



## Federal Cloud Computing Initiative

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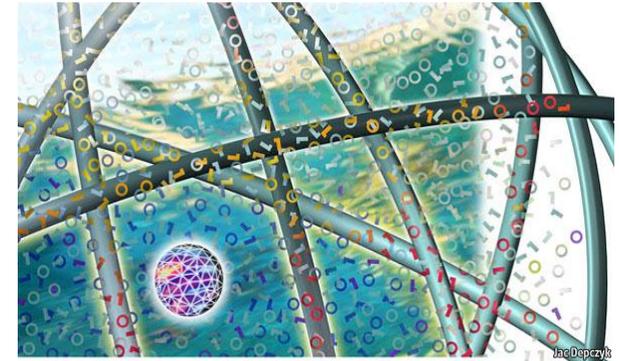
**FEDSCOOP Cloud “Shoot-out”**

**December 9, 2010**

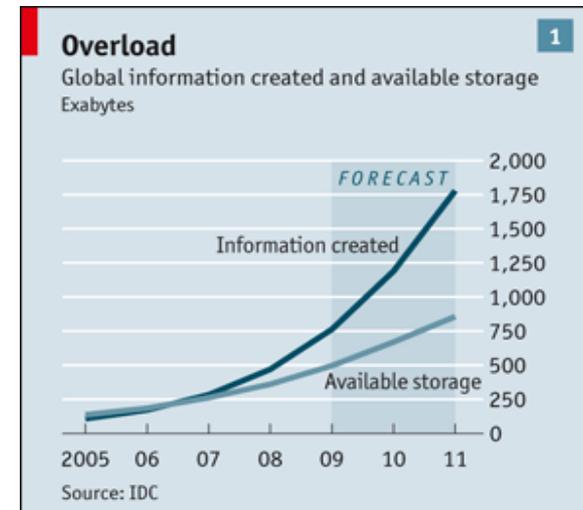


## 6 bold tech predictions: Fact or fantasy? FCW (December 8, 2010)

1. 20% of businesses will own no IT assets by 2012 (Gartner)
2. 75% or more of jobs in stand-alone IT departments will disappear by 2015 (Corporate Executive Board)
3. One trillion devices will be connected to the Internet by 2013 (Cisco) – Current=35B
4. The government can save \$1 trillion in 10 years by harnessing certain proven technologies (Technology CEO Council)
5. 25% of personal computing devices sold will be tablets by 2015 (Forrester Research)
6. Data will grow by 800 percent in the next five years with 80% Unstructured Text and Media (Gartner)

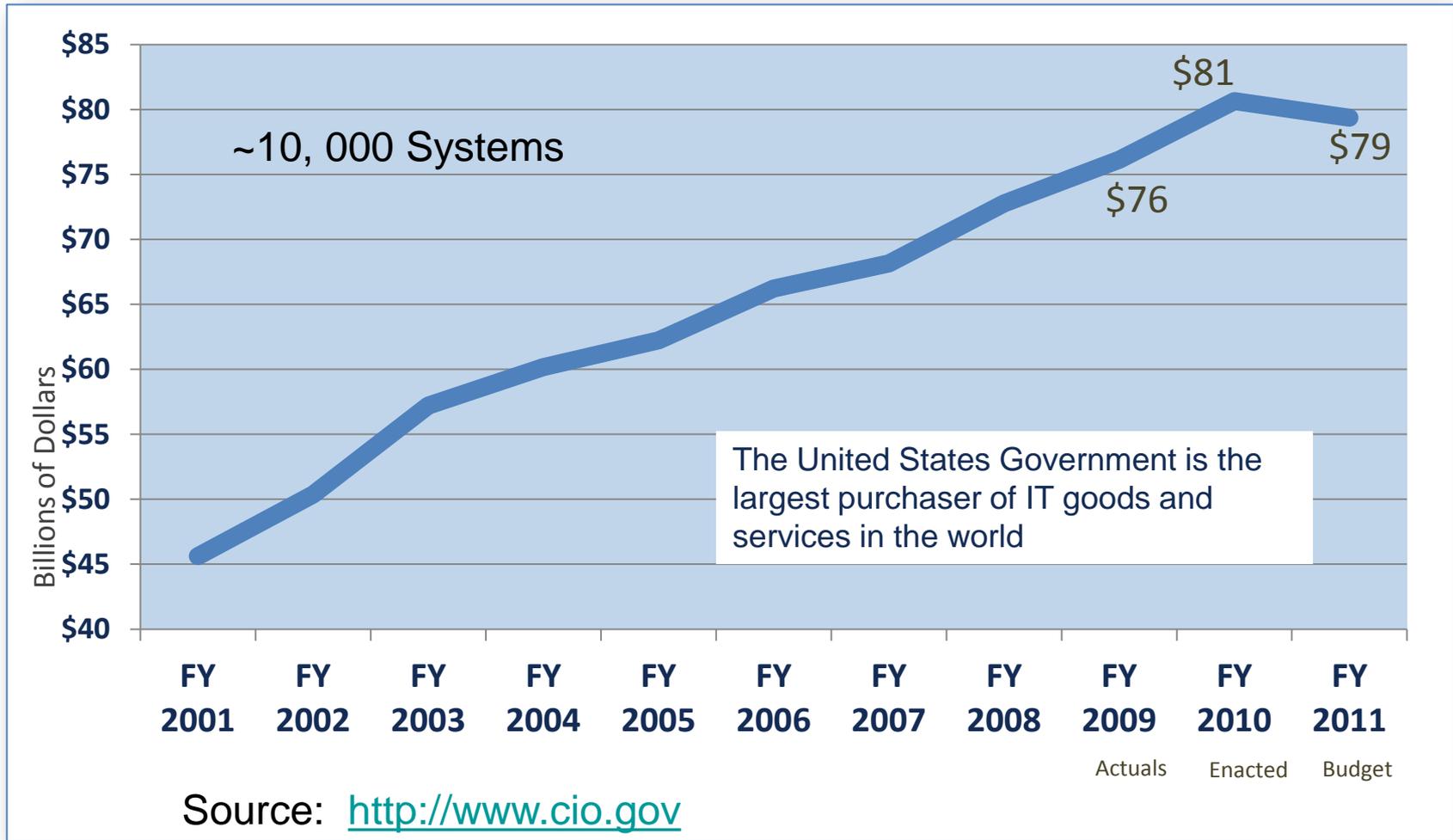


Volume of digital information increases tenfold every 5 years



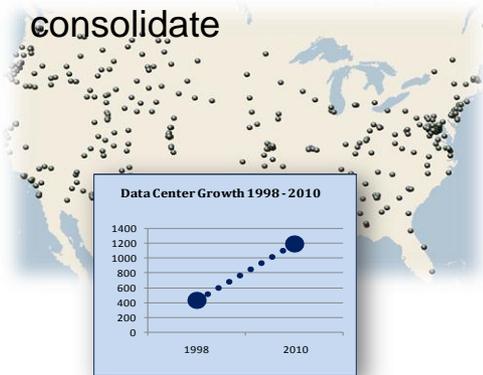
And....the data is replicated many times over!

# Context: The Government Spends Billions in IT



## RATIONALIZE SERVICE DELIVERY MODELS

- Private sector is consolidating data centers while government data centers are growing
- Government needs to reverse this trend and consolidate



## SHIFT SERVICES TO THE CLOUD

- Leverage shared services through the cloud
- Launched Apps.gov to simplify procurement of cloud services



flickr

amazon.com

salesforce.com  
Success On Demand.

Microsoft

Google Apps



## SIMPLIFY ACCESS TO SERVICES

- End-to-end digital service platforms
- New platforms for delivery – e.g., Mobile Computing



# 2094!

# IaaS/SaaS/PaaS!

**Mobile will be bigger than desktop internet in 5 years**  
-- Mary Meeker, Morgan Stanley, April 2010

# Context: IT Reforms and Cloud

Date	Title	Official(s)	Key Highlights
June 8, 2010	Closing the IT Gap*	Peter Orzag	Identify 5% of Bottom Performing Programs
October 25, 2010	Closing the IT Gap – an update	Jeff Zients	<u><a href="#">Moving to consolidate data centers and deploy cloud computing technology to reduce IT, real estate, and energy costs.</a></u>
November 19, 2010	Driving IT Reform: an Update**	Jeff Zients and Vivek Kundra	5 Strategies – including “adopting light technologies and shared solutions”+
December 9, 2010	IT Reform Details	Jeff Zients and Vivek Kundra	Shift to “Cloud First” policy. Require each agency to identify 3 “must move” systems within 3 months and move 1 to the cloud within 12 months
<p>*<a href="http://www.whitehouse.gov/omb/blog/10/06/08/Closing-the-IT-Gap">http://www.whitehouse.gov/omb/blog/10/06/08/Closing-the-IT-Gap</a>  **<a href="http://www.whitehouse.gov/blog/2010/11/19/driving-it-reform-update">http://www.whitehouse.gov/blog/2010/11/19/driving-it-reform-update</a></p>			Reduce number of data centers by at least 800 by 2015

+ We are reducing our data center footprint by 40 percent by 2015 and shifting the agency default approach to IT to a cloud-first policy as part of the 2012 budget process. Consolidating more than 2,000 government data centers will save money, increase security and improve performance.

## Changing the Way Government Leverages Technology....

### Better

- **Drive Innovation:** Work with private industry encouraging innovation and furthering competition among providers to drive best value solutions for the Government
- **Use Only What's Needed:** Eliminate high upfront costs by aligning costs with actual use or consumption of IT resources
- **Put the Power in the Hands of the End Users:** Move operating complexities to the Cloud, allowing Agencies to focus on core mission objectives

### Faster

- **Provide One-Stop Shop:** Simplify acquisition of IT services by making it as simple as buying a book, booking an airline ticket, or making a dinner reservation online
- **Turn Up of IT Quickly:** Services can be provisioned in hours or days versus traditional IT methods which may take months to deploy
- **Scale Rapidly:** Deliver elastic computing, allowing Agencies to rapidly expand or contract IT resources to support unplanned events or spikes in usage

### Greener

- **Energy Efficiency:** Create virtualized hardware and software services so Government uses only what's needed, avoiding overbuilding data center and server capacity
- **Reuse Across Agencies:** Provide shared, resource pooling, for greater reuse and ability to leverage underutilized IT resources across Government Agencies

**Budget Realities are Dictating Cost Savings...**

## GSA OPERATIONAL VIEW



AGENCIES



CITIZENS



INDUSTRY



WHITE HOUSE

CUSTOMER INTIMACY

GREEN BUILDINGS



FLEET



AGILE WORKPLACE



TELECOMMUNICATIONS



INNOVATION

ONE-STOP SHOP



JUST-IN-TIME SUPPLIES



CLOUD-BASED SERVICES



POLICY



OPEN  
SUSTAINABLE  
CITIZEN-CENTRIC  
GOVERNMENT



OPERATIONAL EXCELLENCE



### BUSINESS CAPABILITIES

ACQUISITION SOLUTIONS

WORKPLACE SOLUTIONS

GOVERNMENTWIDE IT SOLUTIONS

INFORMATION DISSEMINATION

### MANAGEMENT SERVICES

INFORMATION MANAGEMENT

PLANNING

GOVERNANCE

### SUPPORT SERVICES

FINANCE

HUMAN RESOURCES

### IT INFRASTRUCTURE SERVICES

NETWORK

COMMUNICATION AND COLLABORATION

DATA CENTER

DESKTOP

CLOUD COMPUTING

IT TRAINING

SECURITY



Source: GSA OCIO EA Brent Bunk

- Federal Cloud Computing Initiative began in March 2009 at the request of the Federal CIO, Vivek Kundra.
- Mission: Drive the government-wide adoption of cost effective, green, and sustainable Federal cloud computing solutions.
- The Cloud Computing Program Management Office (PMO) was established at GSA in April 2009.
  - PMO manages the Cloud Computing Executive Steering Committee, which reports to the Federal CIO Council.
  - 4 additional government-wide governance groups were established within the program:
    - Cloud Computing Advisory Council.
    - Cloud Computing Security Working Group.
    - Cloud Computing Standards Working Group.
    - SaaS Email Working Group.

The screenshot shows the Apps.gov website interface. At the top left is the GSA logo and the text "Apps.Gov A Service Provided by GSA". To the right are links for "Welcome", "Register", and "Log In", along with a shopping cart icon showing "0 Items in Cart \$0.00". Below this is a navigation bar with links for "Home", "Business Apps", "Productivity Apps", "Cloud IT Services", and "Social Media Apps". A date indicator shows "Monday, October 18, 2010" and a search bar with "SEARCH FOR" and "IN All Categories" dropdown. The main content area features three promotional boxes: "Coming soon to Apps.gov" with a globe and laptops, "What is Cloud Computing?" with a video player and transcript link, and "What type of solution do you need?" which is a grid of four categories: Business Apps, Cloud IT Services, Productivity Apps, and Social Media Apps. Each category includes a brief description and a GSA Cloud logo. A footer contains a disclaimer and navigation links.

**GSA Apps.Gov**  
A Service Provided by GSA

Welcome Register | Log In  
0 Items in Cart \$0.00

Contact Us | Cloud FAQs | Vendor FAQs

Home Business Apps Productivity Apps Cloud IT Services Social Media Apps

Monday, October 18, 2010 SEARCH FOR [ ] IN All Categories [v] GO

### Coming soon to Apps.gov

You've got servers, developers, storage, testing, and upgrades to support your IT infrastructure. Need a better solution to reduce cost and speed implementation? Apps.gov Cloud IT Services can provide data storage, web hosting, and virtual machines all in the cloud - coming soon to Apps.gov!

### What is Cloud Computing?

Want to learn more?

Watch this brief video for an overview of Cloud Computing to gain a better understanding of what it is and its benefits.

Watch the video now »

[Video transcript »](#)

### What type of solution do you need?

#### Business Apps

Your agency or service is complex and requires state-of-the-art software to get business done.

*GSA Cloud Business Apps has a solution!*

#### Cloud IT Services

Need a better solution to reduce cost and implement projects faster?

*GSA Cloud IT Services has the answer!*

#### Productivity Apps

You need to get things done and GSA is there to help you do just that.

*GSA Cloud Productivity Apps has the tools!*

#### Social Media Apps

Social media tools make it easier to discuss the things we care about and help us get the job done.

*GSA Social Media Apps can help you get the word out!*

Before using/purchasing the products and services on apps.gov, please do so in accordance with your agency's policies and procedures pertaining to Procurement, Information Technology, Cyber Security, Privacy, Accessibility, Social Media, and any other applicable Federal mandates. If you have any questions about your agency's policies and procedures, please contact your agency's Office of the Chief Information Officer or [Terms of Service point of contact](#).

[Home](#) | [Register](#) | [Order History/Status](#) | [Cloud FAQs](#) | [Vendor FAQs](#) | [Contact Us](#)

First Federal storefront site to commoditize cloud services so that buyers may cross-compare products and purchase (launched September, 2009). Currently offering SaaS and social media products – IAAS Coming soon!

**Info.Apps.Gov**  
A Service Provided by GSA

Search Info.Apps.Gov:  Go

Home About FCCI Getting Started Apps.gov Offerings Resources Cloud Calendar Contact FCCI

### Upcoming

- Virtualization, Cloud Computing, and Green IT Summit
- Cloud Expo
- Cloud Computing Forum & Workshop II
- The Second OpenStack Design Conference
- 11th Annual Security Conference and Exhibition

MORE ►

### Quick Reference Docs

- IaaS RFQ and Q&A's (New Due Date June 30) (pdf)
- SaaS RFI (pdf)
- SaaS June Update Rqmts
- OMB Circular A-11
- State of Public Sector Cloud Computing

### Getting Started

#### What is Cloud Computing?

Get to know the five characteristics of cloud computing, its services and deployment models.

#### When Cloud Computing Makes Sense

Find out what types of scenarios could benefit from moving to the cloud.

#### What are the Services?

<b>Software as a Service (SaaS)</b> Software as a Service is a deployment model whereby a provider licenses an application to customers for use a service on demand.	<b>Infrastructure as a Service (IaaS)</b> Infrastructure as a Service is the delivery of computer Infrastructure, such as a platform virtualization environment, as a service.	<b>Platform as a Service (PaaS)</b> Platform as a Service is the delivery of computing platforms and solution stacks as a service.
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### Cloud Highlights

- Uncle Sam Wants the Cloud, Parts 1-3 (October 13, 2010)
- Execs Push to Clear Stormy Privacy Skies of Cloud Computing (October 12, 2010)
- GSA Debuts New Web 2.0 Tools and Hosting for Federal Agencies (October 12, 2010)
- White House Setting Data Center Consolidation Targets (October 12, 2010)
- Who Knows More About Cloud Computing? (October 11, 2010)
- Berkley Labs Taps Google, Tests Amazon Cloud Services (October 7, 2010)
- Consolidate IT Infrastructure, Save \$1 Trillion, CEOs Say (October 7, 2010)
- BSA Debuts Asset

Keeping you informed in upcoming events!

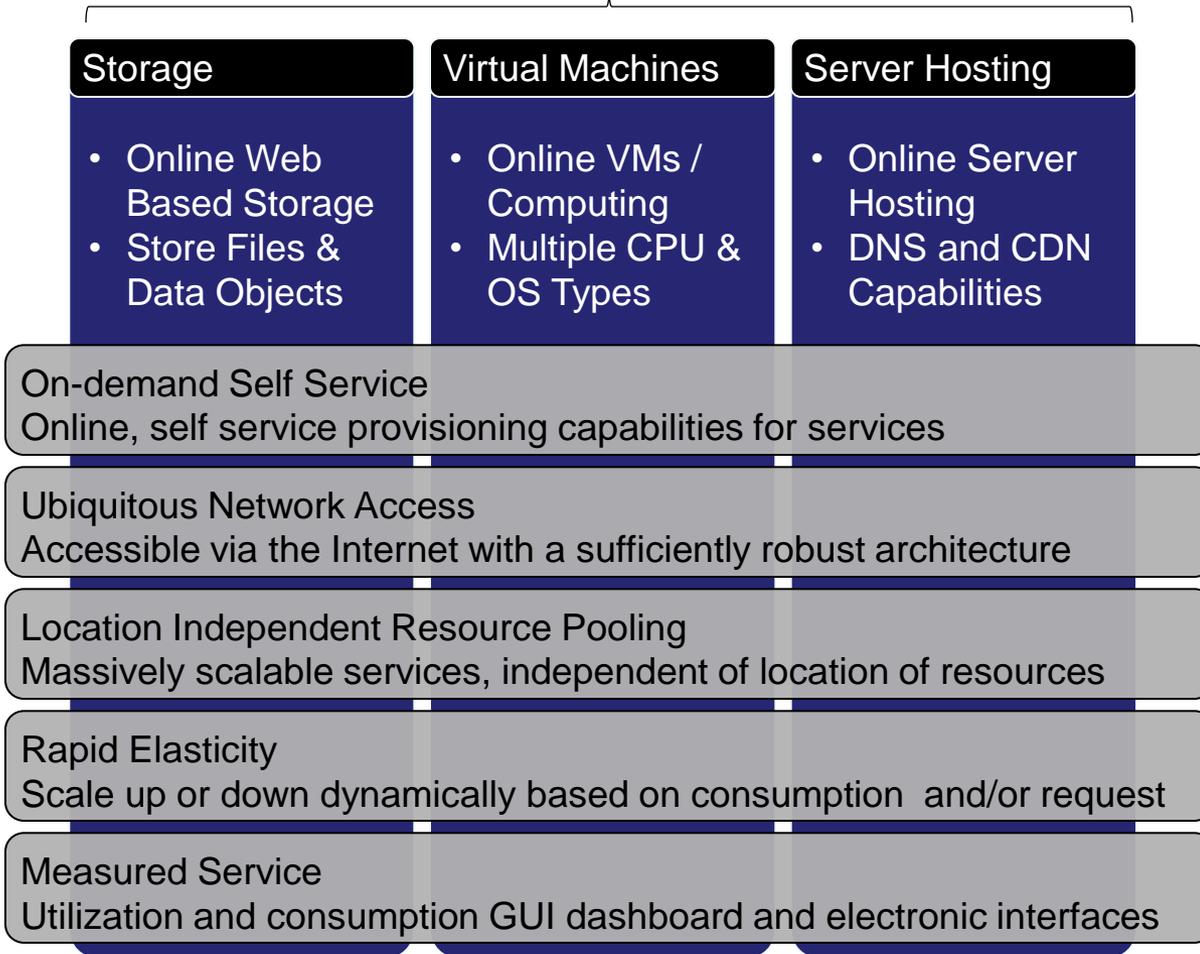
Reference Documents at your fingertips!

News and Information on Cloud and Data Center Topics

Provides tools to navigate the cloud landscape.

Launched in April 2010, Info.Apps.gov is a central Government site providing information about cloud computing and how to procure/use cloud services. It helps create sustainable, more cost-effective IT Services for the Federal Government. It is built on open source and it is hosted in the Cloud!

## IaaS Services



- **IaaS Awarded (October 2010)**
- **12 Awardees will complete security authorizations with GSA to support Moderate Level Security for Government**
- **Services will be made available through purchase on apps.gov**

RFQ Required  
Cloud Computing  
Characteristics

- Inter-agency SaaS Email Working Group established in June 2010.
- Developing an RFQ for a government-wide BPA of SaaS email solutions.
- Government-wide RFI completed and RFQ in preparation
  - 13 respondents. RFI responses will be leveraged to create RFQ requirements.
  - Pre-solicitation day held November 1 to solicit vendor and government feedback on draft SOW.
- GSA completed security authorization of Google Apps which may be leveraged by other agencies. USAID leveraged Google Apps security authorization package to greatly reduce timeline for system implementation
- Agencies award E-mail in Cloud (GSA, USDA....)

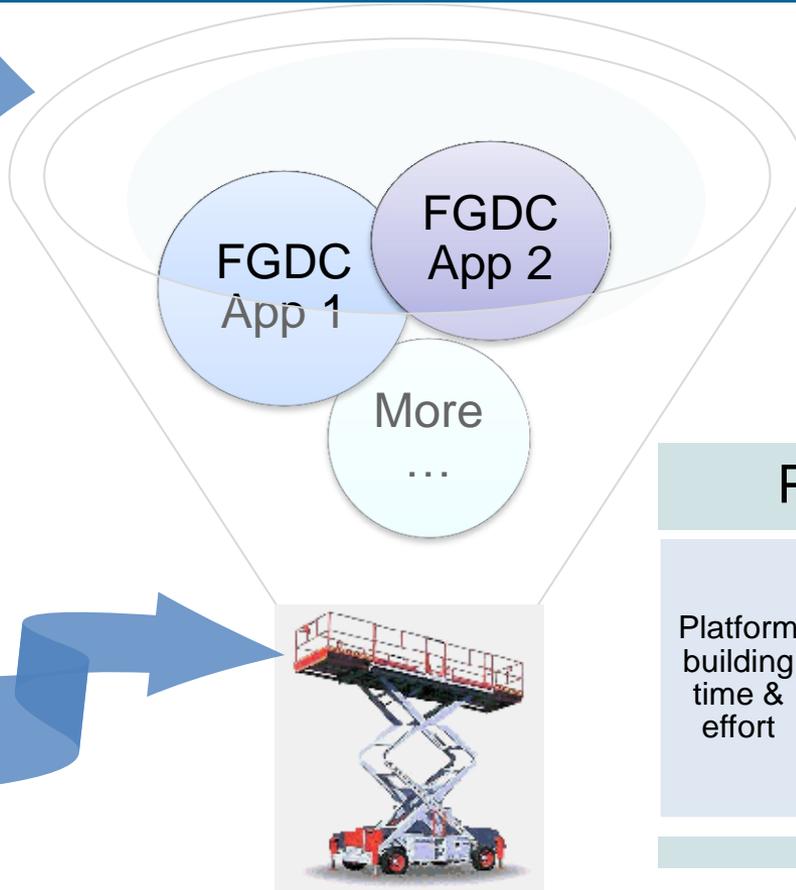
# Platform-as-a-Service (PaaS): GeoCloud

Large pool of agency applications identified for cloud migration

Apps Need Platforms

Federal Platform Reference Implementations

Platforms Amplify IaaS Savings



GeoCloud Community Platform

## Platform Savings

Platform building time & effort

Reduced maintenance costs

Faster deployment

Cost effective development / test

## Infrastructure as A Service Savings

Hardware Savings

Operations Savings

Scalability Savings

## Unified Government-wide Risk Management Program

- Provides joint security authorization and continuous monitoring
- Agencies participate by leveraging the results for covered products
- Agencies **retain their responsibility and authority** to ensure their security needs are met in the use of systems

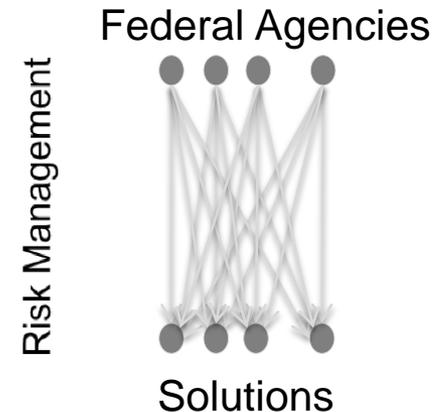
## Vendor Benefits

- Government-wide authorization and security compliance cost reduction

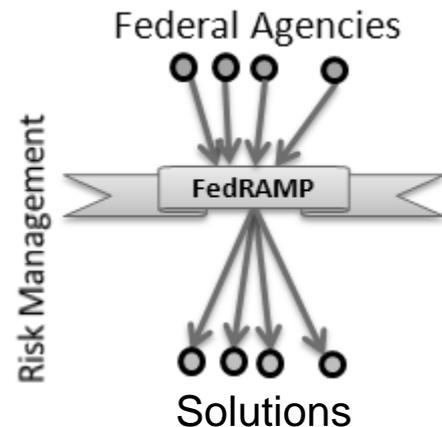
## Agency Benefits

- Cost savings through reduced duplication
- Rapid acquisition
- Increased security assurance

Problem: Independent agency risk management has inefficiencies



Solution: Unified risk management eliminates inefficiencies



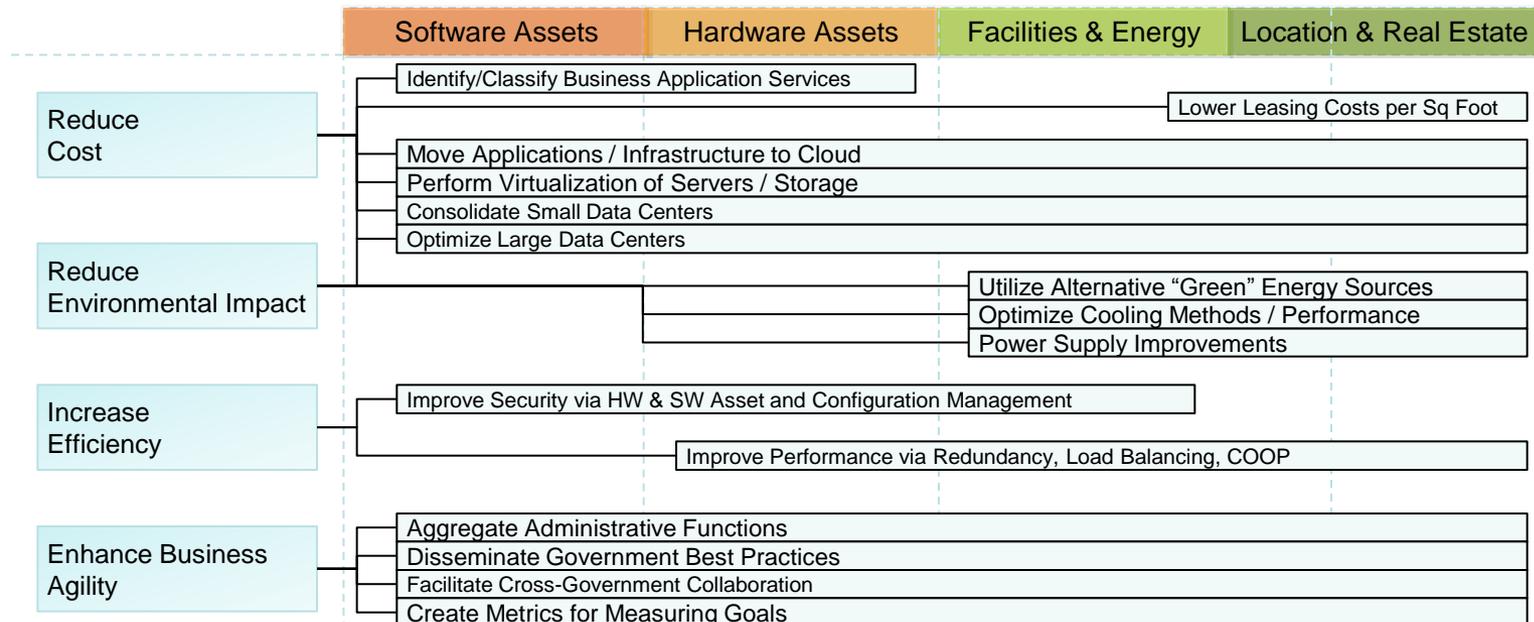
## The Initiative's Six Key Phases



Milestones – Phase 1	Due Dates – Phase 1	Status – Phase 1
Initial Data Center Asset Inventory	April 30, 2010	Complete
Initial Data Center Consolidation Plan	June 30, 2010	Complete
Final Data Center Asset Inventory	July 30, 2010	Complete
Final Data Center Consolidation Plan	August 30, 2010	Complete
Approval of Final Data Center Consolidation Plans	December 31, 2010	OMB will work with agencies to review, adjust and approve final consolidation plans.

- The scope of the Initiative is limited to CIO Council agencies
- In February 2010, the Administration launched this Initiative
- Three agency guidance workshops were provided by the team as well as peer reviews were conducted of the agency's Initial and Final Plans
- Per the CIO Council Memo published October 1, 2010; "As of July 30, 2010, based on agency submissions, there are 2,094 Federal data centers"

- **GSA is providing support to OMB on the FDCCI in meeting the strategic goals of the program**
- **GSA is assisting agencies on developing long-term consolidation plans which leverage multiple approaches including Cloud Computing / Virtualization technologies.**
- **Four Major Strategic Goals matched with four focus areas as follows:**



# Cloud Services Improves Citizen Focus and Efficiency for Government Portal, USA.gov



	<b>Problem</b>	<b>Solution</b>
	GSA wanted to reduce costs, add scalability and flexibility to USA.gov	Migrate to a cloud platform that resulted in significant lower cost, improved scalability.
	<b>Hardware-Based Hosting</b>	<b>Cloud-Based Hosting</b>
<b>Time to upgrade</b>	9 months including procurement	1 day maximum
<b>Service Cost</b>	~\$2M per year hardware and service	~\$650K per year cloud and service
<b>Downtime</b>	2 hour/month average	Zero

**Cloud Computing Improves Flexibility and Reduces Cost at USA.GOV**

# “The Best Way to Predict the Future is to Invent it” ...

