 - 112	19% - 21%
Implement	74 – 93	12%
Configure/test	74 – 80	10% - 11%
Cluster & HA	66 – 104	11% - 12%
Backup	44 – 108	10%
Tune	89 – 98	9% - 10%
Management	67 – 110	9 – 10%

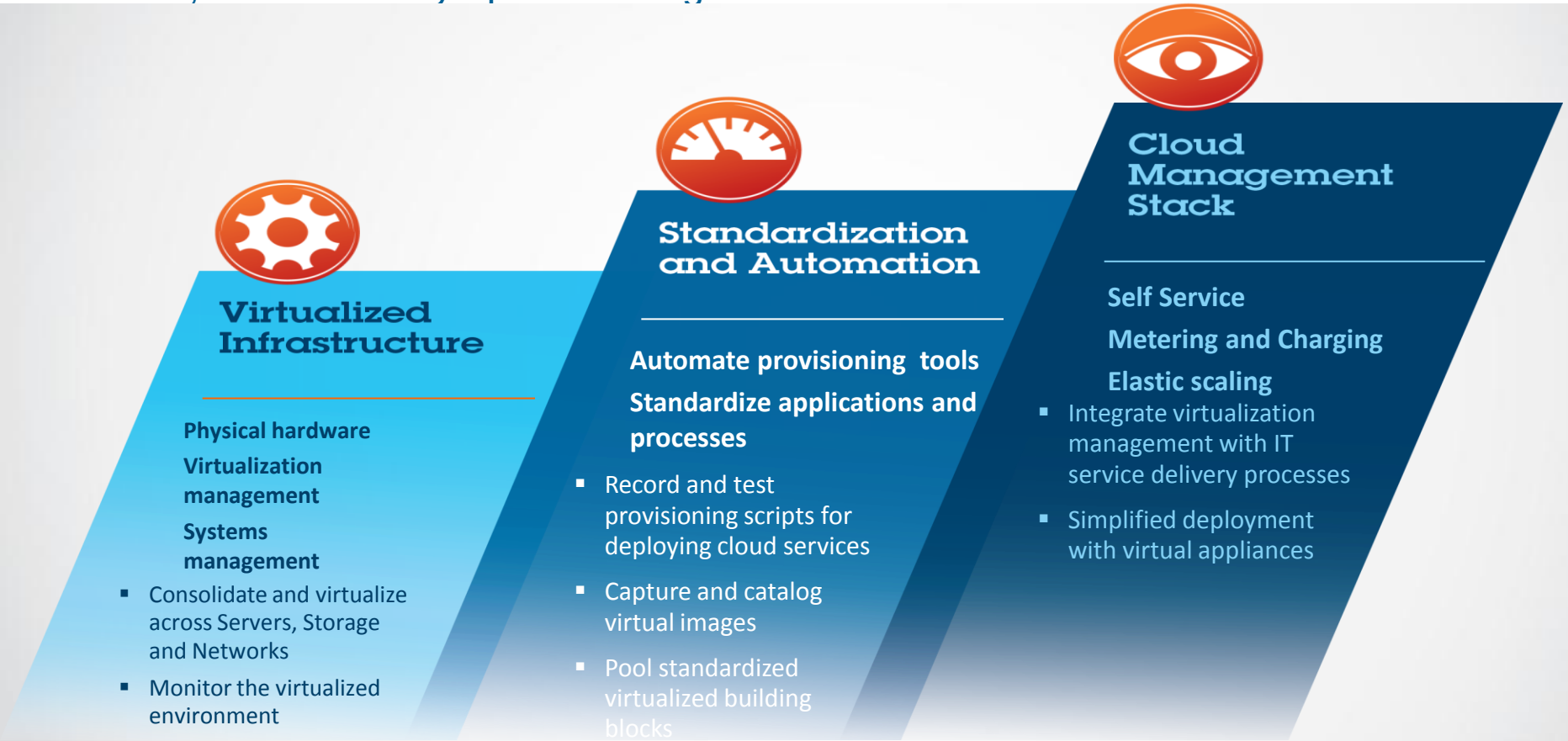
Top Causes of Project Delays



34%** of new IT projects (US) **deploy late

From a commissioned study conducted by Forrester Consulting on behalf of IBM

La transformación a la nube comienza con 3 pasos clave: virtualizar, automatizar y optimizar la gestión



Despite today's economy, competition continues to invest

. . .from 45 days to less than 20 minutes. . .

Citigroup slashed server provisioning times for its 20,000 developers via **Private Cloud**, *speeding development cycles and allowing the bank to put new features and enhancements in the hands of customers more rapidly.*

Business problem: Citigroup needed to dramatically reduce time to market, radically improve operational efficiencies and make the bank's 20,000 developers more productive

Solution: Built a private SmartCloud using IBM lifecycle services management software solutions. It simplified self-service requests plus automated provisioning and internal chargeback capabilities

"The doors have just been opened. Certainly people who are provisioning virtual machines or requesting virtual machines for development are moving to this as soon as they know it's available. It's just a North American initiative right now, but we've got people around the world knocking on the door."
– Citigroup vice president

Cloud's many starting points extend across financial services

Banking projects:

• **Cloud Desktop: *Bank of Tokyo-Mitsubishi*** worried it would face *risks in security and business continuity* if the H1N1 virus were to spread to pandemic levels. The 34,000-employee bank is deploying an Private Cloud to centralize management of desktops via an enterprise class data center rather than at the user stations, allowing for *greater remote flexibility without sacrificing control*.

• **Cloud Collaboration: *Erste Bank*** facilitated continuous, standardized operations and enabled employees across its distributed branches to quickly accessing trading and banking systems through a *security-rich Cloud* infrastructure.

• **Cloud Analytics: *ING's Polish subsidiary*** designed a new sales platform based on an application package which enables tellers to enter data into the system only once, instead of entering it up to 20 times for different applications, giving the bank a 360-degree view of customer data—which when combined with embedded artificial intelligence can help generate more sales.

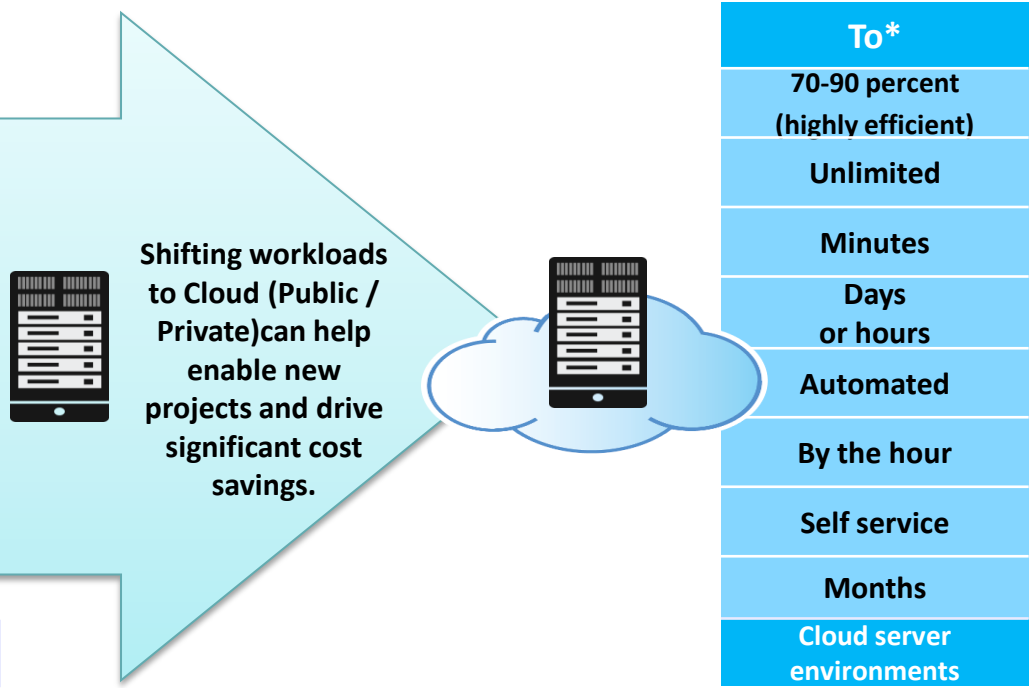
• **Cloud Development and Test**: ***A leading retail bank in the UK*** simplified infrastructure management for its IT research efforts with a virtualized cloud architecture that can readily support multiple operating system instances, enabling research teams to quickly and easily create virtual testing environment without the delays common to typical configuration efforts.

• **Cloud Storage**: ***China UnionPay*** reduced system management costs, sped up deployment for resource requests, standardized software configuration for each deployment request and improved tracking of system resource usage by implementing a cloud computing solution to deliver powerful provisioning capabilities that simplify system management and maintenance.

ROI

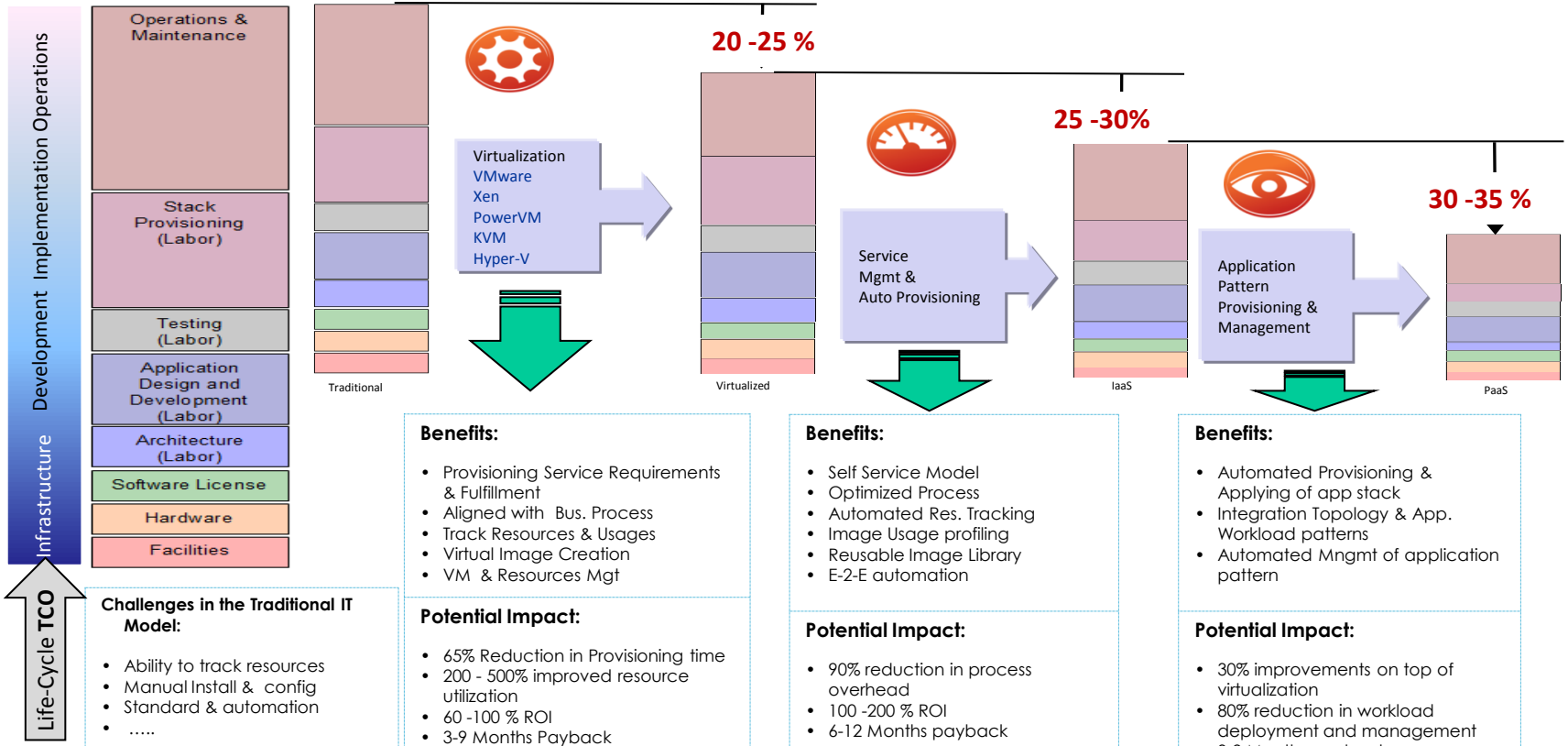
ROI inputs:

Capabilities	From	To*
Server and storage utilization	10-20 percent (inefficient)	70-90 percent (highly efficient)
Self service	None	Unlimited
Test provisioning	Weeks	Minutes
Change management	Months	Days or hours
Deployment process	Labor intensive	Automated
Cost model	Nearly fixed	By the hour
Standardization	Complex	Self service
Payback period for new services	Years	Months
	Legacy server environments	Cloud server environments



Based on results from IBM's Technology Adoption Program. Client-specific results can only be ascertained after a return on investment analysis.

Ejemplo de TCO** Analysis: IBM's SmartCloud Business Value



* Number and percentages are approximated.

**Real Client. Illustration purposes only. Results will vary.

Beneficios Económicos pueden verse en el camino.

Consolidate and Virtualize

Automate and Standardize

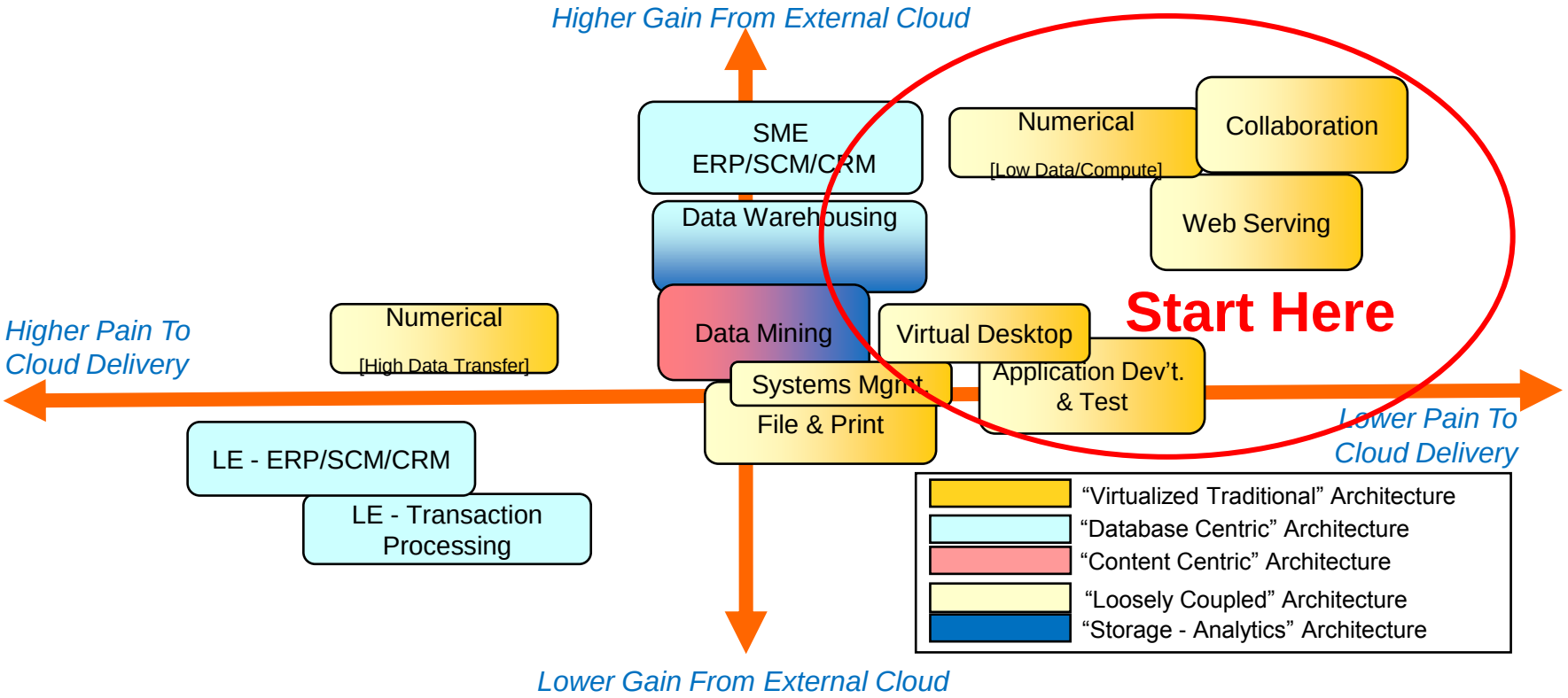
Optimize/ Cloud Management

Efficient overall systems administration

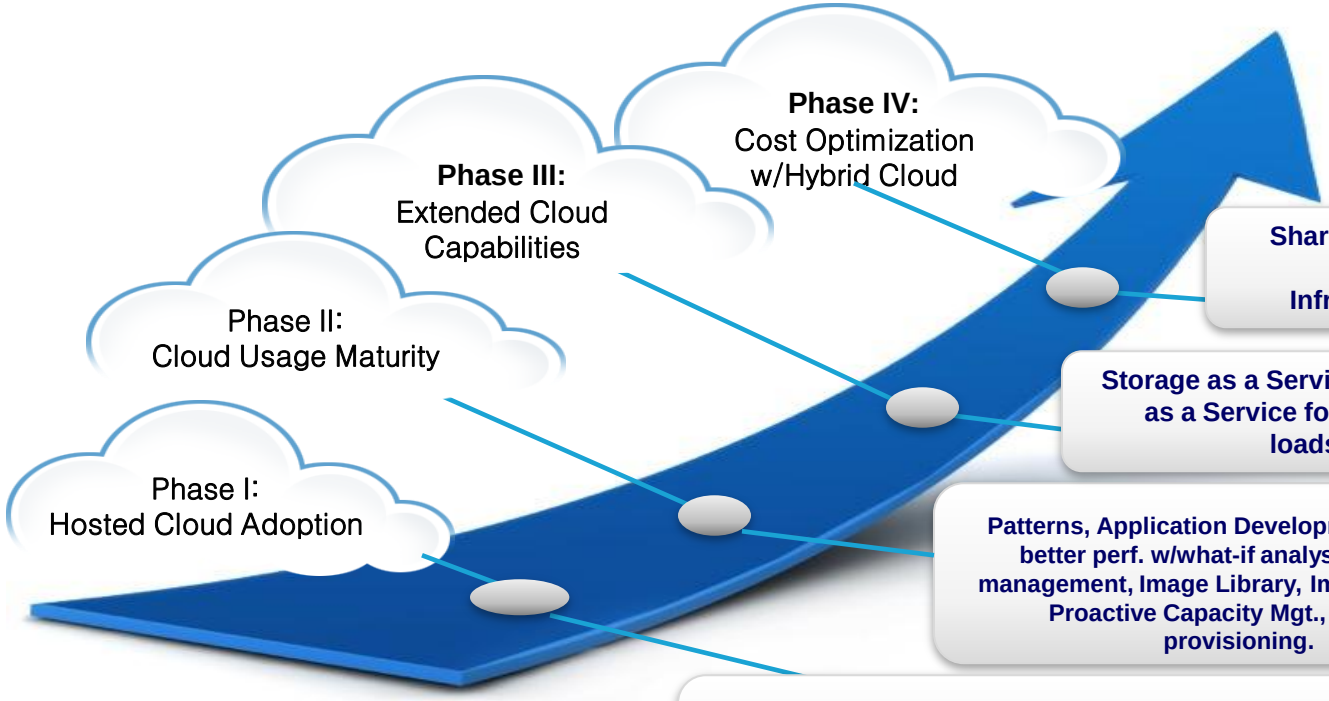
Hardware payback: 30%-70%	Provisioning payback: 48%-90%	Productivity payback: up to 90%	System Administration payback: 36%-45%
Payback through: ▪ Higher utilization and avoidance of capital expense ▪ Reduces depreciation expense ▪ Energy and facilities	**Payback through:** ▪ Time saved deploying new systems ▪ Reduced maintenance through image cloning	**Payback through:** ▪ Self-service provisioning with service catalog ▪ Automated workflows	**Payback through:** ▪ Monitor the virtualized environment ▪ Manage the virtualized environment ▪ Discovery, dependency and change tracking

Source: IBM White Paper. Cloud Computing Payback
http://www.cloudconnectevent.com/downloads/ibm-white-paper.pdf

Análisis de Cargas de Trabajo

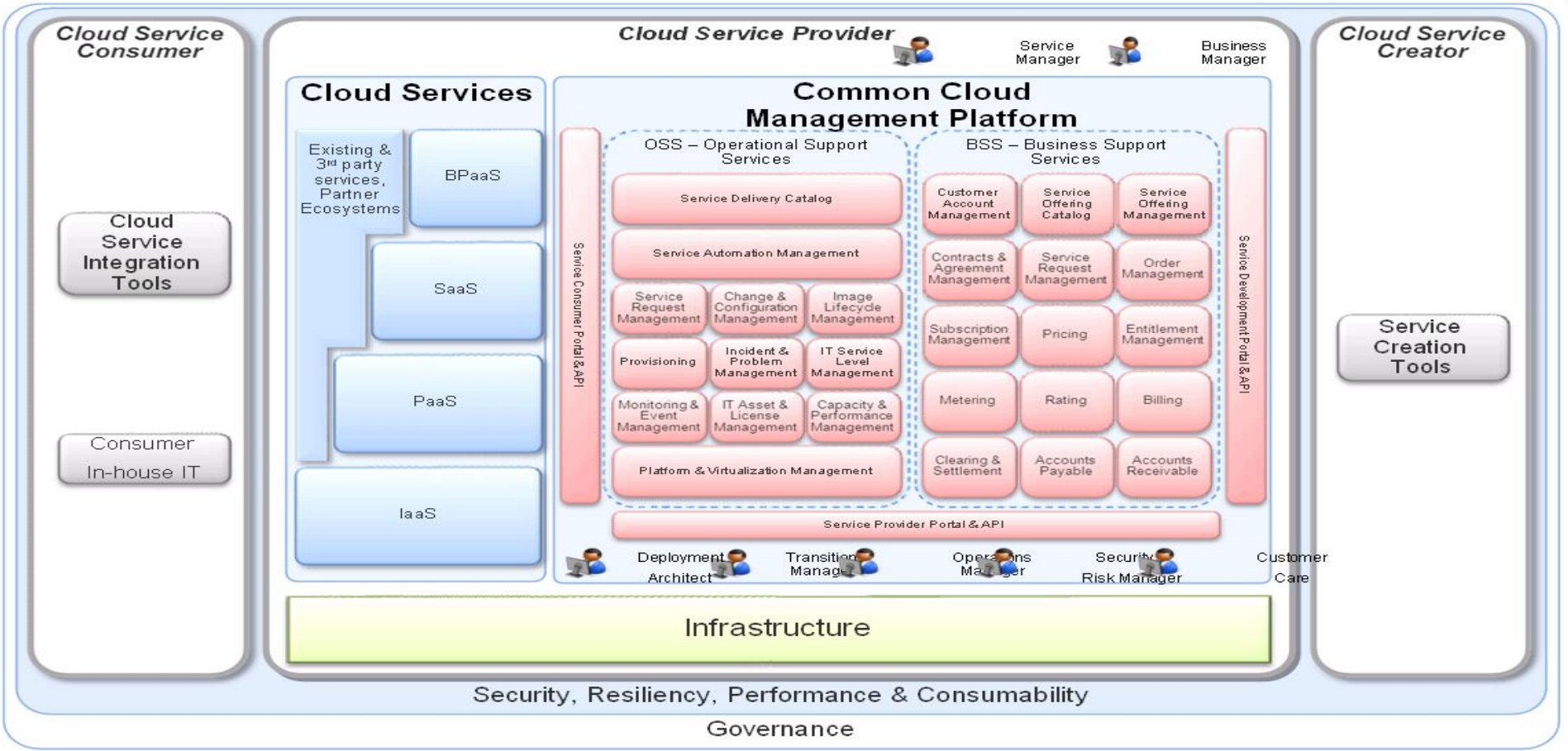


Cloud Evolution – Proposed Roadmap **Ejemplo

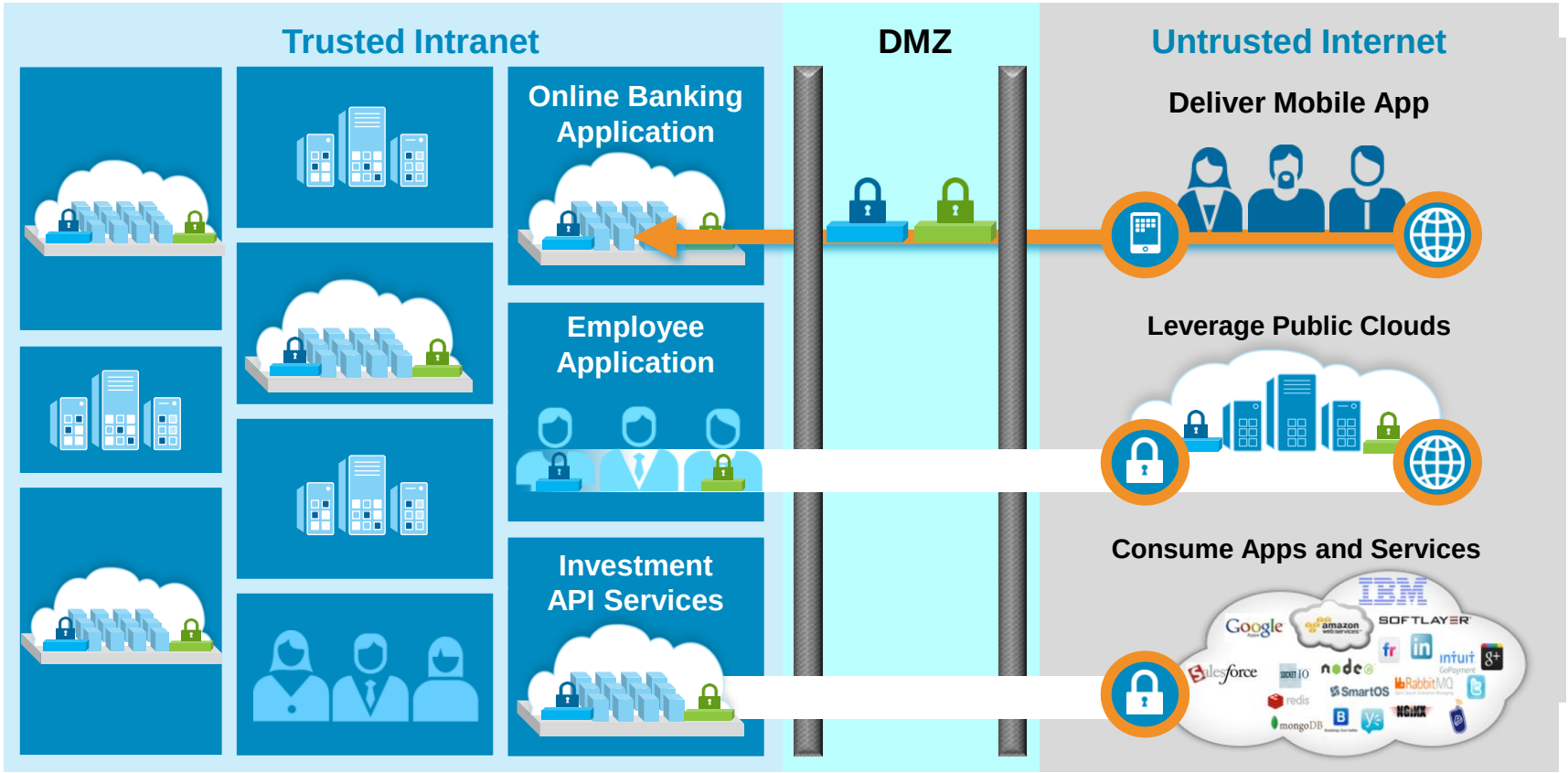


Operational Capabilities	Cloud Offerings
Shared Public cloud Infrastructure	Hybrid Cloud Offerings
Storage as a Service, Backup as a Service for extended loads	PaaS, DB-aaS, Backup-aaS, Desktop-aaS
Patterns, Application Development process, better perf. w/what-if analysis, License management, Image Library, Image hierarchy, Proactive Capacity Mgt., Physical provisioning.	IaaS DevTest Loads, Production loads
Granular billing, multiple approver workflows, x86 & Unix platforms, Multiple hipervisors, Physical and virtual infrastructure monitoring, End-to-end Security, Multitenancy, Infrastructure Reservation	

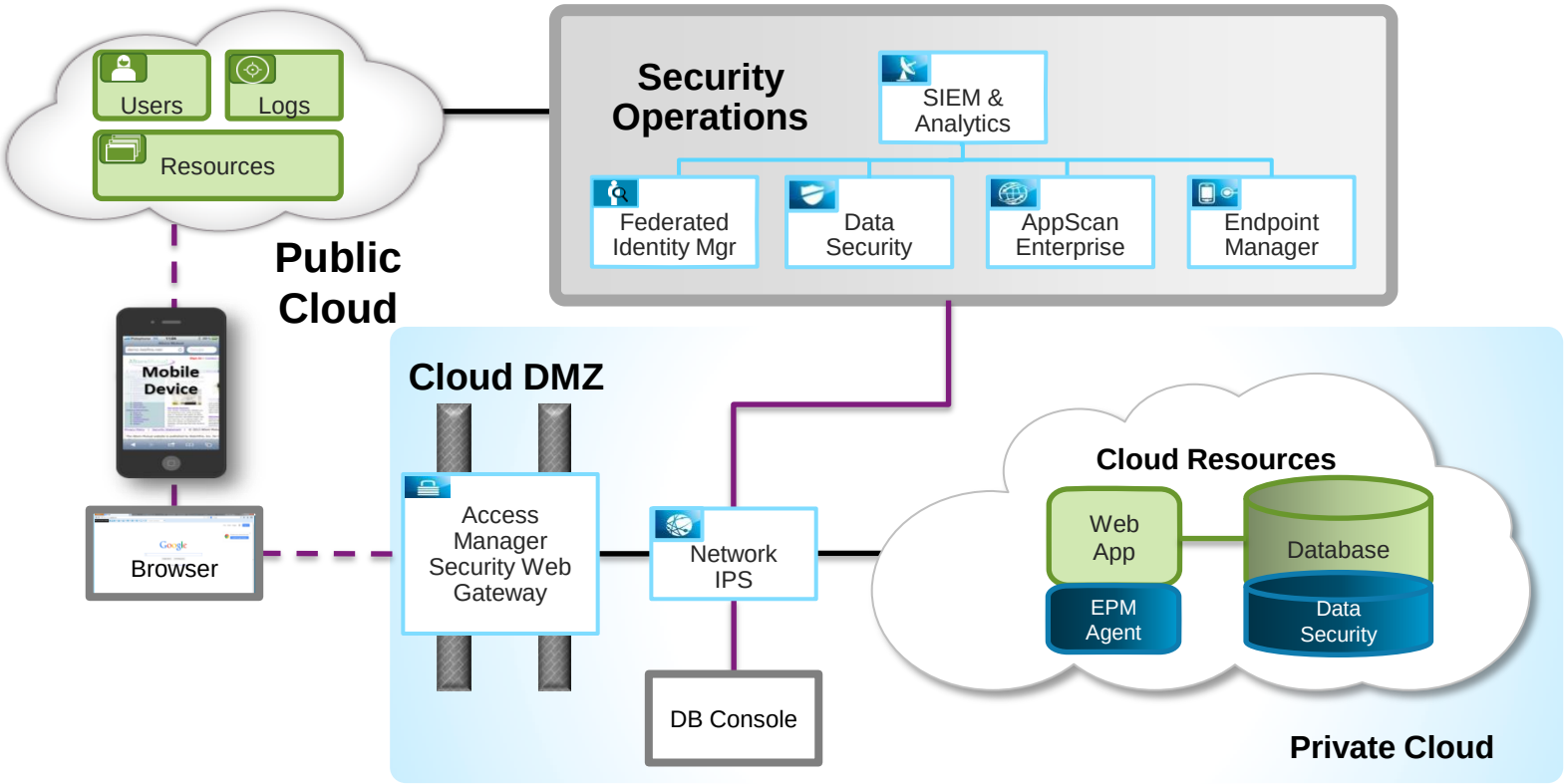
Cloud Service provider Capabilities
IBM Cloud Computing Reference Architecture



…. With Cloud There Is No Perimeter



Seguridad del Cloud: aspectos fundamentales que deben ser considerados



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