Cloud computing

It's opportunities and challenges in Public Sector

Robert Cisar
HP Lead Solution Consultant for Cloud
26 May 2011

"Computing may someday be organized as a public utility" - John McCarthy, MIT Centennial in 1961

Mobility + Internet

+

Agility

+

CAPEX → OPEX

By 2013,

22%

of Federal Agencies are estimated to have implemented Cloud

Source: InformationWeek Government, "Federal Agencies Shift Into Cloud Adoption"

What

is cloud computing?

"Cloud computing is a style of computing where scalable and elastic IT-enabled capabilities are delivered as a service to external customers using Internet technologies"

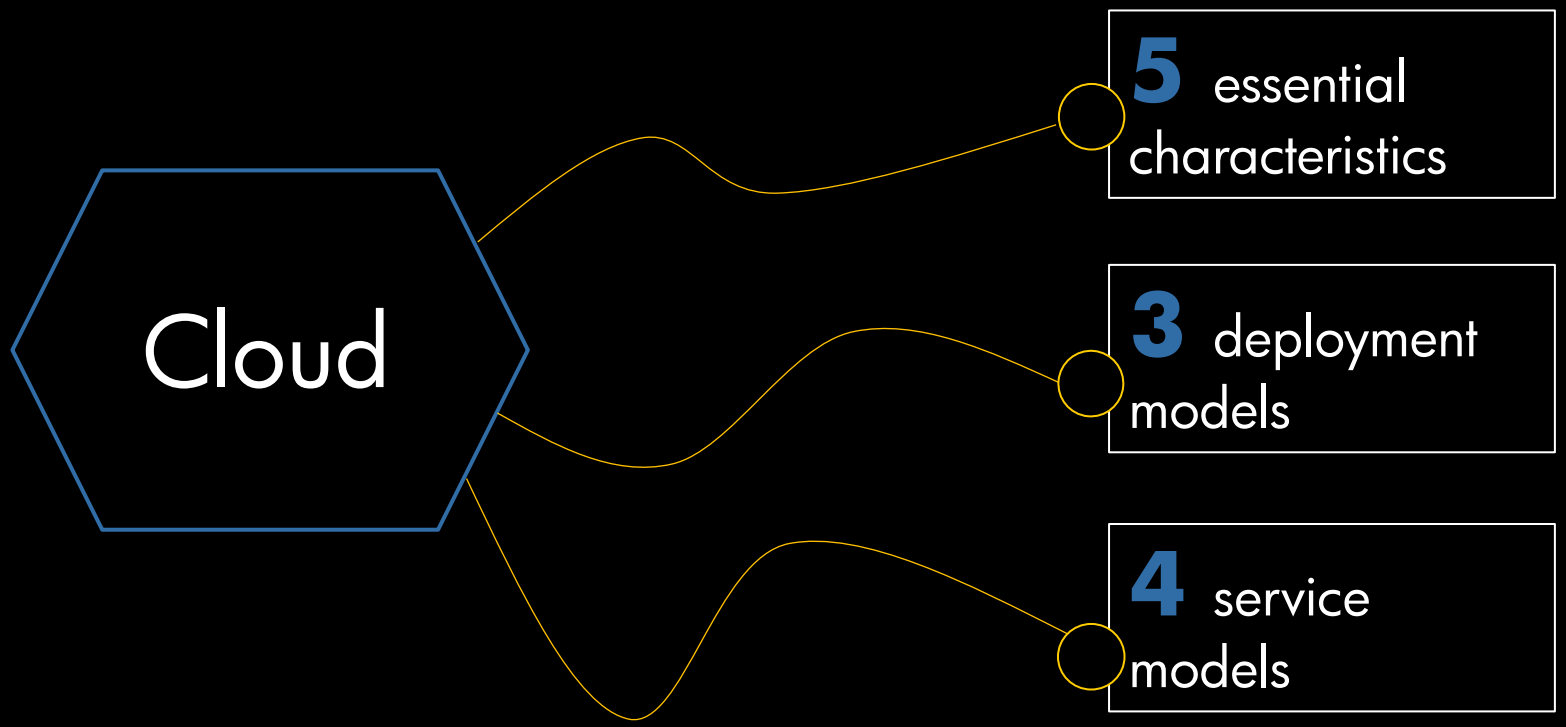
Source: Gartner, Inc. "Cloud Computing Key Initiative Overview" by David Cearley, February 5, 2010

OR

"Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."

Source: NIST "NIST Cloud Definition by Peter Mell & Tim Grance, July 10, 2010

the Cloud is composed of

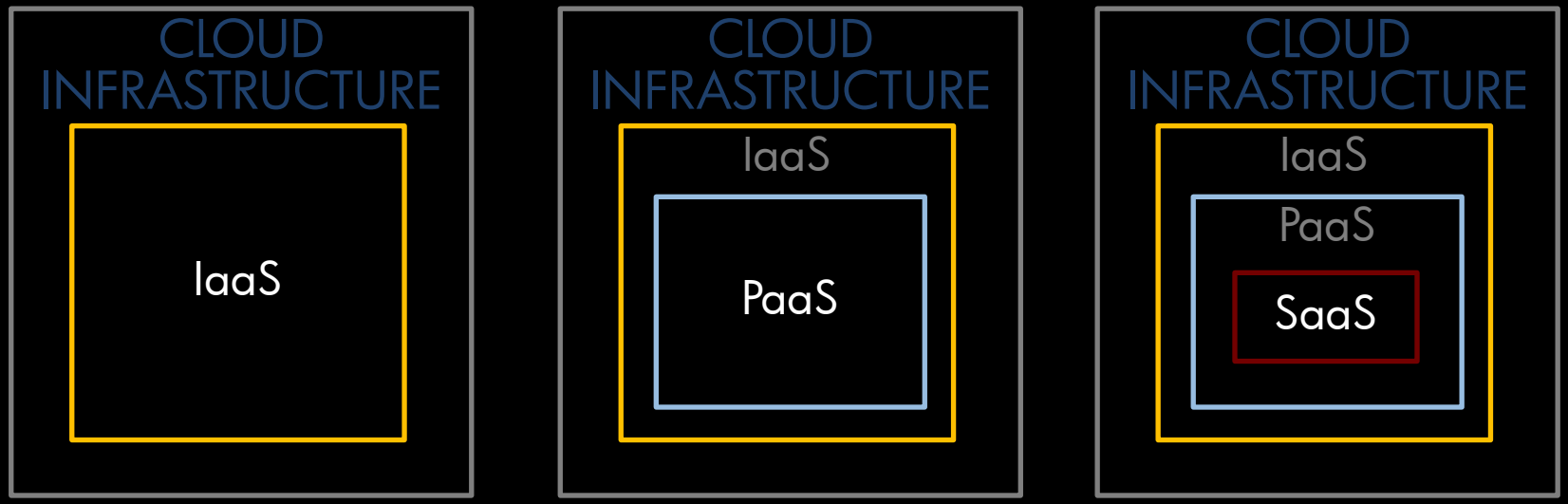


5 Essential characteristics

- ✓ Service based
- ✓ Massively scalable and elastic
- ✓ Shared
- ✓ Consumption based billing
- ✓ Delivered via Internet technologies

3 Deployment models

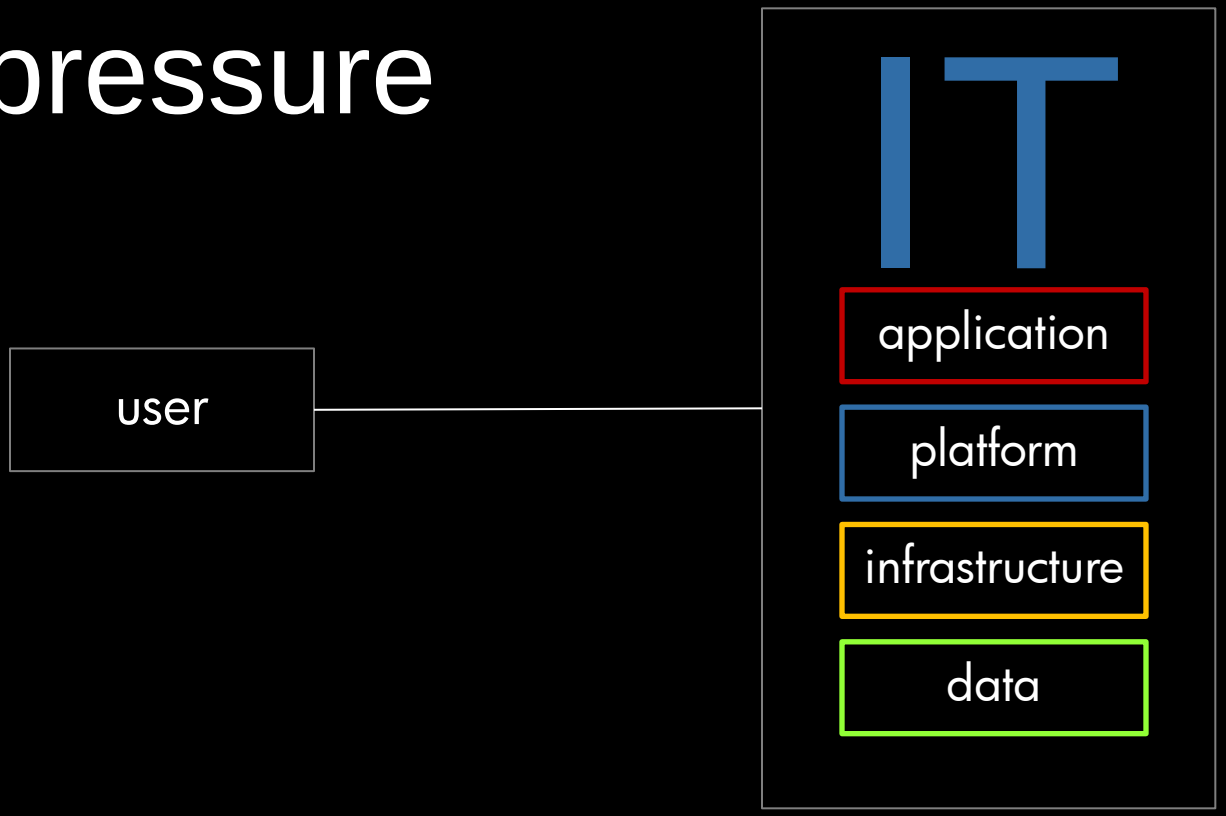
- ✓ Infrastructure as a Service (IaaS)
- ✓ Platform as a Service (PaaS)
- ✓ Software as a Service (SaaS)



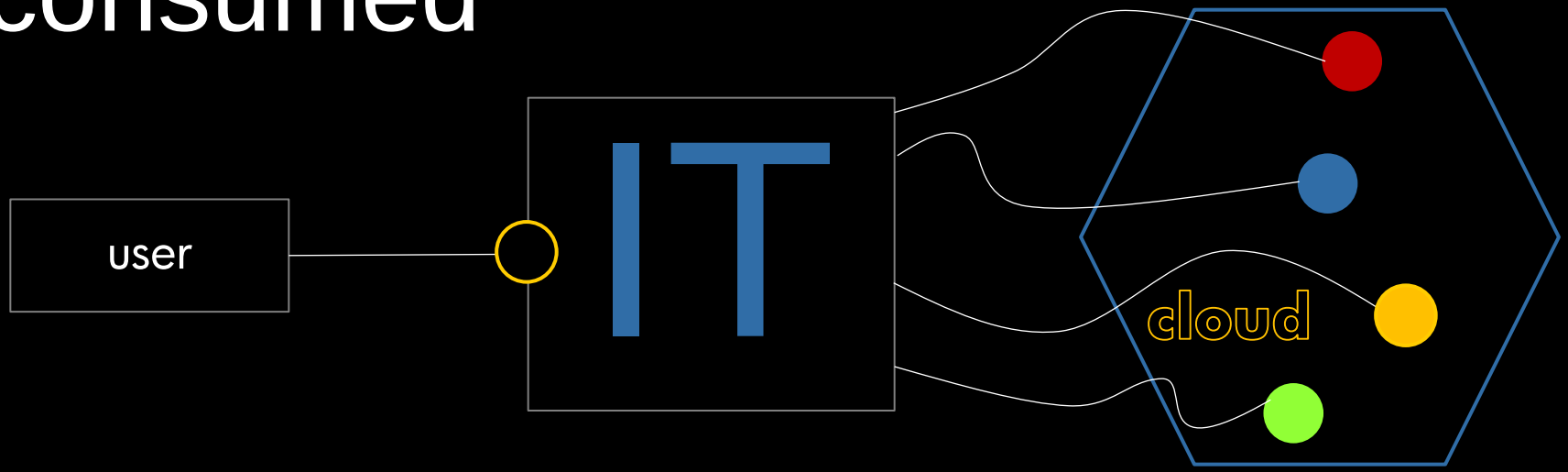
4 Service models

- ✓ Private cloud
- ✓ Community cloud
- ✓ Public cloud
- ✓ Hybrid cloud

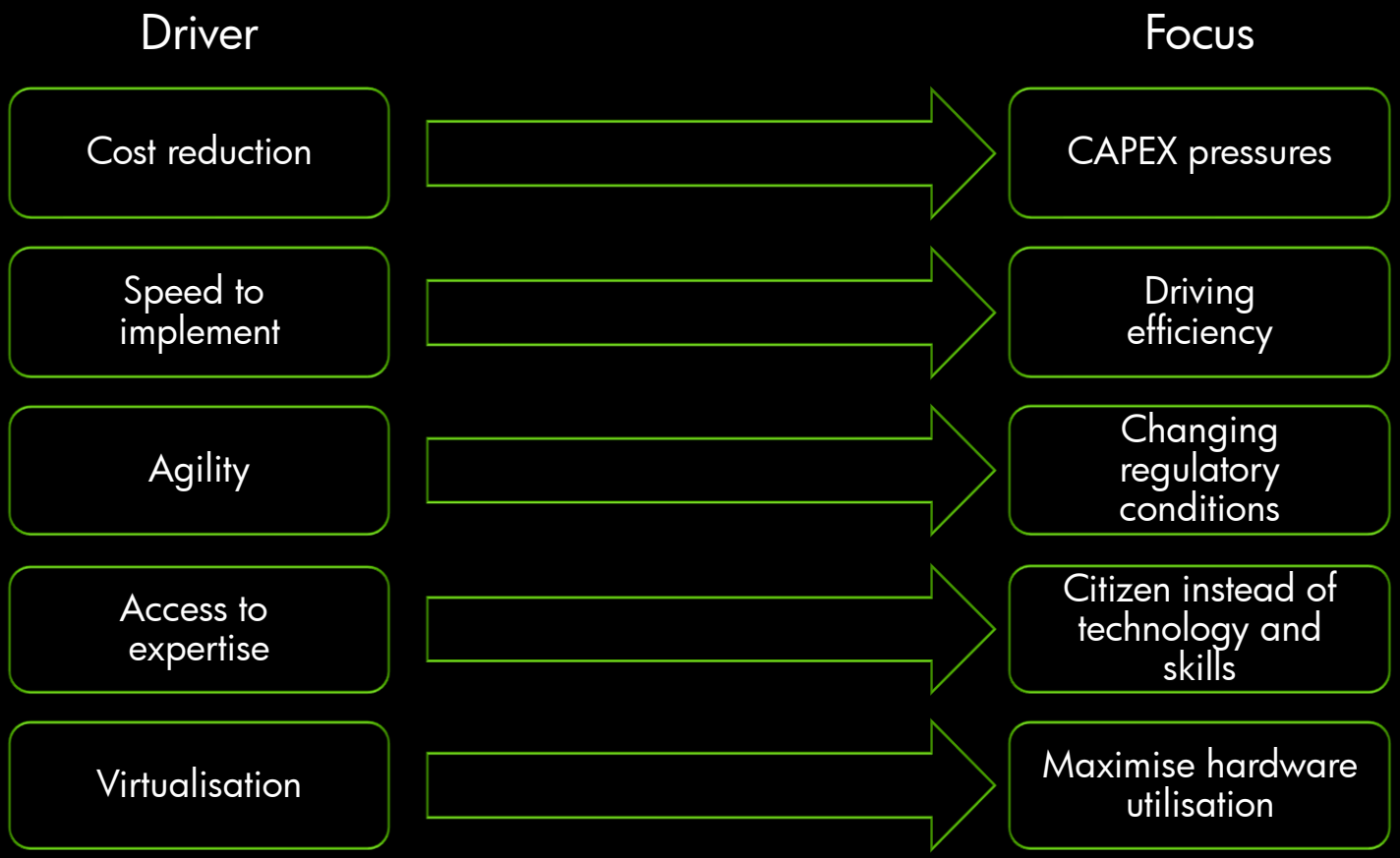
Technology silos are under pressure



resulting in a paradigm shift in the way IT is consumed

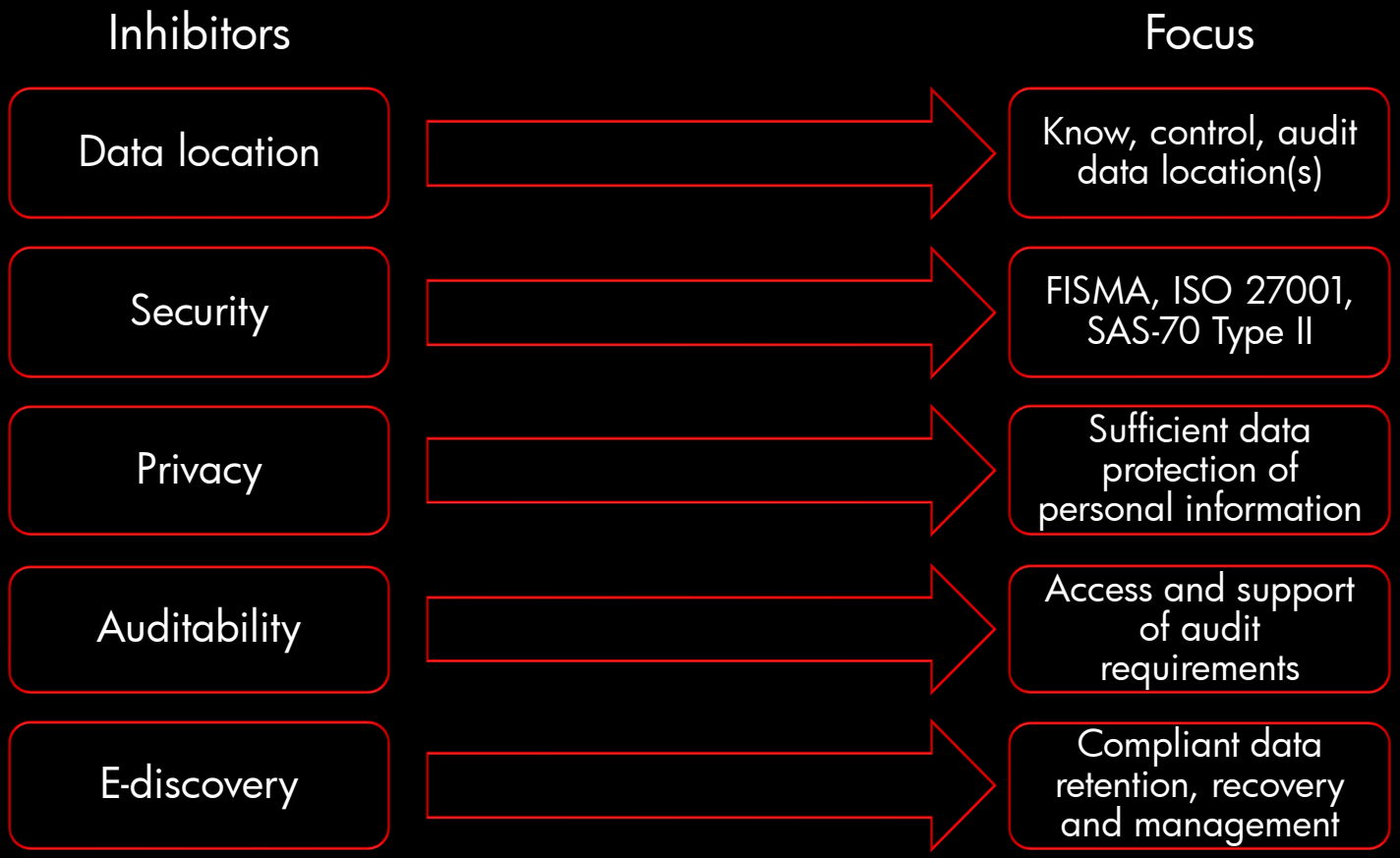


Top drivers for public sector



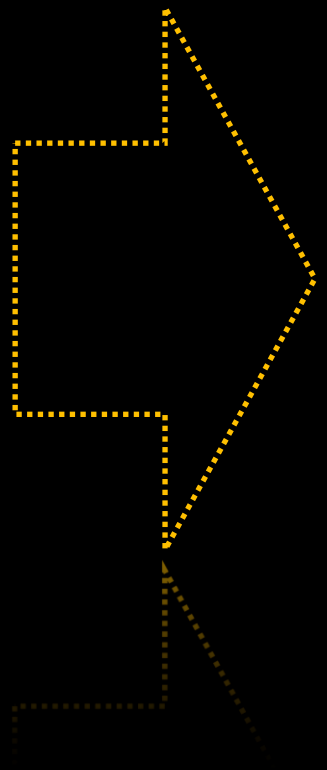
Source: Gartner, Inc. "Who Really Cares About the Cloud? An Industry Perspective" *by* Jeff Roster, Cynthia Moore, Kristine Pfeiler,

Top inhibitors for public sector



Source: Gartner, Inc "Criteria for Government to Evaluate Cloud Computing" by Andrea Di Maio, Massimiliano Claps

So, a fundamental



shift

Is it worth it?

Today,

governments and public sector bodies are consuming cloud services

Public Sector clouds

Seventh Framework Programme

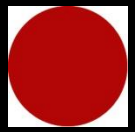
Government Cloud Computing Initiative – G-Cloud & G-aS clouds

US Department of Energy (DOE) – Magellan

NASA – Nebula cloud

General Services Administration (GSA) – apps.gov cloud

Federal Chief Information Officers Council



The Digital Japan Creation Project – The Kasumigaseki cloud

"[UK] Government to set up own cloud computing system. UK cloud computing strategy could save up to £3.2bn a year [from a £16bn annual budget], says Cabinet Office"

Charles Arthur, technology editor guardian.co.uk, Wednesday 27 January 2010

"In September 2009, we [Obama Administration] announced the Federal Government's Cloud Computing Initiative"

- ✓ recovery.gov redirecting $1m per year in IT savings to improving fraud and waste detection due to cloud migration
- ✓ City of Los Angeles is anticipating savings of $5.5 million over five years from migrating email and productivity tools to the cloud

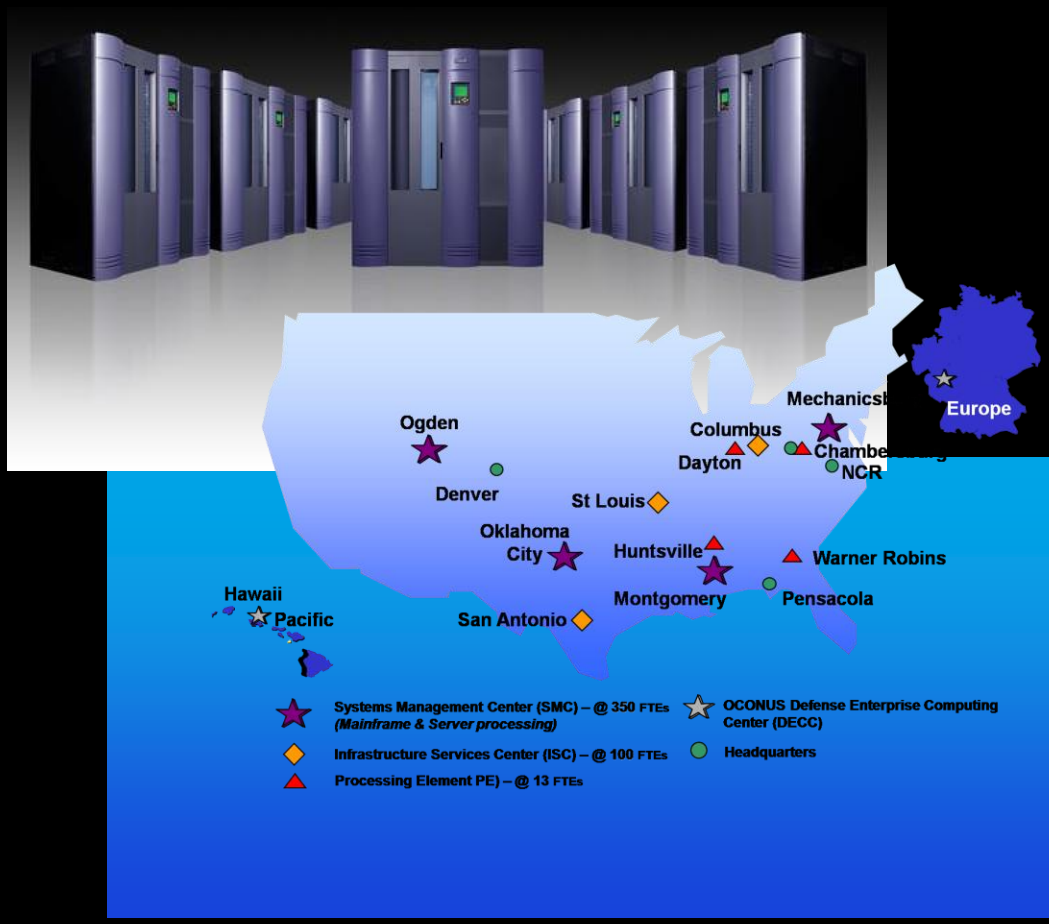
Vivek Kundra Federal Chief Information Officer, Obama Administration, State of Public Sector Cloud Computing , May 20, 2010

Army Experience Center

- ✓ Initial bids from traditional vendors ranged from $500k to $1m to implement
- ✓ The Army chose cloud-based CRM at a annual cost of $54k
- ✓ This resulted in faster upgrades, dramatically reduced hardware and IT staff costs

Vivek Kundra Federal Chief Information Officer, Obama Administration, State of Public Sector Cloud Computing , May 20, 2010

Defense Information Systems Agency (DISA) Computing Services Directorate



4,000,000+ users

13 facilities

445,000 sq ft raised floor

34 mainframes

6100 servers

3800 terabytes of Storage

2,800 application / database instances

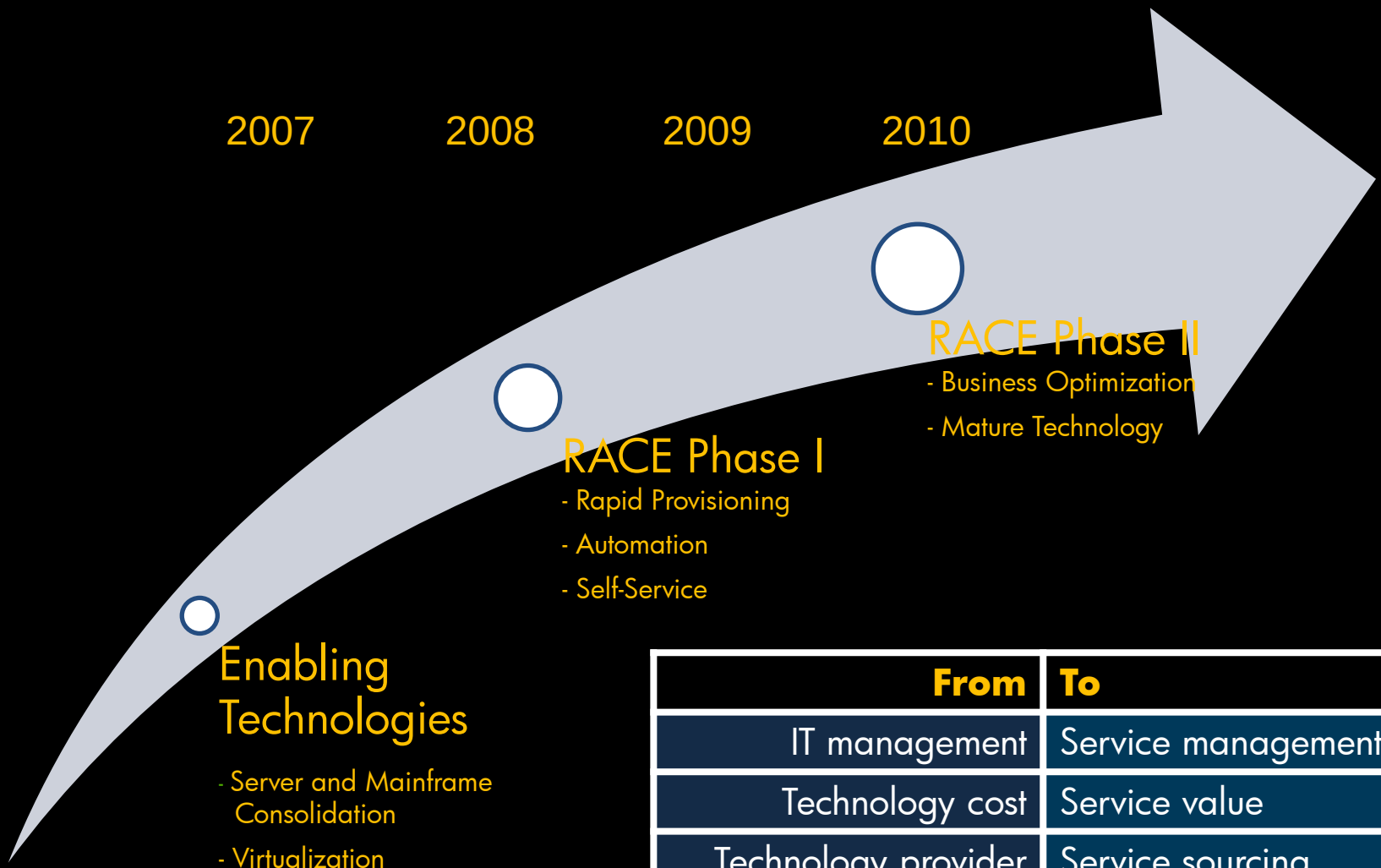
215 software vendors

Rapid Access Computing Environment

- ✓ DISA created RACE secure private cloud in 2008
- ✓ RACE provides on-demand server space for development teams across public sector
- ✓ Self-service portal to provision computing resources
- ✓ Guaranteed to be secure to DoD standards
- ✓ Provisioning improved from six weeks to 24 hours
- ✓ Set up with an approved Government credit card

Vivek Kundra Federal Chief Information Officer, Obama Administration, State of Public Sector Cloud Computing , May 20, 2010

RACE programme Rollout



From	To
IT management	Service management
Technology cost	Service value
Technology provider	Service sourcing
Cost center	Growth enabler

The Evolution of RACE
Cloud Computing at DISA (RACE 1.0)

Cloud Services

Cloud Infrastructure

PLATFORMS

PROCESSING

Cloud Management

PORTAL

CLOUD ORCHESTRATION & ACCOUNTING

BUSINESS SERVICE MGMT

IT SERVICE MGMT

IT OPERATIONS

PROVISIONING

IMAGE BACKUP

CONFIGURATION MGMT

The Evolution of RACE
Cloud Computing at DISA (RACE 2.0)

Cloud Services

COLLABORATION

TEST MANAGEMENT

VERSION CONTROL SERVICES

Cloud Infrastructure

DATABASE

PLATFORMS

PROCESSING

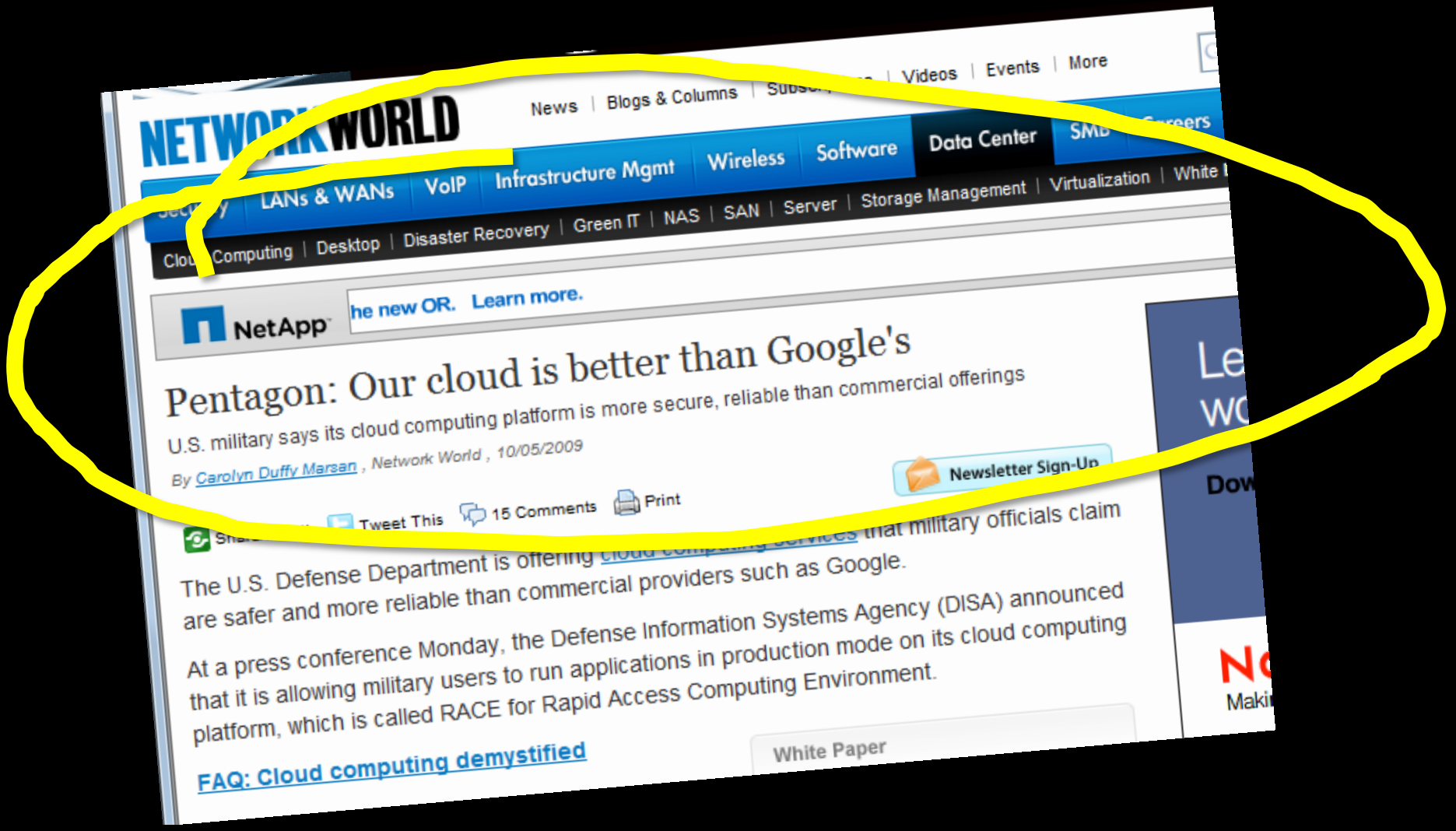
STORAGE

Cloud Management

- PORTAL
- CLOUD ORCHESTRATION & ACCOUNTING
- BUSINESS SERVICE MGM
- IT SERVICE MGMT
- SECURITY MGMT
- IT OPERATIONS
- PROVISIONING
- BACKUP/ARCHIVE
- CONFIGURATION MGMT

RACE - Secure Cloud Computing

Objective	Approach	Results
• Rapid access to computing resources • Eliminate the need to procure physical infrastructure • Self service portal through a single, secure interface • User configurable server environments • Automated provisioning • Flexible billing options • Meet DoD security requirements	• HP development of shared services utility for Rapid Access Computing Environment (RACE) • HP Server Automation and HP Operations Orchestration for provisioning and configuration management • HP Operations Manager for monitoring and control • HP Service Manager to automate incident & problem management • HP Systems Insight Manager and HP Proliant Essentials • Cluster Resources Moab for intelligent orchestration and Gold for billing	**Business outcomes** • Reduced costs • Consolidated simplified processes • Shortened time to delivery **IT improvements** • Flexible development platforms for Web, Application or Database • User can allocate own resources through Web interface • Can provision a server in a few minutes • CPU, memory, storage, virtual environment provided in one simple solution


NETWORKWORLD
News | Blogs & Columns | Videos | Events | More
LANs & WANs | VoIP | Infrastructure Mgmt | Wireless | Software | Data Center | SMB
Computing | Desktop | Disaster Recovery | Green IT | NAS | SAN | Server | Storage Management | Virtualization
NetApp
Pentagon: Our cloud is better than Google's
U.S. military says its cloud computing platform is more secure, reliable than commercial offerings
By Carolyn Duffy Marsan , Network World , 10/05/2009
Newsletter Sign-Up
Tweet This
15 Comments
Print
The U.S. Defense Department is offering cloud computing services that military officials claim are safer and more reliable than commercial providers such as Google.
At a press conference Monday, the Defense Information Systems Agency (DISA) announced that it is allowing military users to run applications in production mode on its cloud computing platform, which is called RACE for Rapid Access Computing Environment.
FAQ: Cloud computing demystified
White Paper

The journey requires…

- ✓ A structured, service lifecycle approach
- ✓ Capability model and roadmap that addresses people, process and technology
- ✓ A flexible design you can evolve for tomorrow's cloud model
- ✓ Solution architecture blueprints that provide customization to protect key investments already made
- ✓ Solid Implementation plan built on real life projects