



cutting through complexity

The KPMG Government Institute Webcast Series:

Insights into cloud adoption in the public sector: improving cost savings and efficiency

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Insights into cloud adoption in the public sector: improving cost savings and efficiency

Welcome and Introduction

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KPMG State and Local Government IT Consulting Leader

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Your speakers today

- **Sri Damaraju**

Director, KPMG Advisory practice

- **Steve Lucas**

Director, Indiana Public Retirement System

- **Geoff Weber**

Principal, KPMG Federal Management Consulting leader

Agenda

- What is “cloud?”
- IT operating model transformation
- Productivity and collaboration programs
- Telephony: voice in the cloud
- ITSM platform services
- One state’s experience: State of Indiana
- Federal government: issues and perspective
- Q & A

Polling question #1

Which of the following is your organization's primary industry?

- A. Federal government
- B. Higher education
- C. Nonprofit organization
- D. State government
- E. Other

The image features a central blue parallelogram shape on a white background. The background is decorated with various light blue geometric shapes, including rectangles and parallelograms, some of which are semi-transparent and overlap each other. The central blue shape is a solid, medium-dark blue. Centered within this blue shape is the text "What is 'cloud?'" in a white, bold, sans-serif font.

What is “cloud?”

Cloud operating environment

Cloud Environment = Internet-based data access & exchange + Internet-based access to low-cost computing & applications

Cloud Environment Characteristics:

Self-Service
On-Demand

Internet
Accessibility

Pooled
Resources

Elastic
Capacity

Usage-
Based
Billing

Cloud Service Models

Software as a Service

*Business operations
over a network*

“SaaS”

Platform as a Service

*Deploy customer-
created applications
to a cloud*

“PaaS”

Infrastructure as a Service

*Rent processing,
storage, network,
other computing
resources*

“IaaS”

Cloud Deployment Models

Private

Operated for a single organization

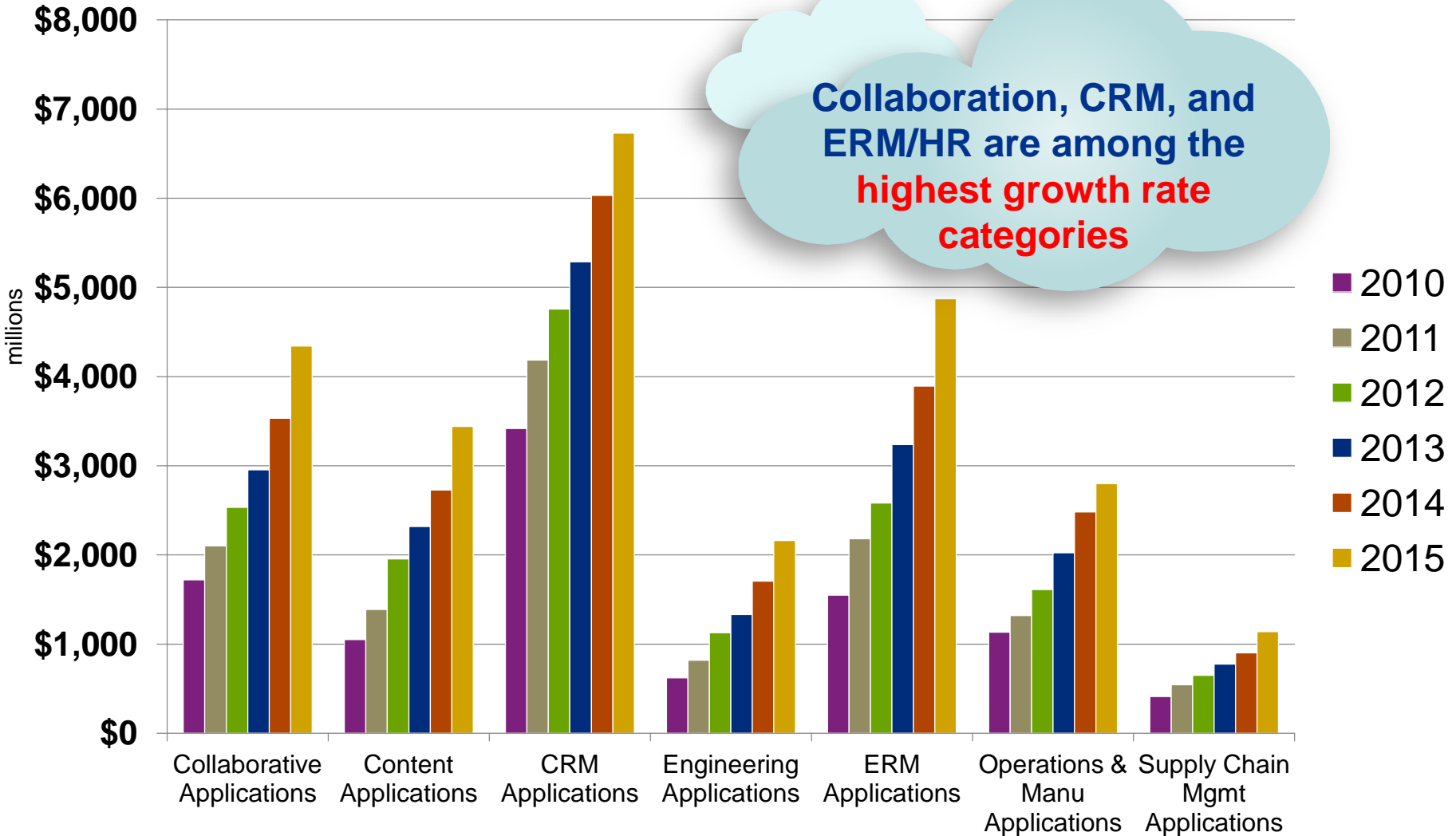
Public

Available to the general public or large industry group, owned by an organization selling cloud services

Community

Shared by several organizations, supporting a specific community

Global SaaS market by function

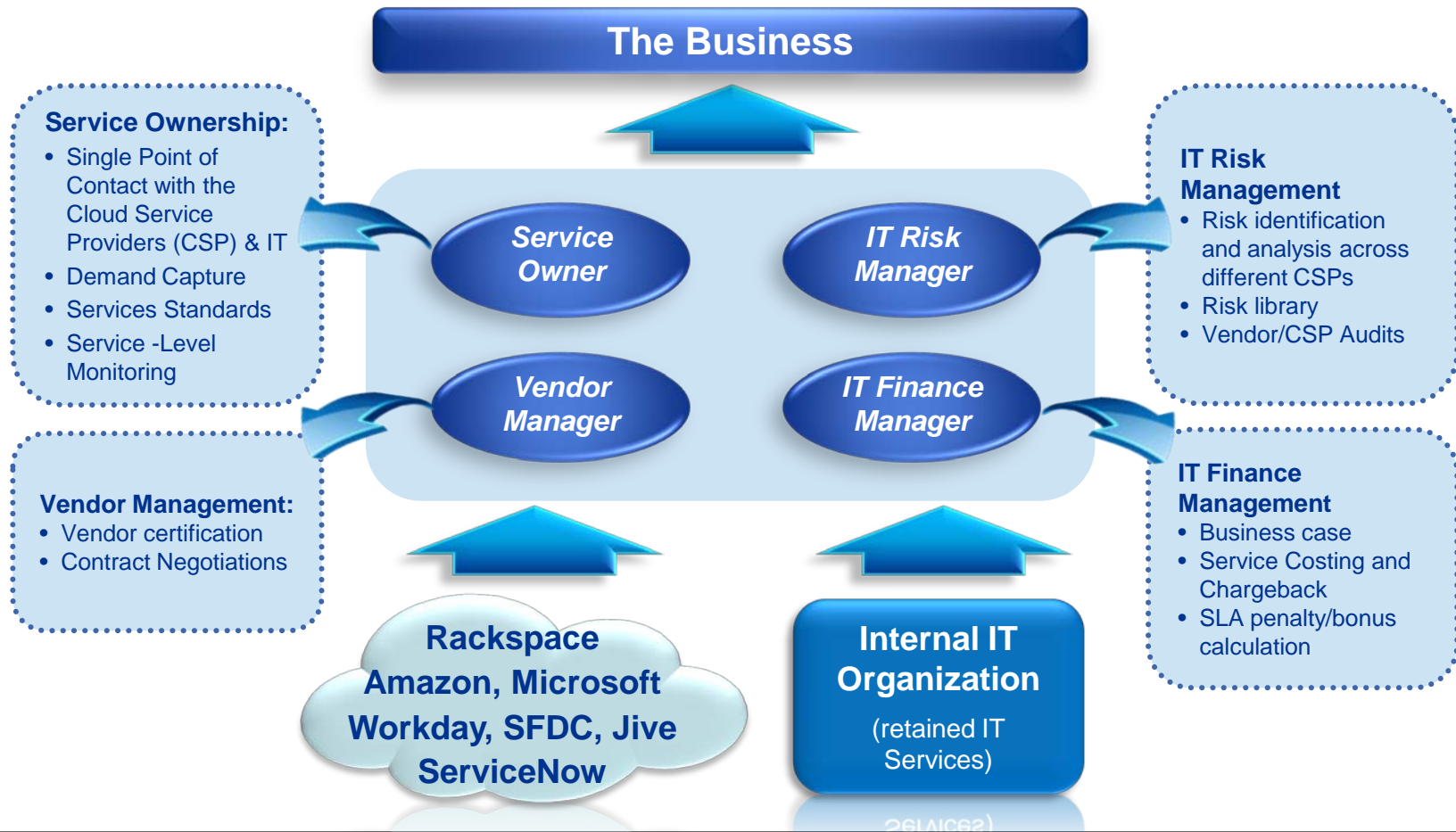


The image features a central dark blue parallelogram containing the text 'IT operating model transformation' in white. This central element is surrounded by several overlapping, semi-transparent light blue parallelograms of various sizes and orientations, creating a layered, geometric background. The overall design is clean and modern, using a monochromatic blue color palette.

IT operating model transformation

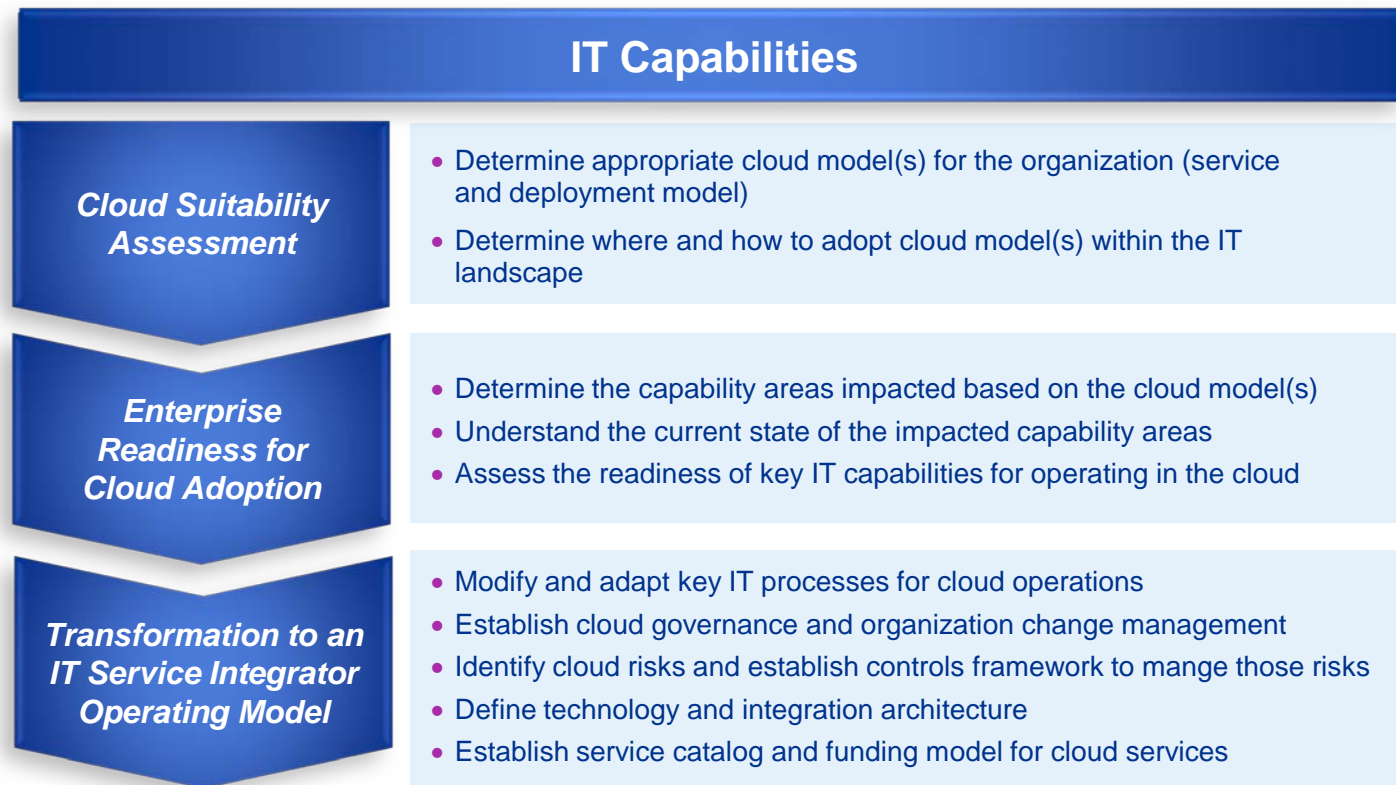
IT needs to transform into an “IT Services Integrator”

Successful adoption of a cloud delivery model depends on an organization’s ability to establish a robust Enterprise IT Service Integration model.



Planning for the cloud

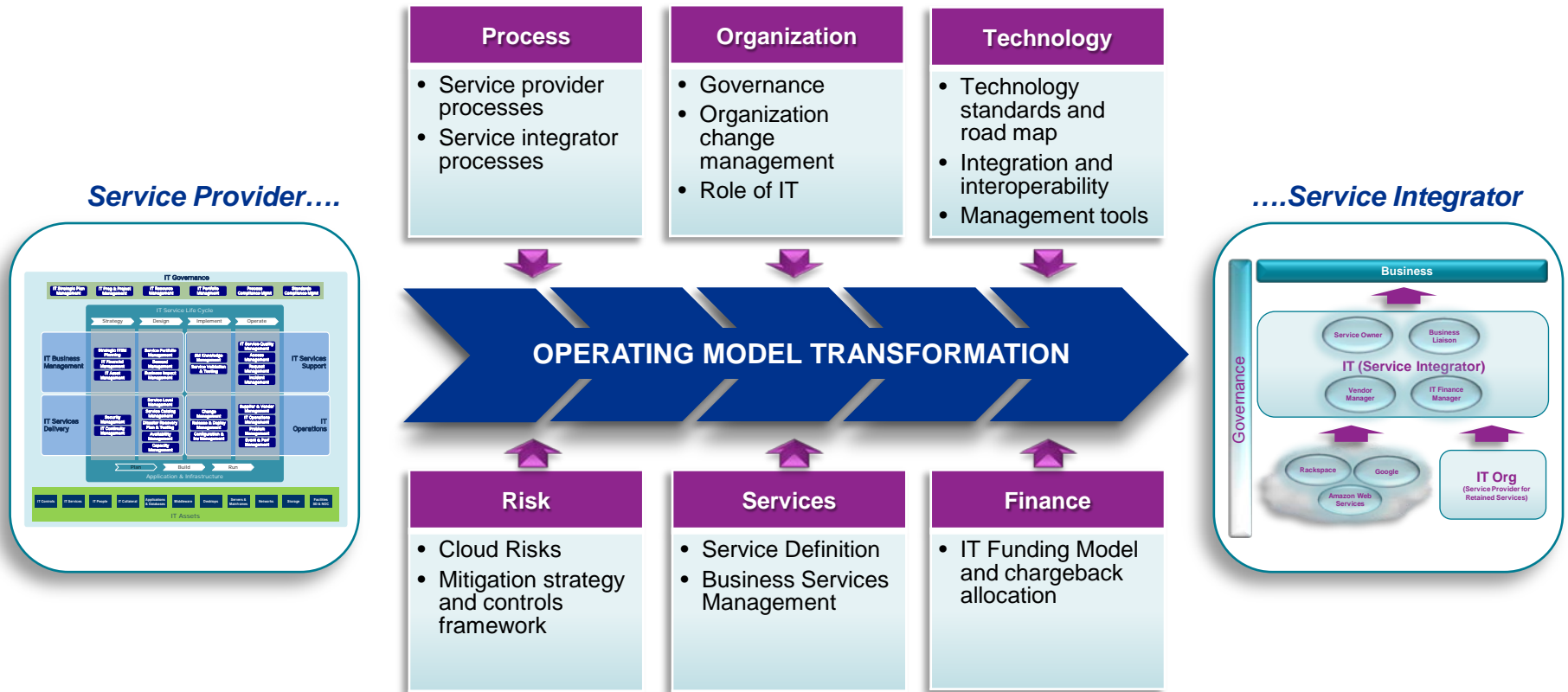
Different cloud models have varying impacts on IT capabilities so the implementation approach must be based on the selected cloud model and the current maturity of IT capabilities.



Note: most organizations will use a hybrid of various cloud models.

Planning for the adoption of cloud delivery models

Enterprise IT organizations that have successfully adopted cloud delivery models have transformed their IT operating models to focus on integrating their internal and external IT services. This transformation should be holistic, taking into account the required process, organization, and technology elements as well as related risks, services, and financial aspects.



Polling question #2

Which best describes your title?

- A. CEO
- B. CFO
- C. CIO
- D. Senior director/director
- E. Senior manager/manger
- F. Other

Productivity and collaboration platforms

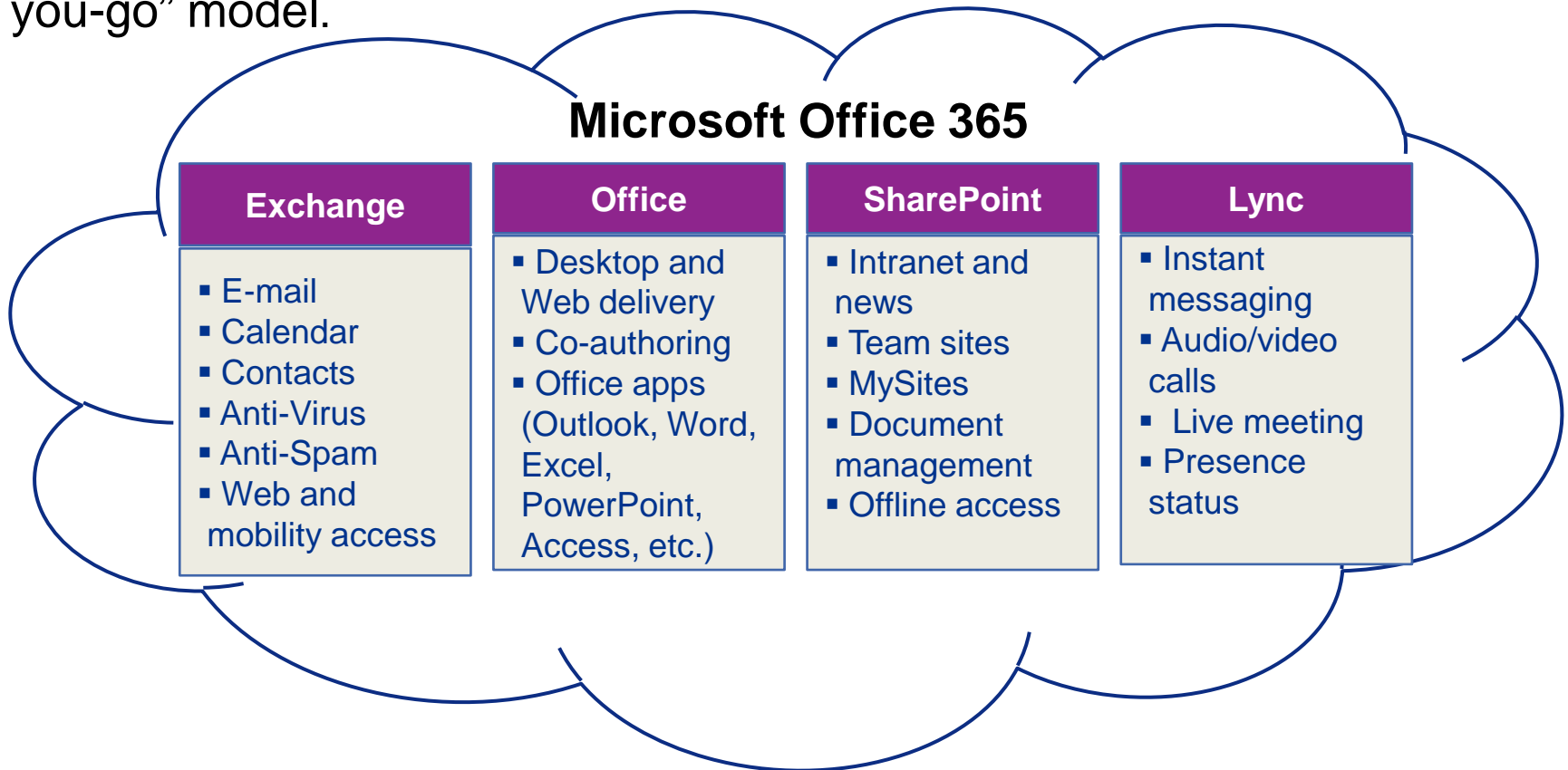
Cloud service for end-user productivity and collaboration

More and more public sector entities are looking to cloud productivity solutions as a viable option to traditional, in-house IT services.

Traditional Model	Cloud Approach
<p>Applications and infrastructure are installed and maintained within the IT enterprise</p>	<ul style="list-style-type: none"> ▪ Services for e-mail, collaboration, and communication are provided in an on-demand fashion over Web interface. ▪ Computing power and storage is provided by the cloud provider.
<p>Client applications are installed on local user devices</p>	<ul style="list-style-type: none"> ▪ Mobile, Web-based “pull” solution allows anywhere access. ▪ Avoids client software, license management and patch management. ▪ Flexible options exist for power users.
<p>IT staff is dedicated to supporting productivity services</p>	<ul style="list-style-type: none"> ▪ IT staff focuses on service configuration and service request management. ▪ Vendor provides technical support and financially backed SLAs.
<p>Large initial license fees, followed by ongoing maintenance and support</p>	<ul style="list-style-type: none"> ▪ Opex, pay-as-you-go model ▪ One fee per user (by user type) ▪ Can be less expensive... is more predictable

Cloud productivity overview

A Cloud Productivity suite is a collection of tools that enable collaboration, productivity and communication. The suite is delivered in an on-demand, access anywhere fashion with services provided on a user -based, “pay-as-you-go” model.



Productivity deployment options

The right solution will depend on an organization's priorities, environment, and constraints, and must include decision on service delivery model and vendor.

	Office 365	3rd Party Vendor	On-premise
Description	Microsoft to host and provide email service to <client>	Selected vendor to host and provide email service to <client>	<client> to host and provide email service to it's customers
Pros	<ul style="list-style-type: none"> • Lower net costs • Faster time to market • Financially backed SLAs • Frees up IT resources 	<ul style="list-style-type: none"> • Faster time to market • Financially backed SLAs • Frees up IT resources 	<ul style="list-style-type: none"> • <client> ability to secure email within it's enterprise • <client> ability to maintain control
Cons	<ul style="list-style-type: none"> • Vendor reliance • Must address actual and perceived technology risks related to regulatory, privacy and compliance 	<ul style="list-style-type: none"> • Vendor reliance • Worst of both alternatives (<client> will not have control, nor will the source vendor) 	<ul style="list-style-type: none"> • Will require resources and focus • Execution risk • No external SLAs
Costs	<ul style="list-style-type: none"> • 1st year costs: \$1.2M • 5 year costs: \$4.7 M • Cost Displacement: Novel, Storage, BIS Servers, Iron Gate 	<ul style="list-style-type: none"> • 1st year costs: TBD • 5 year costs: TBD • Cost Displacement: Novel, Storage, BIS Servers, Iron Gate 	<ul style="list-style-type: none"> • 1st year costs: \$2.0M • 5 year costs: \$6.3M • Cost Displacement: Novel, Storage, BIS Servers, Iron Gate
Timeline	6-9 months	9-12 months	18-24 months
Key Comparative Elements			
Security			
Functionality			
Stability			
Vendor Support			

What an enterprise has to consider...

Evaluating, selecting, and migrating to cloud productivity solutions requires careful planning and execution... there is no switch to flip.

Assessment

- **Cloud Feasibility**
 - Functionality
 - Financials
 - Data
 - Security
 - Regulations
- **Impact Assessment**
 - Technology
 - People
 - Process
- **Risk Mitigation**
- **Business Case**
- **Recommendations**

Is the cloud right for us?

Planning

- **Requirements**
 - User Groups
 - Functional
 - Non-Functional
- **Vendor Selection**
- **Pilot Implementations**
- **Architecture**
 - Email
 - Collaboration
 - Communication
 - Office Tools
- **Migration Planning**
- **Support Vendor Negotiation**

What should our solution be?

Migration Support

- **Overall PMO Support**
- **People**
 - Change Management
 - Training
- **Process**
 - Vendor Management
 - Provisioning
 - Operations and Support
- **Technology**
 - Active Directory
 - Email – data, profiles, .pst files
 - Calendars and address books
 - Anti-virus, anti-spam, anti-malware
 - Legacy Apps
 - Archiving

How do we get there?

Polling question #3

What is the status of your organization's current use of a cloud environment?

- A. Evaluating the cloud for use in our organization
- B. Currently using or testing some aspects of cloud
- C. Have embraced cloud and transitioning core business applications
- D. Running all core IT services on cloud
- E. Planning to implement within next year
- F. Planning to implement within next two years
- G. Planning to implement after two years
- H. Not considering cloud for our organization
- I. Don't know



Telephony: voice in the cloud

Telephony: voice in the cloud

- Traditional voice solutions
 - Based upon PBX services connected to PSTN or Centrex services
 - Provided by local service providers such as AT&T and Verizon
 - Now regarded as legacy systems to be disinvested in
- Over the last decade businesses have moved to Voice over IP (VoIP) Telephony
 - Regarded as similar to e-mail or the Internet; mix of software that can run on open systems combined with specialized voice systems
 - Leverages enterprise data networks
 - Through consolidated voice and data infrastructure and resources they offer:
 - Lower operating costs
 - Broader selection of telephony features

Telephony: voice in the cloud (continued)

- Many business have not made the transition to VoIP due to:
 - Initial investments expended
 - Lack of VoIP expertise
 - Others continue to pay yearly maintenance fees on legacy systems or struggle with VoIP due to various factors
- Cloud-based services, e.g., SaaS have been enabled by:
 - Growth and maturity of the Internet
 - Enterprises are connected to the cloud.
- Voice in the cloud: IT service providers have realized that they can offer VoIP telephony services
 - Like any other SaaS-based application
 - Or alternatively, outsource their IT services

Voice in the cloud – benefits are significant

Value to Business

- Agility/Time-to-Market
- Cost
- Transparency
- Increased mobility
- Service options

Value to IT

- Reduced infrastructure footprint
- Reduced operational footprint
- Faster provision of services
- “Green” (Improved efficiency of capacity)

Many enterprises are in various stages of cloud adoption, and there are many factors that inhibit the achievement of the stated benefits.

Polling question #4

What type of cloud environment does your organization use or intend to use?

- A. Community cloud (rules-based environment shared by many organizations with similar needs)
- B. Hybrid cloud (combination of public and private cloud)
- C. Private cloud (closed environment for single organization, hosted by third party)
- D. Public cloud (shared environment used by many organizations)
- E. Cloud is not/will not be used by my organization.
- F. Don't know

ITSM platform services

Cloud services for ITSM

- IT Service Management (ITSM):
 - A discipline for managing IT systems
 - Philosophically centered on *customer's perspective of IT's contribution to the business or enterprise*
- Effective ITSM involves process definition for each function that represents a different aspect of management of the service.
- IT Infrastructure Library (ITIL) – generally regarded as de facto reference model that articulates the various processes that make up the ITSM domain
- ITIL framework is broken down into five domains:
 - Service Strategy – managing investments into new and existing services
 - Service Design – design of services and processes
 - Service Transition – transition of services into operations
 - Service Operation – operation of services to achieve stated objectives
 - Continual Service Improvement – improving services on a continual basis

Cloud services for ITSM-as-a-Service (ITSMaaS)

- Traditional model of enabling the ITSM processes – leveraging platforms such as BMC Remedy ARS, HP Service Manager, CA Service Center, and IBM Tivoli Service Manager
 - Had to first design each of the processes
 - Depending on the platform , configure/customize to conform to the process
- Model required:
 - Identification of process owners (often one per process), platform owners, administrators
 - Periodic, extensive compatibility testing for each new version of the platform released by vendor
 - Maintenance fees
 - Typically 15 – 18 percent of **list price of** licenses
 - Usually charged per-user-per-module, e.g., Incident and Problem, Change and Release, Service Desk, Configuration, Service-Level Management)
 - Typical model with 400 users could cost about \$2 million in license fees alone, excluding hardware and DR infrastructure

Cloud services for ITSM – ITSM-as-a-Service (ITSMaaS) (continued)

- ITSM in the cloud – latest platforms that enable ITSM processes are truly cloud services:
 - Pay-as-you-go – doesn't require long-term, multiyear deal; some providers offer monthly contracts.
 - Elastic platform – allows for the increase or decrease of the number of users within the organization
 - Internet accessible – can access the platform via the internet
 - Self-service/on-demand – can increase or decrease the number of licenses through a self-service portal

Cloud services for ITSM – ITSM-as-a-Service (ITSMaaS) (continued)

- Cloud service providers are offering:
 - Guaranteed/automatic upgrades to latest revisions of the platform, without need for extensive testing of personalizations or configurations
 - One licensed user cost for all modules in the platform – typically ranges from \$1000 to \$1800 per user per year
 - “Out-of-the-box” ITIL compliant modules
 - High-availability of the platform – 99.5 percent is common
 - Some providers offer “operations services” – processes operations are sourced, avoiding need to invest in staff
 - Very few service providers offer services on a piece-meal, per module basis.

ITSMaaS – benefits are significant

Value to Business

- Reduced capital expenditures
- Reduced operations expenditures
- Increased flexibility
- Reduced operational risk

Value to IT

- Faster implementation of ITSM framework
- Reduced infrastructure footprint
- Reduced platform administration
- Standards compliance (ITIL)
- Staff training

Polling question #5

Which of the following is the top challenge for your organization to move to a cloud environment?

- A. Cost
- B. Difficulty integrating cloud with existing systems
- C. IT governance
- D. Loss of control over data
- E. Performance
- F. Security
- G. Don't know
- H. Other

One state's experience: State of Indiana

Steve Lucas
Indiana Public Retirement System

Indiana Public Retirement System (INPRS)

■ Background:

- Manages defined benefits and defined contributions (retirement funds) for all state employees including police, fire, teachers, and other public employees
- Manages approximately \$25B in assets
- Resulted from the merger of the Teachers Retirement Fund and the fund that managed all other public employees

■ Applications & Infrastructure (A&I) Organization:

- Responsible for the engineering, development, configuration, administration and support of all business applications for Defined Benefits and Defined Contributions

Indiana Public Retirement System (INPRS)

■ Historical Service Delivery Model:

- All computer, infrastructure and network services are provided by the state's IT department.
- Phone services and all desktop end-user services are provided by the state's IT department as well.
- Application support is provided by internal agency resources with state IT providing core infrastructure and back-office services.

Indiana Public Retirement System (INPRS)

■ Business Drivers for Change

- Agency embarked on a modernization program to make it easier to make changes to the rules governing the management of the public employee funds.
- The services provided by the state's IT were deemed insufficiently flexible to provide the service levels envisioned for the new application services.
- Business strategy is to position the organization to opportunistically derive value from emerging IT technologies and trends.

Indiana Public Retirement System (INPRS)

■ Decision-making Process:

- Given the need for improving service levels and decreasing the risk associated with availability and security, INPRS developed a strategy to identify the best of breed services across the full spectrum of IT services (phone, desktop services, contact center, IT Service Management framework, Computing infrastructure, application development and support)
- INPRS IT is to become a service integrator and not a service provider
- The business case for the change was signed off by the board of the agency
- The objective is to support the state's IT also recognize the various IT services that could be sourced through them – State IT becomes a service integrator as well, not a service creator/provider.

Indiana Public Retirement System (INPRS)

■ Results:

- Outsourced Data Center services related to the Linux platform to a hosted private cloud provider.
- Phone and Contact Center services have been migrated to a public cloud-based service that has better service levels than those once available through the state and at a lower cost.
- Implemented the Service Desk (End-User requests, End-User Incidents), Change Management, and Release Management on a cloud ITSM platform.
- Currently implementing end-to-end Incident, Problem, and Configuration Management functions as the next phase of the ITSM rollout.

Indiana Public Retirement System (INPRS)

■ Lessons Learned:

- Working collaboratively with the state IT service in order to identify alternative solutions that can coexist with current services simplifies implementation and reduces execution risk.
- State IT service catalog needs to leverage the new cloud services available in the market; the catalog needs to get more granular in the service levels and functionality offered.
- The model where “one size fits all” in today’s world, does not work.
- IT operating in a “service integrator” model rather than operating in a service provider model offers more flexibility, better service levels, and is better aligned to business needs.
- While there may be less staff required within the service integrator model, having the right skill set is much more critical.

Polling question #6

Which of the following would your organization consider the primary benefit of adopting the cloud?

- A. Cost savings
- B. Faster service deployment
- C. Flexibility
- D. Scalability
- E. Security
- F. Other



Federal government: issues and perspective

The federal IT challenge

- The federal IT environment:
 - \$79 billion IT budget for FY13
 - \$41.7 billion Civilian Agencies
 - \$37.2 billion Department of Defense
 - 2,200+ Data Centers
 - 10,000+ IT systems
 - Duplication in capabilities for IT infrastructure, applications, services, telecommunication
 - Excess Capacity (~25% capacity utilization)
 - Stovepiped IT functions under lines of business/programs

25-point implementation plan to reform IT

■ Plan:

- Issued by the US CIO
- Defines actions to drive efficiencies, cost reductions, and to eliminate redundancies in IT across federal government
- Includes:
 - “Cloud First” policy
 - Data center consolidation
 - transparency associated with progress of major IT Projects

“Cloud First” Policy	Data Center Consolidation	Consolidated IT Projects
Identify three “must move” services within three months, and move: <ul style="list-style-type: none">▪ one service to the cloud within 12 months▪ remaining two within 18 months	Consolidating data centers from 2,200+ to 1,400 data centers by 2015	Analyze IT portfolio to identify underperforming IT projects within 18 months

25-point implementation plan to reform IT (continued)

■ Impact of Implementation

- Enhanced efficiencies to reduce the \$79 billion federal IT budget
- Consolidating data centers provides an opportunity to leverage cloud services
- Leveraged resources, knowledge, and expertise across agencies
- Allows for more agile and cost-competitive solutions to greatly increase efficiency and effectiveness of services provided to citizens

Current federal adoption models

Since the release of the CIO 25-point implementation plan, the federal government's adoption of cloud computing is on the rise.

Private Clouds Managed by the Government On-Site	
Have implemented	58%
Plan to implement	64%
Private Clouds Managed by a Third-Party Provider	
Have implemented	44%
Plan to implement	32%
Public Clouds	
Have implemented	21%
Plan to implement	20%

Survey of 202 Federal IT decision-makers Source: Federal Computer Week

Strategic benefits

- Cloud computing has the potential to provide benefits and opportunities to the federal government and its supported beneficiaries.
- Cost Savings/Scalability/Elasticity
 - Data center consolidation:
 - results in reduced capital outlay on hardware and costs associated with computer operations and software maintenance
 - enables a better understanding of the current IT infrastructure and services to jumpstart IT transformation
 - Cloud-enabled capacity can be purchased temporarily, as needed, without requiring long-term capital investment to support short duration needs
 - Ability to quickly scale computing resources to match business growth while helping to manage risk

Strategic benefits (continued)

■ Improved Flexibility/Business Agility

- Ability to leverage and reallocate staff and expertise based on business needs
- Address new or changing federal regulations and business requirements quickly and efficiently
- Enables quick and efficient response to changes in the way agencies address citizen needs

■ Collaboration

- Enables key federal personnel ability to access computing power of the cloud, regardless of location
- Offers a single data footprint for calendars, e-mails, documents, and projects making it easier for geographically distributed personnel to collaborate

Polling question #7

Which of the following type of entities would your organization be most likely to select for certification cloud services?

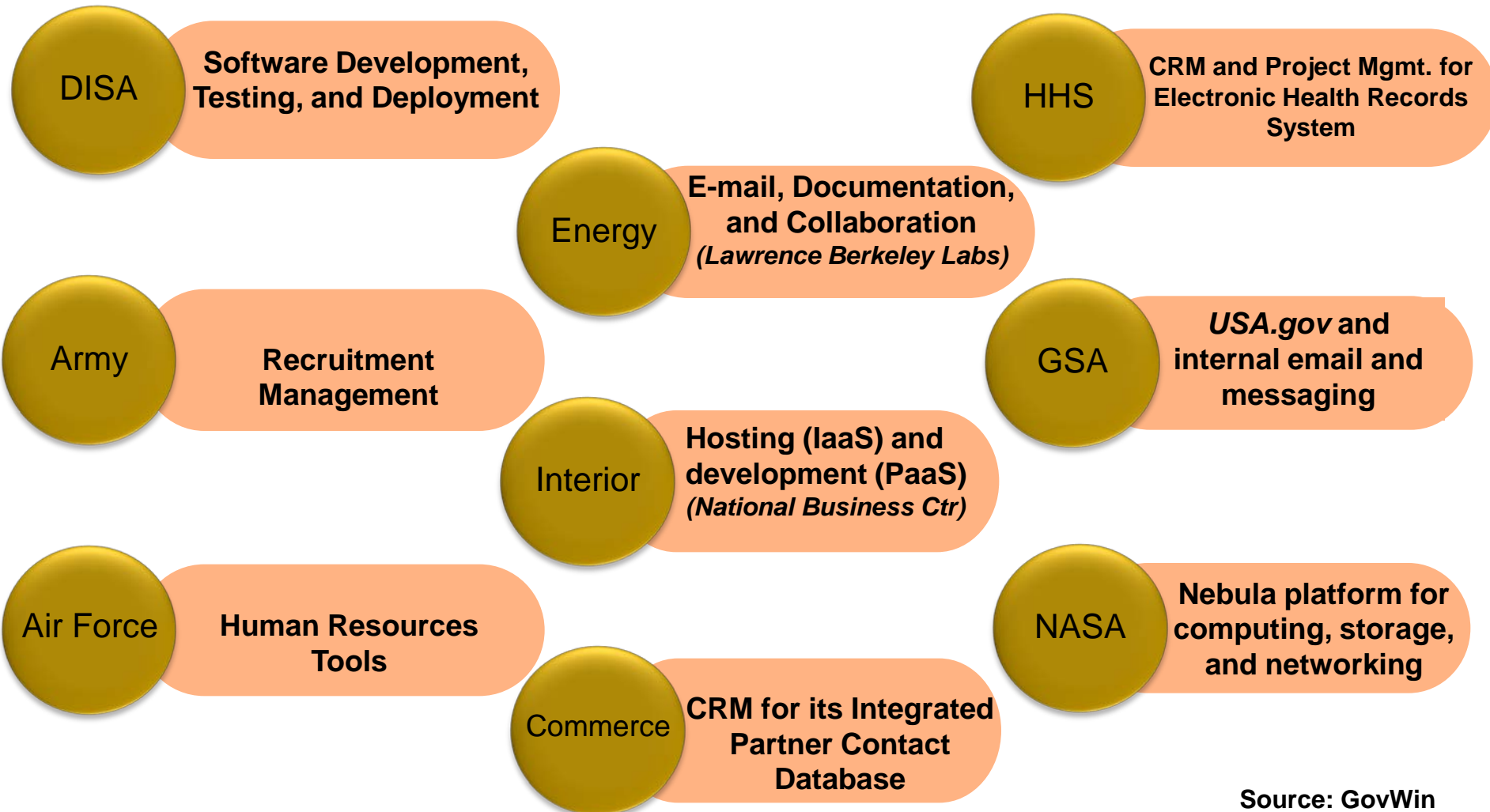
- A. Government body
- B. Independent nonprofit third party
- C. Independent for-profit third party
- D. Other

Federal government cloud initiatives

Agencies are currently adopting a number of cloud computing solutions to optimize their IT portfolio and meet budgetary goals

Agency	Cloud Initiative
DISA	<p>Defense Information Systems Agency (DISA) has developed a number of Cloud Computing solutions available for Government authorized use. DISA began leveraging cloud computing in 2008 by using virtual server technology to provide on-demand server infrastructure for development teams called the Rapid Access Computing Environment (RACE) and has now introduced numerous cloud offerings. DISA recently migrated the U.S. Army enterprise e-mail capability and is implementing cloud -based collaboration tools</p>
USDA	<p>Department of Agriculture's (USDA) Food and Nutrition Service is leveraging cloud computing for an application to support the Supplemental Nutrition Assistance Program (SNAP). The cloud application, SNAP Retailer Locator, is an online map that enables people to find retail establishments that accept SNAP benefits cards. The application is hosted on a cloud service offered by Amazon since the summer of 2010. The ability to easily scale was key in adopting cloud for the SNAP Retail Locator, as USDA had no way of knowing demand for the application at any given time. In addition, USDA has deployed the Revised Universal Soil Loss Equation (RUSLE2) using an IaaS cloud service model to analyze soil sample across the country by 3,000+ field officers. The application can be accessed via an Android device and is integrated with a distributed cloud-based soils geospatial database that covers 30 million shapes with a <10 ms query response time.</p>
GSA	<p>General Services Administration (GSA), through the Federal Cloud Computing Initiative, is playing a key role in the president's initiative to modernize IT by identifying enterprise-wide common services and solutions and adopting a new cloud computing business model. GSA coordinates Federal Cloud activities via its Program Management Office (CC PMO). GSA and the CC PMO are focusing on implementing projects for planning, acquiring, deploying, and utilizing cloud computing solutions for the federal government that increase operational efficiencies, optimize common services and solutions to enable transparent, collaborative, and participatory government. Additionally, GSA plans to migrate over 15,000 mailboxes to a cloud based e-mail solution currently being supported by 17 different Data Centers worldwide.</p>

Federal Agencies in the Cloud



Source: GovWin

Polling question #8

Which of the following cloud environments will your organization most likely invest in?

- A. IaaS (Infrastructure as a Service – shared computing infrastructure, e.g., services, storage, processing, etc.)
- B. PaaS (Platform as a Service – enables developers to write applications to run on cloud)
- C. SaaS (Software as a Service – software and applications run business operations over a network)
- D. Don't know

Key perceived challenges

Security has been the greatest concern surrounding cloud adoption at enterprises as identified in the CIO survey results below.

Greatest Concerns Surrounding Cloud Adoption at Your Company	
Security	45%
Integration with Existing Systems	26%
Loss of Control Over Data	26%
Availability Concerns	25%
Performance Issues	24%
IT Governance Issues	19%
Regulatory/Compliance Concerns	19%
Dissatisfaction with Vendor Offerings/Pricing	12%
Ability to Bring Systems Back In-House	11%
Lack of Customization Opportunities	11%
Measuring ROI	11%
Not Sure	7%
Other	6%

Note: Respondents selected up to three criteria . Source: CIO Research

Regulatory compliance requirements

■ Authorization to Operate

- Formal authorization to operate is mandated by FISMA
- General Services Administration (GSA) – establishing governmentwide security authorization process (FedRAMP) to facilitate adoption of cloud computing solutions
- National Institute of Standards and Technology (NIST) – developing cloud-specific security guidance

■ Continuous Monitoring

- Required by OMB A-123, FISMA; further defined by NIST Special Publication 800-37 rev.1
- Internal control evaluations could:
 - extend to cloud-based applications
 - require evaluation of emerging issues, e.g., end-user control responsibilities for browser security, mobile device security, user provisioning and data encryption standards
- Reporting by cloud service organization may change due to introduction of “SOC 2” reporting by the AICPA

■ Privacy (Privacy Act, OMB 06-16, 07-16) – Agencies are required to comply with Privacy laws and OMB privacy regulations and should consider those requirements when evaluating cloud solutions.

FedRAMP phases and time line

Phased FedRAMP implementation approach with cloud service providers and users

FY12	FY12	FY13	FY14
Pre-launch activities	Initial operational capabilities (IOC)	Full Operations	Sustaining Operations
Finalize requirements and documentation in preparation of launch	Launch IOC with limited scope and cloud service provider (CSPs)	Execute full operational capabilities with manual processes	Move to full implementation with on-demand scalability
<ul style="list-style-type: none"> • Publish FedRAMP requirements (security controls, templates, guidance) • Publish agency compliance guidance • Accredit 3 PAOs • Establish priority queue 	<ul style="list-style-type: none"> • Authorize CSPs • Updated CONOPS, continuous monitoring requirements and CSP guidance 	<ul style="list-style-type: none"> • Conduct assessments and authorizations • Scale operations to authorize more CSPs 	<ul style="list-style-type: none"> • Implement electronic authorization repository • Scale to steady state operations
<ul style="list-style-type: none"> • Initial list of accredited 3 PAOs • Launch FedRAMP into initial operating capabilities 	<ul style="list-style-type: none"> • Initial CSP authorizations • Established performance benchmark 	<ul style="list-style-type: none"> • Multiple CSP authorizations • Defined business model • Measure benchmarks 	<ul style="list-style-type: none"> • Authorizations scale by demand • Implement business model • Self-sustaining funding Model covering operations • Privatized accreditation board

Gather feedback and incorporate lessons learned

Source: "Federal Cloud Computing: Moving to Cloud Smart; GSA. OCSIT

Final thoughts on adoption

- Key Considerations in the Cloud Adoption Process
 - As an element of the IT Strategy, develop a cloud strategy and road map, identifying opportunities and business cases to leverage cloud capabilities.
 - Develop a cloud computing technical framework, use cases, and requirements of functional capabilities to be provided by clouds, and identify qualification criteria for each type of cloud service.
 - Develop a cloud computing portability/interoperability reference architecture.
 - Develop transitional architectures and implementation plans with multiple layers of system components (IaaS, PaaS, DaaS, and SaaS) from the cloud service consumer and provider perspectives.

Final thoughts on adoption (continued)

- Establish key requirements to include in service-level agreements, expectations and monitoring (disaster recovery, contract termination, migration).
- Support readiness for compliance, certification reviews.
- Evaluate the need for SOC2 or SOC3 assessment and reports for service providers.

Polling question #9

How does your organization plan to measure return on its investment in cloud?

- A. Access to geographies, customers, constituents
- B. Cost savings
- C. Productivity
- D. Revenues (fees, tax receivables, etc.)
- E. Other
- F. Cloud ROI not measured

Q & A

Closing items

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