

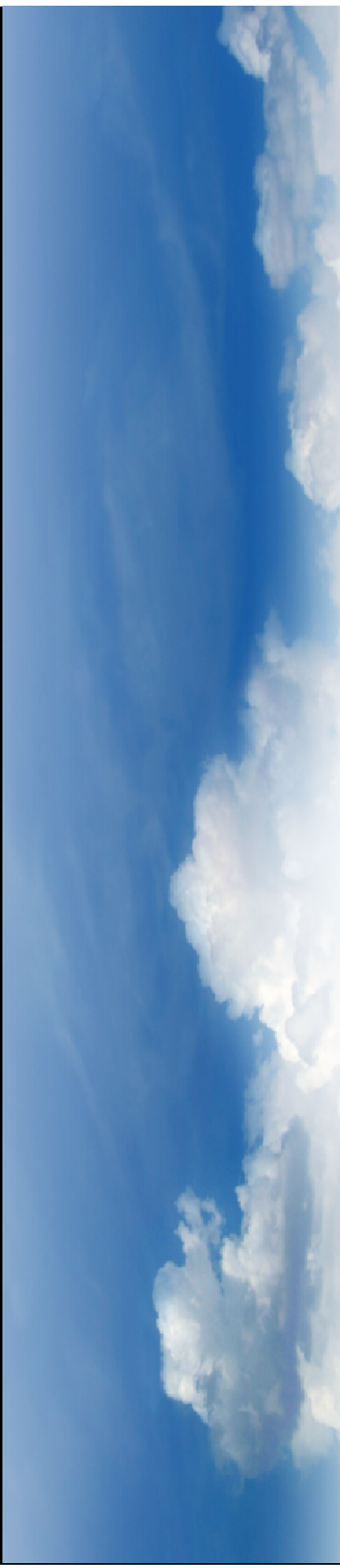


El Viaje de Computación en La Nube

Axel Clauberg
SE Director,
Emerging Markets, Cisco

Agenda

- Market Drivers
- What is Cloud Computing?
- Segment Views – Enterprise & Public Sector
- The Journey to Cloud Computing

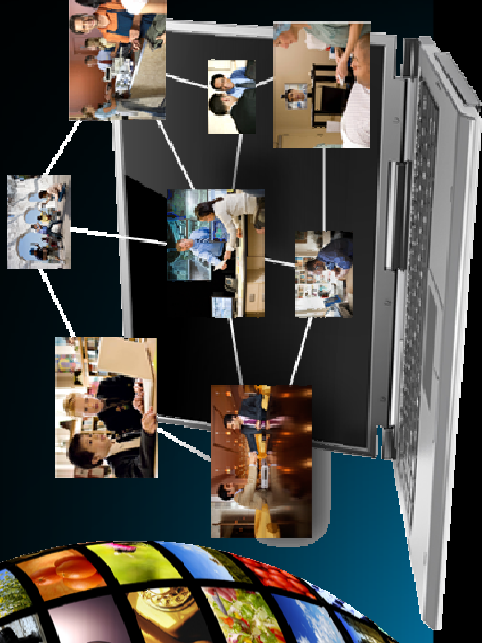


Three Key Market Transitions

**Future
of Work**



**Future
of Computing**



Future of Connected Life

Driven by Video and Collaboration



What is Cloud Computing?

IT resources and services that are abstracted from the underlying infrastructure and provided **“On-Demand”** and **“At Scale”** in a multi-tenant environment

Cloud Computing vs. Traditional IT



Traditional
Computing



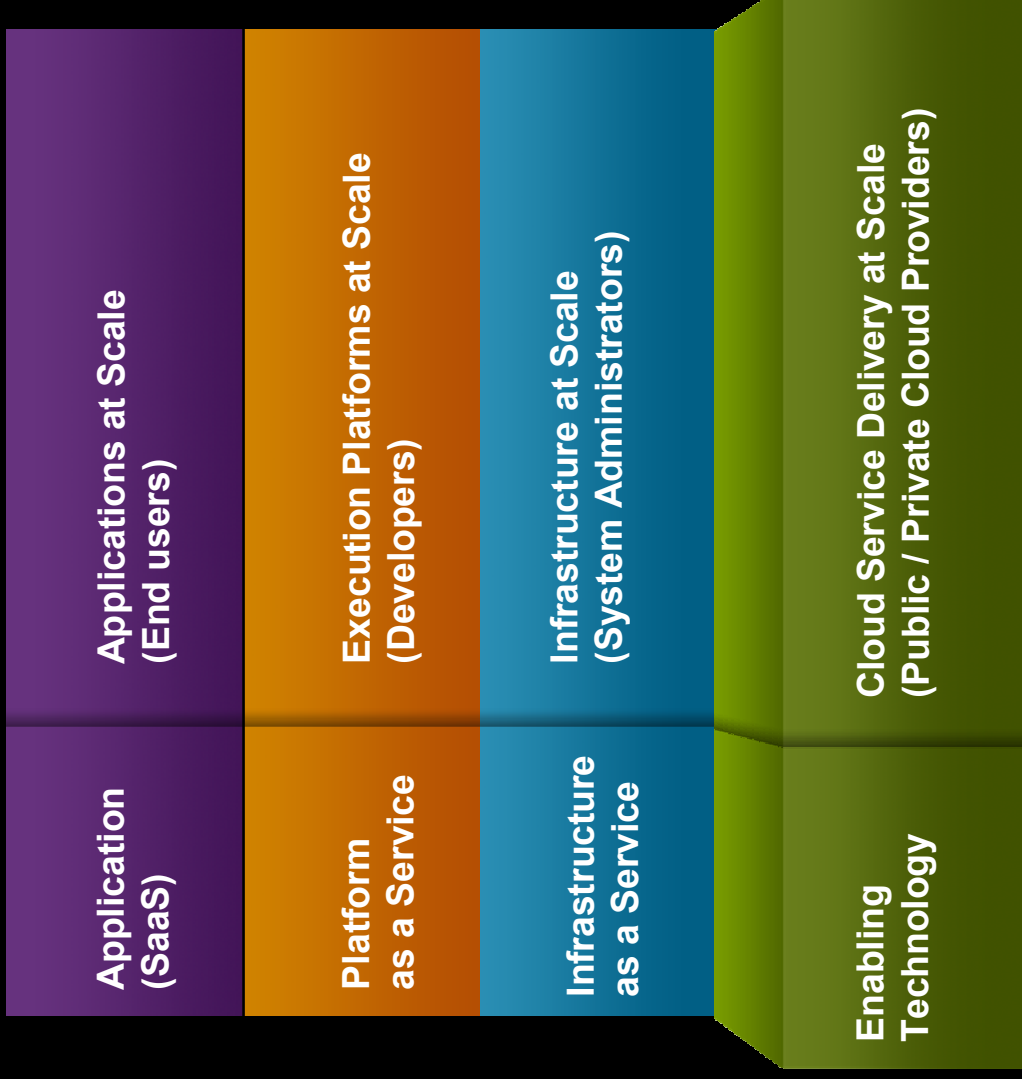
Cloud
Computing

Consumption	Dedicated	Shared
Ease of Use	Traditional hardware procurement	Self service
Scalability	New services added manually	Scale on-demand
Availability	Manual repair of system failure	Automated recovery due to integration / interoperable
Provisioning	Months	Minutes
Cost	Incremental CapEx purchases	Pay per use

Cloud Service Models

NIST Defined

<http://www.csrc.nist.gov/groups/SNS/cloud-computing/index.html>



Cloud Deployment Models

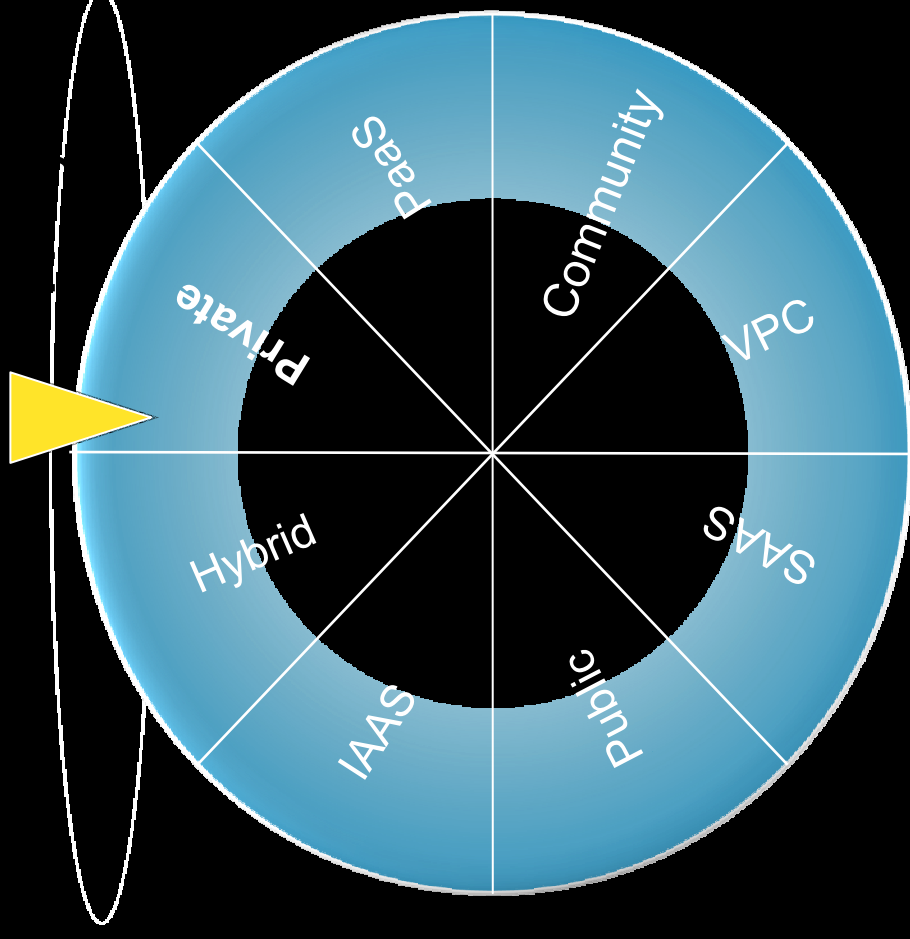
NIST Defined

Public Cloud	Cloud infrastructure made available to the general public.
Private Cloud	Cloud infrastructure operated solely for an organization.
Hybrid Cloud	Cloud infrastructure composed of two or more clouds that interoperate or federate through technology.
Community Cloud	Cloud infrastructure shared by several organizations and supporting a specific community.

...and one other

Virtual Private Cloud	Cloud services that simulate the private cloud experience in public cloud infrastructure.
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Which Cloud is Right for You?



The Network is the platform to deliver Cloud services

Enterprise – Key Drivers for Considering Cloud



Economics

- CapEx spent on underutilized capital resources
- OpEx for complex manual provisioning processes
- Power, cooling, and real estate expenditures for underutilized resources



Resource Utilization

- IT resources overengineered for peak capacity expectations
- Low utilization rates for resources under most conditions



New Service Delivery

- Long time to provision new servers
- Too long to go live with new applications and services



Business & Operating Models

- Held back by IT

Enterprise – Key Benefits for Implementing Cloud



Attractive Economics

- Pay-per-use IT consumption model
- Service level agreements for access to resources whenever and wherever needed
- Move time and money from maintenance to innovation



Elasticity of Resources

- Support burst or peak capacity for select services
- Support reclamation of IT resources during low utilization
- Avoid unnecessary upgrades and improve service levels



Services Standardization

- Standardization of IT services presented in a catalog
- Ability to create new business capabilities quickly
- Predictable service price and performance



New Business & Operating Models

- Improve information management, reduce operating risks
- Unlock revenue potential, create new market opportunities
- Respond more quickly to drive agility in the market

Enterprise – Deployment Concerns and Challenges

Security



Availability and Performance



Flexible Deployment & Consumption



New Economics



Interoperability & Integration



Deployment Opportunities

- Sharing services and elastic scaling
- Adding capability without time and resource intensive build-outs
- Standardizing services
- Simplifying operations
- Evolving application architectures

Deployment Challenges

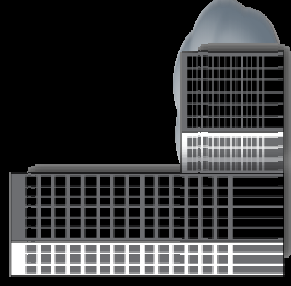
- Roles, access, identity, entitlement compatibility or regulation risks
- Cloud services orchestration and tenant common controls
- Organizational and operational challenges and impact to business processes
- Shifting Economics
- Interoperability and integration with existing processes and technologies

Enterprise Deployment Models

Distinguishing between Ownership and Control

Ownership

Internal Resources



All cloud resources owned by or dedicated to enterprise

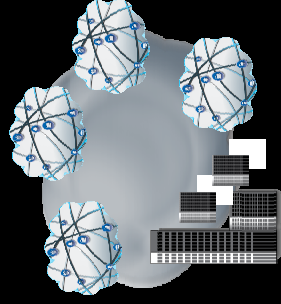
External Resources



All cloud resources owned by providers; used by many customers

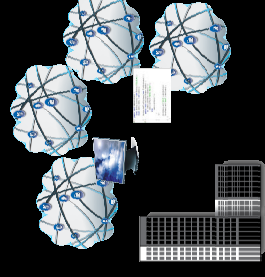
Control

Private Cloud



Cloud definition/governance controlled by enterprise

Public Cloud

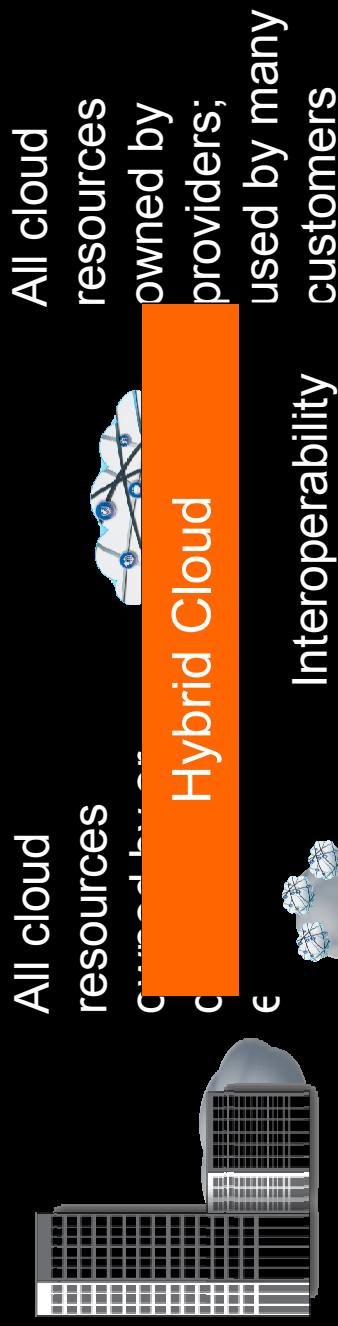


Cloud definition/governance controlled by provider

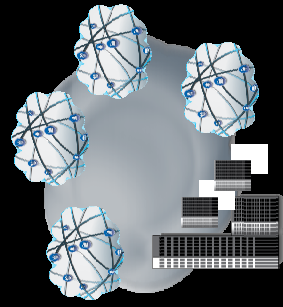
Enterprise Deployment Models

Ultimately These Distinctions Don't Matter

Ownership

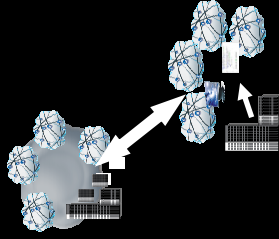


Private



Control

Cloud definition/
governance controlled by enterprise

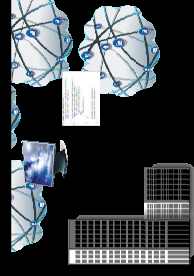


Interoperability and portability among Public and/or Private Cloud systems

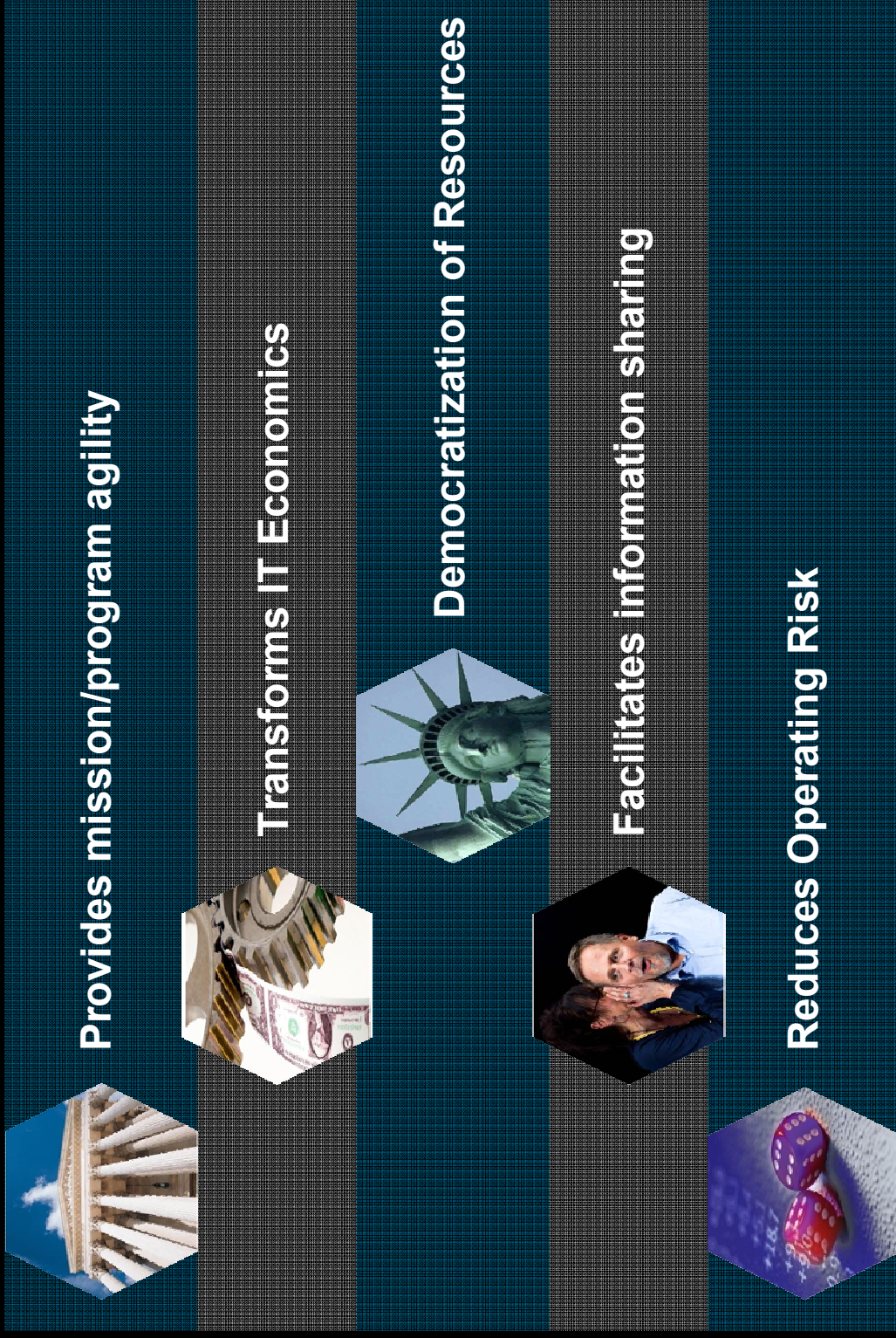


Cloud

Cloud definition/
governance controlled by provider

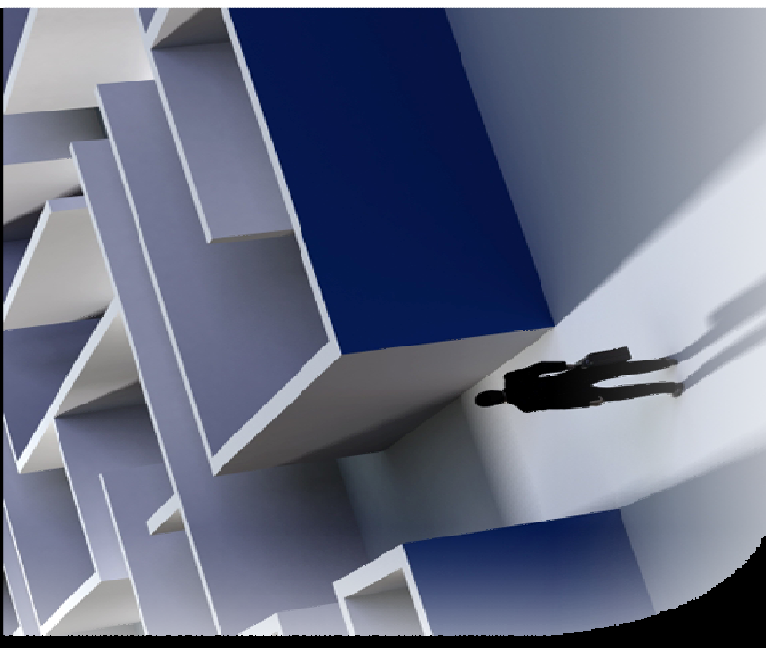


Cloud Simplifies IT for Government

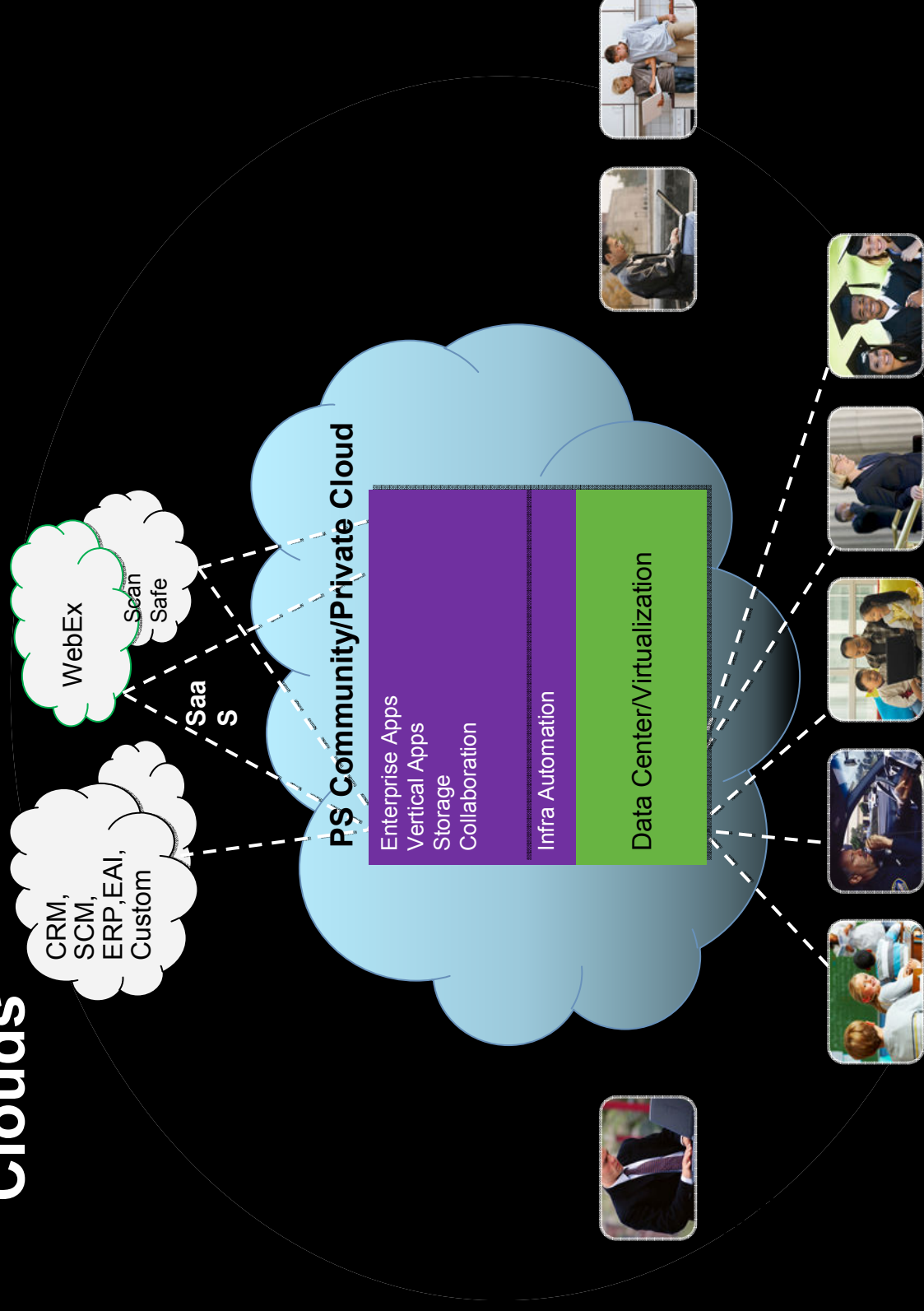


Public Sector Challenges to Cloud

- **Application Portability** – Need to avoid vendor lock in
- **Acquisition models** for utility applications are not existing in govt.
- **Operational insertion** – Silos around operations, and security create a significant hurdle
- **Culture** of data and system ownership.
- **Security** is the most significant hurdle. Vary by function. Privacy issues, data access issues.
- **Standards** not mature.



Use Case for Public Sector – Community Clouds



The Cloud Computing Journey

